

## TABLE OF CONTENTS

|  | <u>Page</u> |
|--|-------------|
| <b>INTRODUCTION</b> .....                        | 1           |
| HOW TO USE THIS DOCUMENT .....                   | 1           |
| <b>PART 1 - STATEWIDE MANAGEMENT</b> .....       | 1           |
| The Compass, Our Strategic Plan .....            | 12          |
| Our Mission .....                                | 12          |
| Our Vision .....                                 | 13          |
| PUBLIC SERVICE .....                             | 13          |
| SCIENCE .....                                    | 13          |
| SUSTAINABILITY .....                             | 13          |
| ECOSYSTEM MANAGEMENT .....                       | 13          |
| CREDIBILITY .....                                | 13          |
| Goals, Objectives and Desired Outcomes .....     | 14          |
| Statewide Fisheries Management Principles .....  | 14          |
| Management .....                                 | 16          |
| Public Involvement .....                         | 17          |
| Rules .....                                      | 17          |
| Imporations and Introductions .....              | 17          |
| Cooperation with Other Agencies .....            | 18          |
| Indian Tribes .....                              | 18          |
| Outfitting and Guiding .....                     | 18          |
| Habitat Protection .....                         | 18          |
| Mitigation .....                                 | 19          |
| Statewide Fisheries Management Programs .....    | 19          |
| Resident Fisheries Management .....              | 20          |
| Native Trout.....                                | 20          |
| Cutthroat Trout Species .....                    | 20          |
| Inland Redband Trout .....                       | 24          |
| Quality and Trophy Trout Rules .....             | 24          |
| Resident Hatcheries .....                        | 26          |
| Mountain Whitefish .....                         | 28          |
| White Sturgeon (Snake and Kootenai rivers) ..... | 28          |
| Warmwater and Coolwater Game Fish .....          | 31          |
| Largemouth and Smallmouth Bass .....             | 31          |
| Black and White Crappie .....                    | 33          |
| Bluegill .....                                   | 34          |
| Yellow Perch .....                               | 34          |
| Catfish .....                                    | 34          |
| Walleye .....                                    | 35          |
| Northern Pike .....                              | 35          |
| Tiger Muskie .....                               | 36          |
| Native Nongame Species .....                     | 36          |
| Alpine Lake Management .....                     | 37          |

## TABLE OF CONTENTS (Continued)

| <u>Page</u> |   |
|-------------|---|
|             | Anadromous Fisheries Management .....39                         |
|             | Wild/Natural .....40  |
|             | Anadromous Hatcheries .....42                                   |
|             | Other Aquatic Species .....49                                   |
|             | Special Management Issues.....50                                |
|             | Endangered Species Act.....50                                   |
|             | Fish Species at Risk.....51                                     |
|             | Comprehensive Wildlife Conservation Strategy .....52            |
|             | Private Fish Ponds .....56                                      |
|             | Aquatic Species Control .....56                                 |
|             | Biological .....58  |
|             | Chemical .....58  |
|             | Physical .....59  |
|             | Special Fishing Opportunities .....59                           |
|             | Youth Fishing Opportunities.....59                              |
|             | Commercial Fisheries .....59                                    |
|             | Fishing Contests .....60  |
|             | Aquatic Education .....61                                       |
|             | Fishing Access .....61  |
|             | Outfitting and Guiding .....63                                  |
|             | Other Statewide Fishing Activities.....63                       |
|             | Law Enforcement and Public Outreach.....63                      |
|             | 2006 Angler Opinion Survey Results .....67                      |
|             | Anglers and Their Preferences .....67                           |
|             | Angler Characteristics .....67                                  |
|             | Fishing Habits .....68  |
|             | Fisheries Management.....69                                     |
|             | Special Regulations in Fisheries Management.....70              |
|             | Quality and Trophy Size Management.....70                       |
|             | Methods to Reduce Harvest and Conflict.....70                   |
|             | Bass Management .....70   |
|             | Fishing Contests and Tournaments .....71                        |
|             | Chinook Salmon and Steelhead Fisheries .....72                  |
|             | Comments of Agencies and Indian Tribes ..... 73                 |
|             | Public Review of the 2007-2012 Fisheries Management Plan.....72 |
|             | Statewide Issues and Strategies.....73                          |
|             | Performance Targets for Major Programs .....96                  |
|             | LITERATURE CITED .....100                                       |

**TABLE OF CONTENTS (Continued)**

**Page**

**Page**

**LIST OF FIGURES**

Figure 1. 2007 Fisheries Programs (\$28 Million) .....3

Figure 2. Present and former range of anadromous fish in Idaho .....86

Figure 3. Historic adult passage of naturally produced anadromous fish runs at the uppermost dam and counting facility in the Snake River, 1960-2005. (IHR = Ice Harbor, JDA = John Day, LMO = Lower Monumental and LGR = Lower Granite. Dates below facilities indicate first year fish were enumerated .....87

Figure 4. Annual numbers of Idaho adult hatchery spring/summer Chinook salmon in sport harvests and the spring/summer hatchery run sizes at Lower Granite Dam compared to the mitigation hatchery run size expectation .....88

Figure 5. Annual numbers of Idaho adult hatchery steelhead in sport harvests ..... and the steelhead run sizes at Lower Granite Dam compared to the ..... mitigation hatchery run size expectation .....88

**LIST OF TABLES**

Table 1. A summary of accomplishments from the 2001-2006 planning period by program .....4

Table 2. A list of Idaho fish species and their distribution by drainage (current as of 2006) .....7

Table 3. Geographic location of primary wild populations of salmon and steelhead .....41

Table 4.. Anadromous mitigation research, 2007-2012 .....45

Table 5. Additional anadromous research questions (prioritized by anadromous personnel) that require attention and funding solutions, 2007-2012 .....46

Table 6. Resident Species Mitigation Research, 2007-2012 .....47

Table7. Discretionary Research Priorities, 2007-2012 .....48

**TABLE OF CONTENTS (Continued)**

**Page**

Table 8. Fishes recognized as Species of Greatest Conservation Need in Idaho along with conservation status ranks and state and federal status. See Appendix 1 for definition of conservation status .....55

Table 9. Fishery Enforcement Priorities by Region for 2007-2012 .....64

Table 10. Percent of resident fishing license holders by Department region .....67

Table 11. Most preferred species of fish sought in Idaho by total anglers from 2001-2005 .....68

**FISHERIES MANAGEMENT PLAN – 2007 – 2012**

PART II – DRAINAGES .....102

FISHERY MANAGEMENT PLANS BY DRAINAGE .....103

    Overview .....103

    Objectives and Programs.....103

    Management Direction .....103

DEFINITIONS OF TERMS USED IN DRAINAGE MANAGEMENT DIRECTION\

    TABLES .....103

    Fishery Types .....103

    Species Present .....103

    Fishery Management .....104

KOOTENAI RIVER DRAINAGE .....107

    Overview .....107

PEND OREILLE RIVER DRAINAGE .....117

    Overview .....117

PRIEST RIVER DRAINAGE .....132

    Overview .....132

SPOKANE RIVER DRAINAGE .....143

    Overview .....143

PALOUSE RIVER DRAINAGE .....159

    Overview .....159

SNAKE RIVER AND MINOR TRIBUTARIES IDAHO/WASHINGTON BORDER

    TO HELLS CANYON DAM .....162

    Overview .....162

## TABLE OF CONTENTS (Continued)

|  | <u>Page</u> |
|--|-------------|
| CLEARWATER RIVER DRAINAGE .....  | 167         |
| Overview .....   | 167         |
| SALMON RIVER DRAINAGE – MOUTH TO HORSE CREEK.....                            | 186         |
| Overview .....   | 186         |
| LITTLE SAMON RIVER DRAINAGE .....  | 192         |
| Overview .....   | 192         |
| SOUTH FORK SALMON RIVER DRAINAGE .....                                       | 197         |
| Overview .....   | 197         |
| SALMON RIVER DRAINAGE – HORSE CREEK TO NORTH FORK .....                      | 204         |
| Overview .....   | 204         |
| MIDDLE FORK SALMON RIVER DRAINAGE .....                                      | 210         |
| Overview .....   | 210         |
| SALMON RIVER – NORTH FORK TO HEAD WATERS.....                                | 216         |
| Overview .....   | 216         |
| LEMHI RIVER DRAINAGE .....   | 224         |
| Overview .....   | 224         |
| PAHSIMEROI RIVER DRAINAGE.....   | 228         |
| Overview .....   | 228         |
| EAST FORK SALMON RIVER DRAINAGE.....   | 232         |
| Overview .....   | 232         |
| YANKEE FORK SALMON RIVER DRAINAGE .....                                      | 236         |
| Overview .....   | 236         |
| SNAKE RIVER DRAINAGE FROM HELLS CANYON DAM TO C.J. STRIKE<br>RESERVOIR ..... | 240         |
| Overview .....   | 240         |
| WEISER RIVER DRAINAGE .....  | 248         |
| Overview .....   | 248         |
| PAYETTE RIVER DRAINAGE .....   | 254         |
| Overview .....   | 254         |

**TABLE OF CONTENTS (Continued)**

**Page**

|   |     |
|---|-----|
| BOISE RIVER DRAINAGE .....  | 263 |
| Overview .....  | 263 |
| OWYHEE RIVER DRAINAGE, BRUNEAU RIVER DRAINAGE, AND MINOR<br>TRIBUTARIES SOUTH OF SNAKE RIVER..... | 273 |
| Overview .....  | 273 |
| MAIN SNAKE RIVER – C.J. STRIKE RESERVOIR TO LAKE WALCOTT .....                                    | 279 |
| Overview .....  | 279 |
| BIG WOOD RIVER DRAINAGE .....   | 286 |
| Overview .....  | 286 |
| SALMON FALLS CREEK, GOOSE CREEK, ROCK CREEK AND RAFT<br>RIVER DRAINAGES .....                     | 291 |
| Overview .....  | 291 |
| SNAKE RIVER DRAINAGE LAKE WALCOTT TO HENRYS FORK .....  | 297 |
| Overview .....  | 297 |
| PORTNEUF RIVER DRAINAGE .....   | 305 |
| Overview .....  | 305 |
| BLACKFOOT RIVER DRAINAGE .....  | 312 |
| Overview .....  | 312 |
| WILLOW CREEK DRAINAGE .....   | 319 |
| Overview .....  | 319 |
| HENRYS FORK SNAKE RIVER DRAINAGE .....  | 323 |
| Overview .....  | 323 |
| TETON RIVER DRAINAGE .....  | 333 |
| Overview .....  | 333 |
| SNAKE RIVER DRAINAGE SOUTH FORK .....   | 338 |
| Overview .....  | 338 |
| SINKS DRAINAGE .....  | 346 |
| Overview .....  | 346 |
| BEAR RIVER AND TRIBUTARIES .....  | 355 |
| Overview .....  | 355 |

**TABLE OF CONTENTS (Continued)**

**Page**

MALAD RIVER DRAINAGE .....365  
    Overview .....365

**LIST OF FIGURES**

Figure 1. Statewide drainage map for 2007-2012 Fisheries Management  
Plan .....105

**LIST OF APPENDICES**

Appendix 1. Common and Scientific Names of Idaho Species of Greatest Conservation  
Need .....368

Appendix 2. 2006 Angler Opinion Survey mailed to a subset of resident  
and non-resident anglers.....373





# **FISHERIES MANAGEMENT PLAN 2007-2012**

## **INTRODUCTION**

The 2007 – 2012 Fisheries Management Plan describes the management direction of the Idaho Department of Fish and Game (Department) over the next six years in order to provide the continued supplies of fish and fishing opportunities as provided by statute, and to fulfill our responsibilities to "...preserve, protect, perpetuate, and manage..." the fisheries resources of the state. This plan is also designed to be consistent with "The Compass" – the Department's strategic plan. The Fisheries Management Plan describes both general and specific Department fisheries policies and establishes major fisheries goals and objectives. In some cases, the management direction outlined in this plan is a continuation of long-established programs. In other cases, new issues and management challenges, whether they are biological or social in nature, are discussed and relevant Department actions are proposed. For recreational fisheries, any limiting factors are identified and corrective actions are proposed. After public review and approval by the Idaho Fish and Game Commission (Commission), this document will guide fishery management in Idaho from 2007 through 2012. Annual work schedules of Department field and headquarters fisheries managers will be developed within the priorities and framework of this plan.

## **HOW TO USE THIS DOCUMENT**

The plan is divided into two parts:

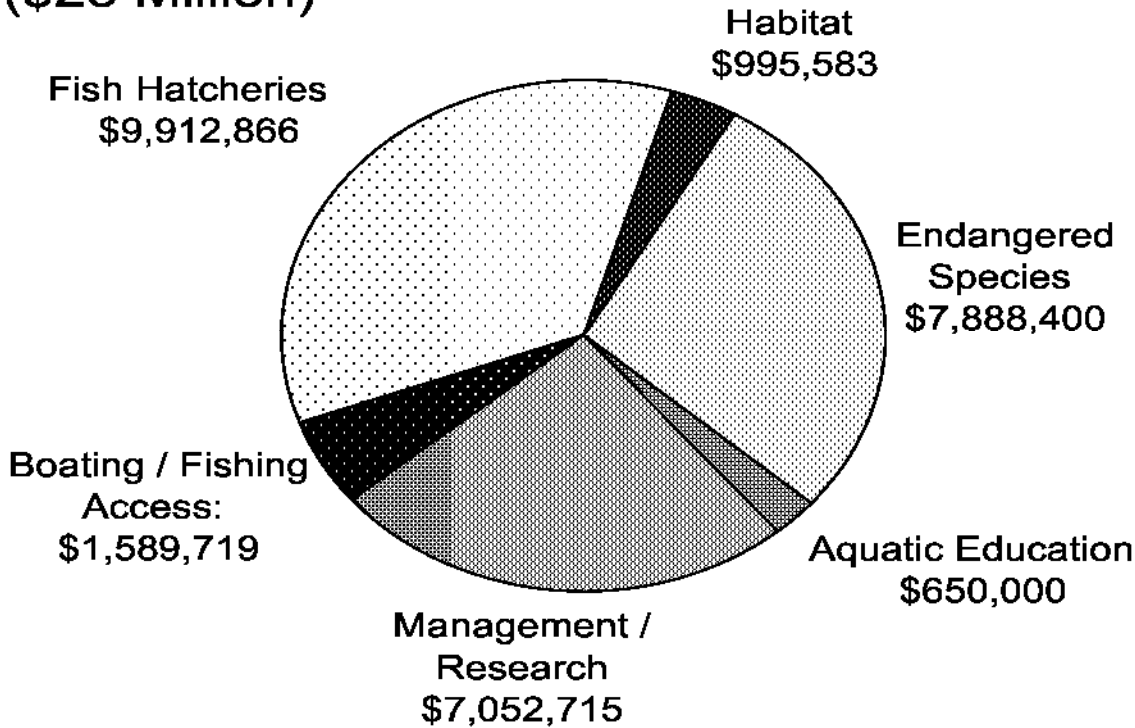
1. The first part deals with fisheries management on a statewide basis, and provides Department goals, objectives, and desired outcomes. Department policies and fisheries management programs are described. Results of the 2006 Angler Opinion Survey are summarized, statewide issues and programs are discussed, and strategies and performance measures are identified to attain the goals.
2. The second part proposes specific management direction for each drainage in the state. This document is not intended to be a complete listing of management issues and detailed plans for each water body in the state. There are simply too many water bodies and too much information to include in a single document. Rather, it is a description of objectives and strategies for what the Department deems the most important waters per drainage as determined by angler use and complexity of the management program. A narrative overview describes the location, gives pertinent statistics on use, land management activities, demographics, and describes the habitat and important fisheries. Objectives and specific programs by drainage are listed. Management direction for important waters by drainage is presented.

## **PART 1—STATEWIDE MANAGEMENT**

Budget preparation for fisheries activities of the Department will be within the guidelines of this plan as needed to support annual activities. The Department receives about \$10.8 million annually from the sale of fishing licenses and the Federal Sport Fish Restoration Program, which places a tax on fishing tackle, equipment, and motorboat fuels and \$14.2

million in federal "contract" money to implement and evaluate various contracts and mitigation programs, primarily for salmon and steelhead. Additionally, the Department receives \$2.5 million annually for non-federal mitigation contracts. A breakdown of how the Department allocates money for fishery and habitat related programs is illustrated in Figure 1. The Department receives no general state tax money to manage fisheries and aquatic resources. Programs listed are those which the Department intends to initiate or accomplish within this planning period. A summary of significant accomplishments from the previous 2001-2006 Fisheries Management Plan is included in Table 1.

**Figure 1. 2007 Fisheries Programs  
(\$28 Million)**



**Figure 1.** 2007 Fisheries Programs (\$28 Million).

Table 1. A summary of program accomplishments from the 2001-2006 planning period.

| <b>Program</b>   | <b>2001 -2006 Goals</b>  | <b>Accomplishments</b>   |
|--|--|--|
| <b>Increase emphasis on habitat protection.</b>  | Conduct habitat improvement projects.  | Numerous stream fencing, diversion screening, and fish passage projects completed.<br>Reconnected tributaries to mainstem rivers.  |
|  | Expand volunteer involvement.  | Utilized volunteers in nearly all habitat projects.  |
| <b>Provide a diversity of angling opportunity.</b>   | Provide a mix of hatchery trout and wild trout management, and general and quality management.             | Done throughout the state.   |
|  | Evaluate potential new species introductions and stock if appropriate.                                     | New or reestablished fisheries for yellow perch, kokanee, tiger muskie, and channel catfish.   |
| <b>Provide increased family fishing opportunity and manage as consumptive fisheries with simple fishing rules.</b> | Provide additional access and information on where to go.  | Reprinted <i>The Official Guide to Fishing in Idaho</i> .<br><br>Family Fishing Water brochures produced for each region.  |
|  | Identify sites and initiate development of new fishing waters.   | Established 88 Family Fishing Waters with simplified fishing rules.<br><br>Created Deer Creek Reservoir in the Clearwater Region. Four new urban fisheries created in Southwest Region.    |
| <b>Continue quality and trophy fishing opportunities.</b>  | Manage existing quality and trophy waters.   | Produced new state records for nine game fish species.   |
|  | Establish additional quality and trophy waters.  | Deleted 3 waters from quality/trophy management since they did not attain objectives. No new waters were added.  |
| <b>Increase emphasis on protection and enhancement of wild trout.</b>  | Enhance wild trout habitat protection.   | Numerous stream fencing, diversion screening, and fish passage projects completed.<br>Reconnected tributaries to mainstem rivers.  |
|  | Increase public awareness of wild trout values.  | Built informational signs and fish identification boards, produced and distributed stickers and brochures; press and TV coverage.  |
|  | Reduce potential impacts of hatchery trout on wild trout.  | Implemented sterile (triploid) hatchery rainbow trout program. Stock sterile lake trout in Bear Lake and sterile brook trout and cutthroat hybrids in Henrys Lake.                         |
|  | Implement statewide wild trout management program.   | Ongoing program to integrate native trout conservation plans with reduced harvest rules.   |
| <b>Continue emphasis on hatchery trout programs in streams, lakes, and reservoirs.</b>                             | Designate, sign and publicize locations of put-and-take trout streams.                                     | Signing completed to assist anglers wanting to fish on put-and-take streams.   |
|  | Concentrate stockings in high-use/high-return streams increase the number and frequency of fish stockings. | Done in a majority of sites. Improved stocking reports on Department website.<br><br>Implemented stocking criteria protocols to refine allocation and maximize benefits of hatchery fish.  |
| <b>Continue emphasis on protection and restoration of salmon and steelhead.</b>                                    | Enhance hatchery fish health and smolt quality.  | An ongoing program that includes extensive disease sampling, modified rearing strategies to reduce stress, structural modifications, and the completion of netting to reduce avian disease |

|   |  |  |
|---|--|--|
|   | <p>Maintain a secure wild fish management program.</p> <p>Emphasize management for natural production.</p> <p>Provide continued fisheries for surplus hatchery fish.</p> <p>Intensify efforts to improve migration survival.</p>   | <p>transmittal.</p> <p>Have maintained wild management-only drainages. Assisted in habitat protection and/or improvement in key production areas in Salmon River. For many years have allowed harvest of only adipose-clipped fish.</p> <p>Supplementation research on-going; releasing all natural Chinook that arrive at hatchery weir so they spawn naturally.</p> <p>Conducted salmon and steelhead seasons each year.</p> <p>Department participating in collaborative science processes and in-season migration management forums.</p>   |
| <p><b>Provide additional angling information to the public.</b></p>       | <p>Continue production of maps, brochures and other information.</p> <p>Finish developing Anglers Guide brochures on lowland lakes and reservoirs.</p> <p>Informative signs and brochures, and use of electronic media.</p> <p>Provide locations of put-and-take stocking sites with signs and maps and informing media.</p> <p>Improve angler ability to identify various fish and increase awareness of regulations.</p> | <p>Reprinted <i>The Official Guide to Fishing in Idaho</i>. Published Access Guide.</p> <p>Brochures developed for eight (12 total).</p> <p>Brochures developed for three waters, (11 total). Continued this ongoing program into wild trout activities. Numerous informational signs, stream drainage maps and brochures completed or updated; angling information provided on Department web site.</p> <p>Standardized put-and-take signs posted at all put-and-take stream stocking sites, new angler guide with expanded maps produced.</p> <p>Improved quality and quantity of fish pictures in rule books. Distributed placemats, bumper stickers, leaflets, and other printed materials to help anglers identify key species. Used 3-D Fish ID display at various events to test anglers identification skills.</p> |
| <p><b>Provide increased access, particularly for bank anglers.</b></p>    | <p>Continue program of acquiring lease, easement or fee title to key areas to provide angler access.</p> <p>Expend approximately \$1,500,000 per year on maintenance or development of new fishing, handicap, docks and boating access facilities.</p>   | <p>325 access sites are provided. 12 new access/fishing ponds provided 2002-2006: (Steamboat, Granite Creek, Deyo, Deer Creek Reservoir, Blue Lagoons, Lenore, Map Rock, Stennett, Colston, Watts Bridge, Moen, Hwy 93).</p> <p>\$6,850,000 spent on renovations and operations. 85 sites renovated. Standardized kiosks and signs at access sites.</p>  |
| <p><b>Provide educational programs to encourage children to fish.</b></p> | <p>Conduct youth fishing clinics.</p> <p>The Department will continue to foster cooperative educational programs such as Trout in the Classroom and Idaho Salmon and Steelhead Days.</p>   | <p>Department fishing clinics conducted each year throughout the state with thousands of participants.</p> <p><i>Idaho Salmon and Steelhead Days</i> and <i>Trout in the Classroom</i> held annually. Viable <i>Trout in the Classroom</i> programs established throughout the state. Aquaria now found in many schools around state.</p>  |

|  |   |  |
|--|---|--|
| <b>Simplify and standardize fishing rules.</b> | Make fewer changes to fishing rules to reduce confusion.                            | Minor changes made during planning period.   |
|  | Increase signage, information, and other means of making rules more understandable. | <p>Maps explaining rules updated for several river systems; numerous special signs developed, fish identification signs developed and placed near streams.</p> <p>Standardized bag limits and regulation options for fishing (e.g., 6 trout, 6 bass).</p> <p>Clarified winter stream fishing rules.</p> <p>Reduced/condensed definitions.</p> <p>Standardized signage statewide.</p> |

The Department has management responsibility for 82 species of fish in Idaho of which 12 species are native game fish. An additional 30 species are game fish that have been introduced (Table 2).

Table 2. A list of Idaho fish species and their distribution by drainage (current as of 2007).

| Common Name    | Family                            | Species                   |                                      | Origin <sup>b</sup> | Drainage <sup>a</sup> |                |                |    |    |                |                |                |                |
|----------------|-----------------------------------|---------------------------|--------------------------------------|---------------------|-----------------------|----------------|----------------|----|----|----------------|----------------|----------------|----------------|
|                |                                   | Common Name               | Scientific Name                      |                     | K                     | P              | S              | Pa | Sb | Sa             | B              | I              |                |
| Trout          | Salmonidae                        | Lake whitefish            | <i>Coregonus clupeaformis</i>        | I                   |                       | X              |                |    |    |                |                |                |                |
|                |                                   | Bear Lake whitefish       | <i>Prosopium abyssiicola</i>         | N                   |                       |                |                |    |    |                |                | X              |                |
|                |                                   | Pygmy whitefish           | <i>Prosopium coulteri</i>            | N                   |                       | X              |                |    |    |                |                |                |                |
|                |                                   | Bonneville cisco          | <i>Prosopium gemmifer</i>            | N                   |                       |                |                |    |    |                |                | X              |                |
|                |                                   | Bonneville whitefish      | <i>Prosopium spilnotus</i>           | N                   |                       |                |                |    |    |                |                | X              |                |
|                |                                   | Mountain whitefish        | <i>Prosopium williamsoni</i>         | N                   | X                     | X              | X              |    | X  | X              | X              | X              | X              |
|                |                                   | Coho salmon               | <i>Oncorhynchus kisutch</i>          | I <sub>s</sub>      |                       |                |                |    | X  | X              |                |                |                |
|                |                                   | Sockeye salmon            | <i>Oncorhynchus nerka</i>            | N                   |                       |                |                |    | X  |                |                |                |                |
|                |                                   | Kokanee                   | <i>Oncorhynchus nerka kennerlyi</i>  | N                   | X                     | X <sub>i</sub> | X <sub>i</sub> |    | X  | X <sub>i</sub> |                |                | X <sub>i</sub> |
|                |                                   | Chinook salmon            | <i>Oncorhynchus tshawytscha</i>      | N                   |                       |                | X              |    | X  |                |                |                |                |
|                |                                   | Golden trout              | <i>Oncorhynchus aguabonita</i>       | I                   | X                     |                | X              |    | X  | X              |                |                | X              |
|                |                                   | Cutthroat trout           | <i>Oncorhynchus clarkii</i>          |                     |                       |                |                |    |    |                |                |                |                |
|                |                                   | Westslope                 | <i>Oncorhynchus clarkii lewisi</i>   | N                   | X                     | X              | X              |    | X  |                |                |                |                |
|                |                                   | Yellowstone               | <i>Oncorhynchus clarkii bouvieri</i> | N                   |                       |                |                |    |    |                | X              |                | X              |
|                |                                   | Finespotted (Snake River) | <i>Oncorhynchus clarkii bouvieri</i> | N                   |                       |                |                |    |    |                | X              |                |                |
|                |                                   | Bonneville                | <i>Oncorhynchus clarkii utah</i>     | N                   |                       |                |                |    |    |                |                | X              |                |
|                |                                   | Bear Lake                 | <i>Oncorhynchus clarkii utah.</i>    | N                   |                       |                |                |    |    |                | X <sub>i</sub> | X              |                |
|                |                                   | Lahontan                  | <i>Oncorhynchus clarkii henshawi</i> | I                   |                       |                |                |    | X  | X              |                |                | X              |
|                |                                   | Rainbow trout             | <i>Oncorhynchus mykiss</i>           | N                   | X                     | X <sub>i</sub> | X              | X  | X  | X              | X <sub>i</sub> | X <sub>i</sub> | X <sub>i</sub> |
|                |                                   | Redband trout             | <i>Oncorhynchus mykiss gairdneri</i> | N                   | X                     |                |                |    | X  |                |                |                |                |
|                |                                   | Steelhead trout           | <i>Oncorhynchus mykiss gairdneri</i> | N                   |                       |                |                |    | X  |                |                |                |                |
|                |                                   | Brown trout               | <i>Salmo trutta</i>                  | I                   |                       | X              | X              | X  | X  | X              | X              | X              |                |
|                |                                   | Atlantic salmon           | <i>Salmo salar</i>                   | I                   |                       |                |                |    | X  |                |                |                |                |
| Blueback trout | <i>Salvelinus alpinus oquassa</i> | I                         |                                      |                     |                       |                | X              |    |    |                |                |                |                |
| Brook trout    | <i>Salvelinus fontinalis</i>      | I                         | X                                    | X                   | X                     | X              | X              | X  | X  | X              | X              |                |                |

| Common Name   | Family                     | Species               |   | Origin <sup>b</sup> | Drainage <sup>a</sup> |   |   |    |    |    |   |   |
|---------------|----------------------------|-----------------------|---|---------------------|-----------------------|---|---|----|----|----|---|---|
|               |                            | Common Name           | Scientific Name                           |                     | K                     | P | S | Pa | Sb | Sa | B | I |
|               |                            | Bull trout            | <i>Salvelinus confluentus</i>             | N                   | X                     | X | X |    | X  |    |   | X |
|               |                            | Lake trout            | <i>Salvelinus namaycush</i>               | I                   |                       | X |   |    | X  | X  | X |   |
|               |                            | Splake                | <i>Salvelinus. namaycush x fontinalis</i> | I                   |                       | X | X |    | X  | X  |   |   |
|               |                            | Arctic grayling       | <i>Thymallus arcticus</i>                 | I                   | X                     |   | X |    | X  | X  |   | X |
| Lamprey       | Petromyzontidae            | Pacific lamprey       | <i>Lampetra trident ata</i>               | N                   |                       | X |   |    | X  |    |   |   |
| Sturgeon      | Acipenseridae              | White sturgeon        | <i>Acipenser transmontanus</i>            | N                   | X                     |   |   |    | X  | X  |   |   |
| Pike          | Esocidae                   | Northern pike         | <i>Esox lucius</i>                        | I                   |                       | X | X |    |    |    |   |   |
|               |                            | Tiger muskie          | <i>Esox lucius x E. masquinongy</i>       | I                   | X                     | X | X |    | X  |    | X | X |
| Minnow        | Cyprinidae                 | Chiselmouth           | <i>Acrocheilus alutaceus</i>              | N                   |                       |   |   |    | X  |    |   |   |
|               |                            | Goldfish              | <i>Carassius auratus</i>                  | I                   |                       |   |   |    | X  |    |   | X |
|               |                            | Lake chub             | <i>Couesius plumbeus</i>                  | N                   | X                     |   |   |    |    |    |   |   |
|               |                            | Common carp           | <i>Cyprinus carpio</i>                    | I                   |                       |   |   | X  | X  | X  | X |   |
|               |                            | Grass carp (triploid) | <i>Ctenopharyngodon idella</i>            | I                   |                       | X | X | X  | X  | X  | X |   |
|               |                            | Utah chub             | <i>Gila atraria</i>                       | N                   |                       |   |   |    | X  | X  | X | X |
|               |                            | Tui chub              | <i>Gila bicolor</i>                       | I                   |                       |   |   |    | X  |    |   |   |
|               |                            | Leatherside chub      | <i>Gila copei</i>                         | N                   |                       |   |   |    | X  | X  | X |   |
|               |                            | Peamouth              | <i>Mylocheilus caurinus</i>               | N                   | X                     | X | X |    | X  |    |   |   |
|               |                            | Spottail shiner       | <i>Notropis hudsonius</i>                 | I                   |                       |   |   |    | X  | X  | X |   |
|               |                            | Fathead minnow        | <i>Pimephales promelas</i>                | I                   |                       | X |   |    | X  | X  |   |   |
|               |                            | Northern pikemin now  | <i>Ptychocheilus oregonensis</i>          | N                   | X                     | X | X | X  | X  |    |   |   |
|               |                            | Longnose dace         | <i>Rhinichthys cataractae</i>             | N                   | X                     | X | X | X  | X  | X  | X | X |
|               |                            | Leopard dace          | <i>Rhinichthys falcatus</i>               | N                   |                       |   |   |    | X  |    |   |   |
| Speckled dace | <i>Rhinichthys osculus</i> | N                     |   |                     | X                     | X | X | X  | X  | X  |   |   |



| Common Name | Family        | Species           |                                 | Origin <sup>b</sup> | K | P | S | Drainage <sup>a</sup> |    |    |   |   |
|-------------|---------------|-------------------|---------------------------------|---------------------|---|---|---|-----------------------|----|----|---|---|
|             |               | Common Name       | Scientific Name                 |                     |   |   |   | Pa                    | Sb | Sa | B | I |
|             |               | Redside shiner    | <i>Richardsonius balteatus</i>  | N                   | X | X | X | X                     | X  | X  | X | X |
|             |               | Tench             | <i>Tinca tinca</i>              | I                   |   | X | X |                       |    |    |   |   |
| Sucker      | Catostomidae  | Utah sucker       | <i>Catostomus ardens</i>        | N                   |   |   |   |                       |    | X  | X | X |
|             |               | Longnose sucker   | <i>Catostomus catostomus</i>    | N                   | X | X | X |                       |    |    |   |   |
|             |               | Bridgelip sucker  | <i>Catostomus columbianus</i>   | N                   |   |   | X | X                     | X  |    |   |   |
|             |               | Bluehead sucker   | <i>Catostomus discobolus</i>    | N                   |   |   |   |                       |    | X  | X |   |
|             |               | Largescale sucker | <i>Catostomus macrocheilus</i>  | N                   | X | X | X | X                     | X  |    |   |   |
|             |               | Mountain sucker   | <i>Catostomus platyrhynchus</i> | N                   |   |   |   |                       | X  | X  | X | X |
|             |               |                   |                                 |                     |   |   |   |                       |    |    |   |   |
| Cattfish    | Ictaluridae   | Black bullhead    | <i>Ameiurus melas</i>           | I                   |   |   | X |                       | X  |    |   |   |
|             |               | Brown bullhead    | <i>Ameiurus nebulosus</i>       | I                   | X | X | X | X                     | X  | X  | X |   |
|             |               | Yellow bullhead   | <i>Ameiurus natalis</i>         | I                   |   |   |   |                       | X  | X  |   |   |
|             |               | Blue catfish      | <i>Ictalurus furcatus</i>       | I                   |   |   |   |                       | X  |    |   |   |
|             |               | Channel catfish   | <i>Ictalurus punctatus</i>      | I                   | X | X | X |                       | X  | X  | X |   |
|             |               | Tadpole madtom    | <i>Noturus gyrinus</i>          | I                   |   |   |   |                       | X  |    |   |   |
|             |               | Flathead catfish  | <i>Pylodictis olivaris</i>      | I                   |   |   |   |                       | X  |    |   |   |
| Trout-perch | Percopsidae   | Sand roller       | <i>Percopsis transmontana</i>   | N                   |   |   |   |                       | X  |    |   |   |
| Cod         | Gadidae       | Burbot (ling)     | <i>Lota lota</i>                | N                   | X |   |   |                       |    |    |   |   |
| Livebearer  | Poeciliidae   | Mosquitofish      | <i>Gambusia affinis</i>         | I                   |   |   |   |                       | X  | X  | X |   |
|             |               | Guppy             | <i>Poecilia reticulata</i>      | I                   |   |   |   |                       |    |    | X | X |
|             |               | Green swordtail   | <i>Xiphophorus helleri</i>      | I                   |   |   |   |                       | X  |    | X | X |
|             |               | Platy             | <i>Xiphophorus spp.</i>         | I                   |   |   |   |                       |    |    | X | X |
| Sunfish     | Centrarchidae | Green sunfish     | <i>Lepomis cyanellus</i>        | I                   |   |   | X |                       |    |    | X |   |
|             |               | Pumpkinseed       | <i>Lepomis gibbosus</i>         | I                   | X | X | X | X                     | X  | X  |   |   |
|             |               | Warmouth          | <i>Lepomis gulosus</i>          | I                   |   |   |   |                       | X  |    |   |   |

|                      |           | Species                   |                                   | Origin <sup>b</sup> | Drainage <sup>a</sup> |   |   |    |    |    |   |   |
|----------------------|-----------|---------------------------|-----------------------------------|---------------------|-----------------------|---|---|----|----|----|---|---|
| Common Name          | Family    | Common Name               | Scientific Name                   |                     | K                     | P | S | Pa | Sb | Sa | B | I |
|                      |           | Bluegill                  | <i>Lepomis macrochirus</i>        | I                   | X                     | X | X | X  | X  | X  | X |   |
|                      |           | Smallmouth bass           | <i>Micropterus dolomieu</i>       | I                   |                       | X | X |    | X  | X  | X |   |
|                      |           | Largemouth bass           | <i>Micropterus salmoides</i>      | I                   | X                     | X | X | X  | X  | X  | X |   |
|                      |           | Black crappie             | <i>Pomoxis nigromaculatus</i>     | I                   | X                     | X | X | X  | X  | X  | X | X |
|                      |           | White crapie              | <i>Pomoxis annularis</i>          | I                   |                       |   |   |    | X  |    |   |   |
|                      |           | Yellow Perch              | <i>Perca flavescens</i>           | I                   | X                     | X | X |    | X  | X  | X | X |
|                      |           | Walleye                   | <i>Stizostedion vitreum</i>       | I                   |                       | X |   |    | X  |    | X |   |
|                      |           | Sauger                    | <i>Stizostedion canadense</i>     | I                   |                       |   |   |    |    |    | X |   |
|                      |           | Mottled sculpin           | <i>Cottus bairdi</i>              | N                   |                       |   |   |    | X  | X  | X | X |
|                      |           | Paiute sculpin            | <i>Cottus beldingi</i>            | N                   |                       |   |   |    | X  | X  | X |   |
|                      |           | Slimy sculpin             | <i>Cottus cognatus</i>            | N                   | X                     | X |   |    | X  |    |   |   |
|                      |           | Shorthead sculpin         | <i>Cottus confusus</i>            | N                   |                       |   | X |    | X  |    |   | X |
|                      |           | Bear Lake sculpin         | <i>Cottus extensus</i>            | N                   |                       |   |   |    |    |    | X |   |
|                      |           | Shoshone sculpin          | <i>Cottus greenei</i>             | N                   |                       |   |   |    | X  |    |   |   |
|                      |           | Wood River sculpin        | <i>Cottus leiopomus</i>           | N                   |                       |   |   |    | X  |    |   |   |
|                      |           | Torrent sculpin           | <i>Cottus rhotheus</i>            | N                   | X                     | X | X | X  | X  |    |   |   |
|                      |           | Mozambique (Java) tilapia | <i>Tilapia mossambica</i>         | I <sup>c</sup>      |                       |   |   |    | X  |    |   | X |
|                      |           | Redbelly (Zill's) tilapia | <i>Tilapia zilli</i>              | I <sup>c</sup>      |                       |   |   |    | X  |    |   |   |
| Cichlid <sup>c</sup> | Cichlidae | Convict cichlid           | <i>Cichlasoma nigrofasciatum</i>  | I <sup>c</sup>      |                       |   |   |    | X  |    |   | X |
| Loach                | Cobitidae | Oriental weatherfish      | <i>Misgurnus anguillicaudatus</i> | I                   |                       |   |   |    | X  |    |   |   |
| Shad                 | Clupeidae | American shad             | <i>Alosa sapidissima</i>          | I                   |                       |   |   |    | X  |    |   |   |

K=Kootenai River drainage, P=Pend Oreille River drainage, S=Spokane River drainage, Pa=Palouse River drainage, Sb=Snake River below Shoshone Falls, Sa=Snake River above shoshone Falls, B=Bear River drainages, and I=Independent drainages. N=Native and I=Introduced. ° Confined to geothermal waters. ° Natural population of coho extirpated; new population of hatchery origin. X: Native in part of the state, but introduced into this drainage.

The Idaho Department of Commerce estimates that the recreation and tourism industry is the third largest in the state. Sport fishing comprises a substantial part of this business. The Department conducted a fishery economics survey in 2003 by mailing out 48,000 surveys to Idaho fishing license holders (IDFG, in draft). Based on the results of almost 26,000 completed responses from this survey, the Department estimated that 424,375 anglers spent more than 3.9 million days on Idaho waters. Fishing in Idaho generated \$437,631,735 in statewide retail sales in 2003 with an additional \$12,289,806 for fishing licenses and permits (IDFG, in draft). In 2003, Idaho's population was nearly 1.4 million people. There were over 424,000 fishing licenses and 106,759 permits (Chinook/steelhead/2 pole) sold to over 400,000 individuals of which 124,297 were non-residents.

The Department conducted an economic survey following the 2001 Chinook salmon season that generated an estimated direct angler expenditure of \$46.1 million. This survey did not measure any indirect economic activity or jobs created. Nearly 541,000 hours of angler effort were expended during 124,350 angler trips. The average cost per trip approached \$400.

Primary fish species from a management standpoint in Idaho are native sport fish including redband/rainbow trout, cutthroat trout, steelhead (rainbow trout), Chinook salmon, and white sturgeon. Two of these species, steelhead and Chinook salmon, migrate to the ocean to complete a portion of their life cycle (i.e., they are "anadromous" species), and thus management of these two species involves cooperative agreements among other state and federal agencies and Indian tribes. Introduced game fish that provide important sport fisheries include non-native rainbow trout stocks, brown trout, lake trout, brook trout, kokanee, smallmouth and largemouth bass, sunfish, yellow perch, black crappie, channel catfish, walleye, and tiger muskie. A limited number of native fish species, including certain gamefish and nongame fish are threatened by range constriction, declining populations, interactions with non-native fishes, and other factors.

Department fisheries management activities will strive to meet the goals outlined in the strategic plan—The Compass—and in particular the following goals: "Sustain fish and wildlife, and the habitats upon which they depend," and "Meet the demand for fish and wildlife recreation." A top priority is to manage populations so that sport-fishing demands are met through natural production of fish species. A wide range of research projects and other information-gathering activities support management functions. In areas where sufficient fish habitat exists but natural production is insufficient to meet angling demands, fish stocks may be rebuilt through supplementation. Wherever possible, appropriate wild stocks will be evaluated and utilized in suitable habitat. Hatchery putgrow-and-take and put-and-take programs are primarily used in other heavily-fished, altered habitats to provide recreational fishing opportunity. Emphasis is given to those areas that will allow a high proportion of hatchery-produced fish to be caught by anglers. The Department uses a variety of rules on different waters to provide a mixture of sport fishing opportunities. As feasible, new fishing opportunities will be developed through reclamation of damaged habitats and development of new fishing areas.

The six-year focus of the anadromous fish program is to maintain hatchery supported steelhead and Chinook salmon fisheries in Idaho and take management actions in Idaho necessary to preserve wild steelhead, Chinook, and sockeye salmon. In addition, the Department will continue its efforts working toward and promoting improvement of the mainstem Snake River and Columbia River migration route for these fish. These efforts

are essential to improve the survival of salmon and steelhead leaving Idaho and returning from the ocean. Improved survival is the key to restoring wild salmon and steelhead runs and the traditional fisheries of the 1960s they once supported.

The Department also has responsibility for management of commercial fisheries in Idaho. Commercial fishing in public waters has been traditionally limited to nongame fish species and crayfish. The Commission authorized a commercial rod-and-reel fishery for lake trout in Lake Pend Oreille in 2002 as part of an ongoing effort to reduce predator populations to keep the kokanee population from collapsing. Consideration for a commercial lake whitefish fishery in Lake Pend Oreille and allowing lake trout to be harvested with commercial gear will be considered during this planning period. These operations are regulated by the Department to minimize the potential for adverse effects on sport fisheries.

The Department's Fisheries Program is divided into four areas: 1) resident fisheries management, 2) anadromous fisheries management, 3) hatcheries, and 4) fisheries research.

### **The Compass, Our Strategic Plan**

In 2005, the Department issued its strategic plan, "The Compass" (IDFG 2005). The Department developed the Compass to accomplish the following:

1. Align Department programs and actions with the values, needs, and expectations of Idaho hunters, anglers, and citizens as a whole.
2. Involve the public in deciding what the Department will attempt to accomplish in the next 15 years.
3. Enable the Department to respond to the anticipated changes in the physical, biological, and social environments.
4. Initiate business practices that link strategic and action plans to the budget, evaluate progress toward goals, and employ adaptive management.

There are a number of important reasons for the strategic plan including 1) clearly conveying the Department's management goals and how they will be achieved; 2) assisting the Commission in developing policies, priorities, and direction; 3) providing overall direction to Department staff in developing and implementing fish and wildlife programs; 4) assisting others in developing plans and implementing programs that are compatible with fish and wildlife conservation and management; and 5) encouraging a cooperative approach in addressing fish and wildlife issues in Idaho.

### **Our Mission**

*(Idaho Code Section 36-103)*

*All wildlife, including all wild animals, wild birds, and fish, within the state Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall only be captured taken at such times or places, under such conditions, or by such means, or such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping.*

Working under the guidance of the Commission, the Department manages the fish and wildlife of the state.

### **Our Vision**

The Idaho Department of Fish and Game shall work with the citizens of Idaho in providing abundant, diverse fish and wildlife and ensuring a rich outdoor heritage for all generations.

### **Our Core Values**

#### **PUBLIC SERVICE**

We believe in having open, two-way communication with the public, facilitating understanding and participation in management decisions, and providing diverse fish-and wildlife-based recreational opportunities and educational experiences.

#### **SCIENCE**

We believe that scientifically developed knowledge and information are the foundation of fish and wildlife management and that we are obligated to develop, use, and share such knowledge and information.

#### **SUSTAINABILITY**

We believe our management responsibility is to foster solutions to fish and wildlife issues that are ecologically viable, economically feasible, and socially acceptable.

#### **ECOSYSTEM MANAGEMENT**

We believe productive habitats and healthy ecosystems are essential in sustaining diverse fish and wildlife and Idaho's communities and economies.

#### **CREDIBILITY**

We believe that we maintain credibility by achieving the highest level of employee and agency objectivity, expertise, professionalism, and effectiveness.

The 2007-2012 Fisheries Management Plan describes how the Department will attain identified goals of the Compass. This plan will describe Department programs and strategies, and how progress toward achieving the goals will be measured. The biological and social systems in which the Department operates are complex and the results of management actions are often difficult to predict. During the course of this plan, Department staff will monitor and evaluate the performance of our programs, projects, and activities. Measuring progress and performance will determine whether the strategies were implemented and whether they achieved the desired results. During this planning period, if anticipated or desired results are not attained, the Department will make adjustments as necessary.

## PART 1 – STATEWIDE MANAGEMENT

### Goals, Objectives & Desired Outcomes

The Compass contains broad goals and objectives that cover all the Department's current and future activities and responsibilities. The goals specify what the Department is trying to achieve. The objectives contribute to achieving the goals. Additionally, the Compass contains desired outcomes for each goal. The desired outcomes or performance measures are the future condition we are striving for as a result of achieving the goals.

Goal 1: Sustain Idaho's fish and wildlife and the habitats upon which they depend.

Objective 1: Maintain or improve game populations to meet the demand for hunting, fishing, and trapping.

Objective 2: Ensure the long-term survival of native fish, wildlife, and plants.

Objective 3: Increase the capacity of habitat to support fish and wildlife.

Objective 4: Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans.

Desired Outcomes:

- Hunters, anglers, and trappers are highly satisfied with the number and variety of fish and game available for harvest.
- Idaho citizens are highly satisfied with the diversity and health of the state's native fish, wildlife, and plants.
- Idaho's fish and wildlife is managed by the state.
- There is no net loss of habitat.
- Fish and wildlife diseases do not significantly impact fish and wildlife, humans, or domestic animals.
- The Department is highly regarded as a comprehensive source of objective, scientifically based information on fish, wildlife, and plants in Idaho.

Goal 2: Meet the demand for fish and wildlife recreation.

Objective 1: Maintain a diversity of fishing, hunting, and trapping opportunities.

Objective 2: Sustain fish and wildlife recreation on public lands.

Objective 3: Increase the variety and distribution of access to private land for fish and wildlife recreation.

Objective 4: Maintain broad public support for fish and wildlife recreation and management.

Desired Outcomes:

Hunters, anglers, trappers, and wildlife viewers are highly satisfied with fish and wildlife recreation opportunities.  
Landowners allow access for fish and wildlife recreation.  
Recreational opportunities are abundant and well distributed around the state, while conflicts between recreationists are few and far between.  
Hunters, anglers, trappers, and wildlife viewers enjoy broad public support for their recreational activities.

There is broad recognition and support in Idaho for the economic and social benefits of fish and wildlife recreation and management.

Goal 3: Improve public understanding of and involvement in fish and wildlife management.

Objective 1: Improve citizen involvement in the decision-making process.

Objective 2: Increase public knowledge and understanding of Idaho's fish and wildlife.

Desired Outcomes:

A broad spectrum of the public participates in and supports management decisions.  
Idaho citizens are well-informed and knowledgeable about fish and wildlife resources and the Department's management role.  
Fish and wildlife management is based on sound science and is responsive to the needs and expectations of Idaho citizens.  
Information related to Idaho's fish, wildlife, plants, and ecosystems is easily accessible in a variety of formats.

Goal 4: Enhance the capability of the Department to manage fish and wildlife and serve the public.

Objective 1: Attract and retain a diverse and professional workforce.

Objective 2: Provide equipment and facilities for excellent customer service and management effectiveness.

Objective 3: Improve information management and business systems.

Objective 4: Improve funding to meet legal mandates and public expectations.

Desired Outcomes:

Employees are recognized and respected for public service and leadership in fish and wildlife management.  
The Department attracts and keeps highly qualified personnel.  
The Department is recognized as an effective and efficient state agency.  
Funding is sufficient to manage fish and wildlife and serve the public.  
All that pay benefit; all that benefit pay.

- Facilities, equipment, and information systems are safe, reliable, and cost effective.

### **Statewide Fisheries Management Principles**

The Fisheries Bureau of the Department has a number of long-standing principles that assist Fisheries staff in accomplishing our mission. These principles appropriately lay the foundation and provide direction for staff to attain the goals and objectives of the strategic plan.

#### **Management**

1. The Department will recommend that fish and wildlife receive equal treatment with all other resources in land and water management decisions.
2. The fish resources of Idaho belong to the residents of the state, and while regional and national interests will also be considered, these resources will be managed for the recreational and other legitimate benefits that can be derived primarily by the residents of Idaho.
3. Fish management will be designed to provide a variety of consumptive and non consumptive recreational opportunities as well as scientific and educational uses.
4. Fish habitat and populations will be preserved, protected, perpetuated, and managed for their intrinsic and ecological values as well as their direct benefit to humans.
5. The Department will use the best available biological and sociological information in making resource decisions and support research efforts to provide state-of-the-art techniques and data.
6. Native populations of resident and anadromous fish species will receive priority consideration in management programs.
7. Management programs will emphasize maintenance of self-sustaining populations of fish.
8. The Department will strive to maintain genetic integrity of native stocks of resident and anadromous fish and naturally managed fish when using hatchery supplementation.
9. Hatchery-reared fish will be stocked as appropriate to preserve, establish, or reestablish depleted fish populations and to provide angling opportunity to the public.
10. Factors affecting downstream smolt survival will receive priority attention in anadromous fish management.



## **Public Involvement**

11. The Department is the principal government agency speaking on behalf of Idaho's fish resources and habitats and has a responsibility to inform interested citizens of potential threats to those resources.
12. The Department will provide information on Idaho's fishing to identify recreational opportunities and to meet specific management goals.
13. The Department will emphasize individual recreational opportunities rather than promoting contests or competitions, or activities that may result in commercialization of fish resources.

## **Rules**

14. Within the range of biologically sound alternatives, the Department will consider legal and economic factors, desires of the sporting public, social acceptability, and administrative feasibility when promulgating rules.
15. Rules will be designed for ease of understanding and will include only those restrictions necessary to meet desired management objectives.

## **Access**

16. On land open to the public, the Department will recommend access that provides a variety of fish-associated recreational opportunities while achieving habitat and population management goals.
17. The Department will cooperate with sportsmen and landowners to minimize negative impacts of outdoor recreation on private lands and ensure the continued availability of recreational access by permission to private lands for fish-associated recreation.
18. The Department will actively pursue acquiring easements, leases, or purchase and development of key areas to provide access for anglers and other recreationists. Priority will be given to easements collaboratively developed with landowners.
19. Department funds will not be used to manage waters closed to public fishing access except where such closures are part of a Department-approved management program.

## **Importations and Introductions**

20. Maintaining self-perpetuating populations of fish will receive priority over the use of hatchery stocking programs.
21. Introduction of fish species may be considered when 1) substantial benefits are anticipated; 2) sufficient and suitable habitat is available; 3) impacts to native species are benign; and 4) where necessary, approval is obtained from

appropriate agencies or private landowners. To protect populations of native fish, and to protect existing public fisheries, the Department will follow the American Fisheries Society recommended 7-step process for evaluating proposed new species introductions before recommending any new introductions into Idaho waters.

### **Cooperation with other Agencies**

22. Agreements with other governing agencies will be developed to ensure cooperative management of fish resources shared in common. The Department will work with neighboring states and consult on issues of mutual interest regarding fisheries management and aquatic ecosystems in shared waterways.

### **Indian Tribes**

23. Indian treaty rights will be recognized in the management of fish and wildlife.

### **Outfitting and Guiding**

24. The Department will provide comment on the issuance of outfitting licenses and special use permits to the Outfitter and Guides Licensing Board and appropriate land management agency. We will not recommend issuance of licenses or special use permits where the impacts to fish resources are biologically unacceptable or the opportunity for non-guided public recreation is significantly impaired.
25. The Department will request that outfitting licenses be specific to individual waters so that outfitting activities can be customized to fit social and biological needs.
26. The Department will not place additional fishing restrictions on outfitters that are not already required of the public without specific Commission approval.

### **Habitat Protection**

27. The Department will participate in the review of proposed land and water use activities, policies, or programs that could result in significant loss of or degradation of fish habitat or populations, and will suggest alternative project designs and make recommendations that minimize or avoid such losses.
28. The Department will review and make recommendations on any activity that has the potential to result in significant loss or degradation of habitat capable of supporting self-sustaining game fish populations or important recreational fisheries.
29. The Department will participate in the Federal Energy Regulatory Commission process for licensing hydroelectric projects on Idaho waters to ensure that adverse effects to aquatic resources are avoided or appropriately mitigated.
30. The Department will actively support state and federal agencies, Tribes, private entities and landowners on projects that protect or enhance water quality and fish habitat.

## **Mitigation**

31. Whenever unavoidable fish habitat or population losses occur, the Department will, where practical and legally possible, actively seek compensation under the following guidelines:

For long-term losses caused by habitat elimination or degradation, compensation by acquisition and improvement of alternate habitat will be sought rather than monetary restitution. Compensation must be permanent and include funding necessary for annual operations, maintenance, and monitoring if these are required to insure that target goals for fish benefits are achieved.

Monetary restitution, based on costs to replace lost resources, will be sought for losses caused by direct mortality if replacement of animals is not feasible.

Whenever possible, replacement of losses will be by the same fish species or by habitat capable of producing the same species that suffered the loss, and compensation programs will be located in the immediate area of loss.

Offsite locations and different species may be substituted in compensation programs if "onsite" and "in kind" compensation is not possible.

Compensation levels will be based on loss of habitat and loss of potential for fish production and recreation rather than numbers of animals or days of use of animals occurring at the time of loss.

In jointly funded projects requiring fish mitigation, participating entities will share mitigation credit proportional to their contribution.

## **Statewide Fisheries Management Programs**

Within the Fisheries Bureau of the Department, professional fisheries staff are organized into operational sections. This includes 1) Resident Fish Management, 2) Anadromous Fish Management, 3) Hatcheries, and 4) Research.

The primary management responsibility of the resident and anadromous fisheries management sections of the Department is to monitor and manipulate fish populations to maintain/create public fisheries, protect and enhance fish habitat, develop angler access and angler information, coordinate with the general fishing public, and develop harvest rules. Most of the management effort involves Department field staff (biologists, technicians, and others) working in coordination with headquarters staff, and with personnel of state and federal agencies, Indian tribes, and non-governmental organizations. The programmatic function of habitat protection is currently implemented through the Department's Natural Resources Policy Bureau. Regional and headquarters fisheries staff supply data needs and provide technical support to regional environmental staff biologists and the Natural Resources Policy Bureau.

The hatcheries section raises fish to meet specific fishery management objectives. New technologies are developed to raise healthy fish in the most cost-effective manner. The hatcheries section includes a fish health unit designed to identify and treat various fish

diseases and to improve the health of particular stocks. Fisheries projects that benefit directly from the hatchery program include put-and-take and put-grow-and-take fish stocking programs, supplementation of salmon and steelhead natural production, supplementation of reduced populations of resident fish, and production of other game fishes to produce sport fisheries (e.g., tiger muskie).

The fisheries research section serves to enhance management capabilities by providing detailed information on specific fisheries or biological systems to address specific needs. In addition to collecting and analyzing biological data, the fisheries research section also assists in development of management recommendations and methods, and summarizes existing information. Since the spring of 2002, the Department has operated the Eagle Fish Genetics Laboratory to provide an efficient, cost-effective means of generating detailed genetic information necessary for the improved management and conservation of Idaho's native fish species.

## **Resident Fisheries Management**

### **Native Trout**

Native trout are the original inhabitants of Idaho's waterways and are indigenous to a particular water body or area. These indigenous trout were present before the arrival of Europeans to the United States. Maintaining native trout fisheries in Idaho continues to be a major challenge. Resident trout species native to Idaho include the inland redband trout (a type of rainbow trout), three subspecies of cutthroat trout (westslope, Yellowstone, and Bonneville), and bull trout. Bull trout are a fall spawning char and the only one of its type native to Idaho. In waters accessible to anadromous or "sea-run" trout, many populations of steelhead (the anadromous redband trout), Chinook salmon, and sockeye salmon are also native Idaho trout. The Department strives to perpetuate native trout in numbers adequate to provide fishing opportunity. Native trout are important to Idaho biologically because they evolved here and are best adapted to their historical waters; ecologically, because their presence is an indicator of the overall health of Idaho's waters, and socially, because Idaho anglers place a high value on native trout. Many anglers also specifically target native trout for their uniqueness thus adding great value to Idaho's economy. The Department, by statute, is the steward for Idaho's native fishery resources and must protect and perpetuate these populations.

As described above, the Department uses the term "native" to refer to indigenous trout species in Idaho drainages and includes westslope, Yellowstone, and Bonneville cutthroat trout, inland redband trout, and bull trout. Native species have also been referred to as "wild trout." However, there are other game fish species such as introduced rainbow trout, brown trout, and brook trout that were stocked generations ago and have established self-sustaining populations. They can also be considered "wild" in origin. Some "wild" populations also hold high sport value, particularly introduced rainbow trout. The Department is entrusted to protect Idaho's native species while also providing sport fishing opportunities to the public. Native salmonid species are given priority management attention by the Department. Our management strategy for self sustaining trout populations, whether native or introduced, that are managed with reduced bag limits is referred to as "wild." See Part 2, Drainages.

Since the early 1990's, the status of Idaho's native trout has been scrutinized through petitions for listing under the federal Endangered Species Act. Sockeye salmon were

listed as endangered in 1991, most of Idaho's naturally produced Chinook salmon were listed as threatened in 1992 and steelhead were listed as threatened in 1997. Several related populations of hatchery Chinook salmon and steelhead were also listed as threatened in 2005. Bull trout were listed as threatened in 1998. More recently, westslope, Yellowstone, and Bonneville cutthroat trout, and inland redband trout have been petitioned for listing under the Endangered Species Act. As of 2006, the U.S. Fish and Wildlife Service (USFWS) consistently determined that federal protection was not warranted for these four trout species. However, litigation continued concerning the USFWS listing decisions regarding Idaho's native trout species and the Department expects the federal listing process and additional litigation will advance during the course of this 2007-2012 planning period.

During the last three decades, the Department has progressively taken additional steps to preserve, protect, perpetuate and manage native trout. Pioneering research in the late 1960s and early 1970s on the north Idaho waters of Kelly Creek, St. Joe River, and Lochsa River documented significant benefit to westslope cutthroat trout populations from catch-and-release or from restrictive bag and size limits. Currently waters in the state that support native trout populations have some kind of fishing rule that limits harvest. The Department has placed a higher priority on native trout protection than fishing rule simplification. Therefore, additional restrictions have been added at the expense of simplification. An example of a restrictive harvest rule is where the general trout limit is six but only two may be cutthroat trout. In some instances wild/native trout must be under 8 inches, or over 16-inches long to be harvested (slot limit). In some native trout waters where spawning may be a limiting factor, the fishing season does not begin until July 1 after most cutthroat trout would have finished spawning. In a few waters, no native trout may be harvested. In the case of bull trout, anglers may not harvest bull trout statewide. Key to the effectiveness of special regulations to protect native trout is the ability of the angling public to accurately identify affected species or races of fish. Research in several states has identified that fish identification should receive additional emphasis as an aspect of angler education.

The Department has taken other steps to protect native trout. Some important actions include 1) discontinuing the Department's brook trout stocking program in native trout streams; 2) increasing the daily limit of brook trout from 6 to 25; 3) using sterile rainbow trout for most stockings including private ponds in native trout drainages to significantly reduce the likelihood of hatchery rainbow trout hybridizing with native trout; 4) discontinuing all stocking of rainbow trout in Panhandle Region streams and rivers managed for native westslope cutthroat trout; 5) increasing harvest of non-native rainbow trout in the South Fork Snake River to protect Yellowstone cutthroat trout with a no-limit regulation on rainbow trout; and 6) hiring professional genetics staff starting in 2001 and establishing a fish genetics lab in 2002. The Department has also expended considerable effort in recent years identifying status and distribution of native trout to ensure their persistence. Maintaining high quality habitat is critical to ensuring the persistence of native trout populations. The Department's role in fish habitat is discussed later in this plan.

During this six-year period, the Department will prioritize native trout management by continuing or implementing the following measures:

- Regulate harvest as needed to protect native trout populations and to maintain acceptable catch rates;

- Reduce or eliminate hybridization and introgression with hatchery trout;
- Remove or suppress populations of non-native trout species that compete with or hybridize with native trout;
- Continue outreach efforts to protect stream habitat;
- Work with land and water users, Indian tribes, and federal and state resource agencies to reduce human-caused impacts to native trout habitat;
- Encourage partnerships with resource agencies, water users, private landowners, Indian Tribes, and non-governmental organizations to provide adequate fish screens and migration bypass design at irrigation diversions, to provide suitable flows to protect native trout; and to provide fish passage at all other locations where necessary;
- Explore the feasibility of developing a statewide fish habitat enhancement program depending on the availability of funding and staffing;
- Provide pamphlets, brochures, signs, posters and cards that improve anglers' ability to identify various trout species and how to release wild trout with minimal injury; and
- The Department will complete management plans for Yellowstone, westslope, Bonneville cutthroat trout, and inland redband trout.

As described previously, the Department manages many native trout populations under its "wild" trout rules which are generally a bag limit of two fish with additional harvest opportunity provided on non-native or hatchery trout if present. This selective rule emphasizes protection for native trout while allowing ample harvest on hatchery-reared and non-native trout. This encourages anglers to limit harvest of native trout. Where needed, harvest on native trout will be further restricted with length limits or catch-and-release regulations. As a last resort for conservation purposes, streams or lakes will be closed to fishing.

In lightly fished streams, the reduction in bag limit to two native trout may do little to affect harvest and may not be biologically necessary. When limits are liberal, anglers rarely harvest their limit and the reduction in total harvest resulting from a more conservative limit is small relative to the total fish population. However, a conservative bag limit for native trout directs more consumption-oriented anglers to waters managed with liberal limits on hatchery trout or warm water fish species. The reduced bag limit also reinforces the non-consumptive values of native trout.

## **Cutthroat Trout Subspecies**

There are three “subspecies” of native cutthroat trout in Idaho. These are the westslope, Yellowstone, and Bonneville. When a species such as cutthroat trout is comprised of distinct, geographically separate groups that are not yet distinct enough to constitute a separate species, the term “subspecies” is used. Historically the Yellowstone and Bonneville subspecies occupied larger ranges than they currently occupy. The westslope subspecies still occupies the majority of its historic range but is not as abundant. Populations have been impacted across their ranges by a host of human-caused factors including habitat degradation, water management, and non-native species introductions. The Department will ensure that cutthroat trout are considered in fisheries, land, and water management decisions in their remaining habitat. The Department will also emphasize cutthroat trout conservation when reviewing timber sales, mining practices, grazing management, and water pollution programs. During this planning period, the Department will take appropriate actions to manage recreational fishing and reduce genetic introgression with non-native trout. The Department will examine the feasibility of removing or suppressing populations of non-native salmonids such as introduced rainbow trout and brook trout where feasible to benefit and recover native cutthroat trout. However, the Department recognizes that many anglers enjoy opportunities to fish for non-native sport fish such as brook trout, brown trout, and rainbow trout. We will specifically target drainages for non-native species removal where we believe we can enhance persistence and expand the range of native cutthroat trout.

In 1997, the westslope cutthroat trout was petitioned for listing as threatened throughout its native range pursuant to the Endangered Species Act, and in 2000 the USFWS ruled that listing was not warranted. A lawsuit was filed challenging the USFWS determination and a federal court ordered the USFWS to evaluate the threat of hybridization to the subspecies. For a second time in 2003, the USFWS determined that listing of westslope cutthroat trout under the Endangered Species Act was not warranted. Further litigation of this determination followed and will continue into this 2007-2012 planning period.

In 1998, the Yellowstone cutthroat trout was petitioned for listing under the Endangered Species Act. The USFWS ruled this petition was not warranted in 2001. Litigation followed and the federal courts ordered the USFWS to complete a status review by February 2006. In February 2006, the USFWS found that listing Yellowstone cutthroat trout as either threatened or endangered was not warranted. The Department expects the federal listing process and additional litigation to continue during this planning period.

The Bonneville cutthroat trout was petitioned for federal listing in 1998. In late 2001, the USFWS published its announcement that listing Bonneville cutthroat trout was not warranted. The Department expects the federal listing process and additional litigation to continue during this planning period.

The Department has provided technical information to the USFWS that suggests westslope, Yellowstone, and Bonneville cutthroat trout populations in Idaho are reduced from historic levels but are not at risk of extinction throughout all or a significant portion of their range.

During this planning period, the Department will complete management plans for all three cutthroat trout subspecies.

## **Inland Redband Trout**

Inland redband trout are found in the interior Columbia River basin from east of the Cascades upstream to geologic barriers such as Shoshone Falls on the Snake River and Kootenai Falls on the Kootenai River and in the upper Fraser River. However, they are not in the Clark Fork and Coeur d'Alene river drainages. Inland redband trout are present in the Salmon and Clearwater drainage along with steelhead. However, due to difficulties identifying juveniles of these two life forms, redband trout in these drainages are included under the steel head distribution. Current range-wide abundance in Idaho is unknown; however, populations of redband trout above Hells Canyon Dam are locally abundant in the Boise, Weiser, Payette, Bruneau, Owyhee, and the Wood/Malad river drainages.

Resident populations of redband trout persist in all major areas of historical distribution in Idaho. Population estimates for redband trout inhabiting desert habitats in southern Idaho will be completed during this planning period. In Part 2 of this Fisheries Management Plan, we list introduced stocks of rainbow trout separately from the native redband trout in the individual drainages.

The Department recommends the following management actions for inland redband trout during this planning period: 1) continue statewide population and trend monitoring; 2) continue stocking sterile fish in areas where inland redband trout and introduced hatchery fish overlap; 3) complete a program to monitor the genetic purity of inland redband trout populations; 4) maintain or reestablish connectivity of current inland redband trout metapopulations; and 5) complete a management plan.

## **Quality and Trophy Trout Rules**

The terms "quality" and "trophy" have been applied to trout fisheries by anglers and managers to mean various things, including whether fish were of native or wild origin or not and the aesthetics of the surroundings. Within the context of the Department's fish management programs and this plan, however, they are used to refer to specific management programs that utilize special regulations to increase the average size of trout in a fishery. They generally provide increased catch rates as well. Trout may be of wild, natural, or hatchery origin.

Quality and trophy trout management differ in the size of trout the regulations are designed to produce. They are defined as follows:

Quality Trout Management - A management program using special regulations that reduces or delays mortality to provide increased size of trout, but where less than 20% of the fish exceed 16 inches. Quality trout management is appropriate for lakes and streams with poorer productivity and growth potential, or on waters with trophy growth potential where the majority of affected anglers desire to retain more harvest opportunity than that provided under trophy management.

Trophy Trout Management - A management program using special regulations that reduces or delays mortality to provide increased catch rates and increased size of trout such that 20% or more of the trout exceed 16 inches. Trophy trout management is appropriate for lakes and



streams with good productivity and growth potential where the majority of affected anglers desire to forego most or all harvest opportunity in order to catch large trout.

Special regulations used under quality and trophy trout management programs may include a combination of a 2-fish bag limit and various size limits, or catch-and-release where appropriate. Bait restrictions may be applied where necessary to achieve size structure goals. The Department has quality management programs that may utilize a minimum size limit of 14- inches or 16-inches, depending on productivity and biological characteristics of the fish population. Trophy management programs utilize a minimum size limit (most often 20-inches), again depending on productivity and biological characteristics of the fish population. For quality and trophy management objectives, slot length limits may be used where there is a clear public demand for harvest opportunity or where recruitment is not a limiting factor. The most restrictive regulation, catch-and-release, may be used as part of quality or trophy trout management, depending on the same characteristics.

Quality and trophy management may also include seasonal restrictions to reduce mortality on spawning fish or on trout as they concentrate to migrate downstream in the fall in response to dropping water temperatures. Seasonal restrictions may apply to all trout within a body of water, or may be applied to certain species in order to provide a diversity of opportunity within the same body of water or geographical area.

Idaho is fortunate to have many bodies of water that provide large trout without special regulations because of their productivity or minimal angling pressure. These waters will remain under current general management with a 6-fish bag limit or wild trout management with a 2-fish bag limit. As numbers of anglers using the water increases and harvest affects the size structure of the trout population, and as more anglers desire to optimize catch rates and size of fish and de-emphasize harvest, quality and trophy trout management may be applied to additional waters. Based on results from the angler opinion survey, there is continued demand for quality and trophy management in Idaho.

### **Resident Hatcheries**

The Department currently has 10 hatcheries that produce resident salmonids. Three other facilities produce resident fish in addition to their primary function as anadromous fish hatcheries. The Cabinet Gorge Hatchery was built to mitigate for the loss of habitat due to the operation of Albeni Falls Dam. This facility produces primarily kokanee. Other fish for statewide use will be reared at Cabinet Gorge as rearing space allows. In addition to the 13 facilities mentioned above, the Henrys Lake Management Station takes Yellowstone cutthroat trout eggs in the spring for use statewide.

New additions to the Resident Hatchery program during the next six-year period include the expansion of the Cabinet Gorge Hatchery to include facilities to hold captive westslope cutthroat broodstock and the development of the newly acquired Springfield Hatchery property in southeastern Idaho.

Hatchery fish are used primarily in reservoirs and streams where habitats are not capable of supporting wild or natural production sufficient to meet angler demand. These domesticated trout stocks typically do not survive well in streams and even fertile hatchery

trout contribute little to natural reproduction. Hatchery trout stocking can generally be split into two categories. Put-and-take stocking includes catchable size fish where there is intensive angling pressure and long-term survival is not expected or needed. Put-and-grow stocking can include sizes from fry to catchable stocked into productive waters where long-term growth and survival is necessary for good returns to the angler. Because fingerling trout (3- to 7-inches) do not survive well or grow to acceptable sizes in streams, most trout stocked in streams will be catchable size (8- to 10-inches) to provide immediate fishing opportunity.

Put-and-take (catchable-size) trout used in stocking programs cost approximately \$0.55 each to rear and stock. These trout must be stocked at times and places where they are available to anglers and where they are likely to be caught. Over the last 15 years, the Department has maintained stream stocking in locations where there is high harvest demand and high returns on hatchery fish, and has eliminated most stream stocking with poor return rates.

The Department will continue to adjust the use of hatchery fish and improve return to anglers. Biologists will look at various environmental factors such as water temperature, zooplankton densities and sizes, species composition, and predator populations to improve stockings of fingerling and catchable-size trout.

Fish health in hatchery stocks, as well as native stocks, is a concern to the Department. As a result, the Department has participated in the development of, and is adhering to, fish health guidelines set forth by the Pacific Northwest Fish Health Protection Committee and the Integrated Hatcheries Operation Team. In addition, the genetic purity of wild/ natural trout stocks is a concern. The Department will stock rainbow trout strains that have been subjected to sterilization techniques. If there is no genetic risk to native trout species, the Department may consider supplementing native/natural stocks with reproducing fish for conservation or sport fishery purposes. Where hatchery fish are stocked in waters accessible to wild/native fish, all fish stocked will be sterile unless there is a need to supplement wild/native fish with hatchery stocks. The Department will also consider on a case-by-case basis allowing short-term stocking of fertile rainbow trout for research purposes in waters with some limited risks to native stocks. These targeted research programs will be directed towards improving conservation or sport fisheries.

To minimize the chance of hatchery trout hybridizing with native trout such as cutthroat trout and inland redband trout, the Department has implemented a program to produce and stock only sterile rainbow trout in locations where introduced rainbow trout pose a genetic risk to native trout populations. Although less than four percent of Idaho's stream miles are stocked with non-native hatchery trout, there are some locations where hatchery trout can interact with native trout. To substantially reduce the risk of hatchery trout breeding with native trout, the Department requires that all hatchery rainbow trout be treated to induce sterility. By applying heat or pressure shock to fertilized eggs, the resultant fish possess three sets of chromosomes (known as a triploid). Triploid trout fish are known to be functionally sterile. Eggs in triploid females never fully mature, and triploid males only produce dilute, infertile milt.

At Hayspur Hatchery, the Department's sole rainbow trout broodstock facility, we conduct our triploid rainbow trout egg program. In our most robust assessment of techniques, both methods were determined to be highly effective; however, pressure

provided slightly higher average triploidy induction rates than heat. Pressure treatments are currently being used on all rainbow trout produced at Hayspur.

A monitoring program was developed to ensure that overall triploidy induction rates are precisely estimated each year and monitored over time. From this monitoring program, annual triploidy induction rates have ranged from a low of 94.8 % in 2002 to a high of 97.1 % in 2005, with an average over five years of 96.3%. In 2006, we achieved 99.3% sterilization with pressure treatment. A small number (<1-4%) of fertile fish occur among treated fish that are used for stocking. The Department will continue to work on perfecting triploidy induction techniques to achieve a goal of 99% sterilization. Other species the Department is conducting research on to induce triploidy include cutthroat trout, brook trout, lake trout, and kokanee. As we develop these sterile hatchery fish, they will be used wherever necessary to reduce genetic, competition, and predation risks to native trout.

In addition to producing rainbow trout from our own broodstocks, the Department also purchases triploid rainbow trout eggs from commercial suppliers. Purchase orders for commercial eggs stipulate the triploidy rate must be at least 95%.

To be consistent and to further reduce hybridization risks, during the next six years the Department will require stocking fish that have been treated for sterility and originate from facilities demonstrated free of serious diseases to be used in private ponds. We will require this within drainages where native species exist to further reduce the potential of genetic introgression.

During this planning period, the resident fish hatchery section will focus on meeting fish management needs statewide. Fishing opportunity can be increased and improved by increasing efficiency of put-and-take trout programs through: (1) concentrating releases of catchables in easily accessible, heavily-fished waters; (2) timing releases to coincide with peaks in fishing pressure; (3) publicizing the location of catchable trout streams; (4) producing a consistently high-quality product at the hatcheries. Additional hatchery production may be needed if new angling waters are developed.

The Department also coordinates the acquisition and stocking of cool and warm water fish for use in management and research activities. These include channel catfish, tiger muskie, and walleye. Details of planned hatchery production, development, and maintenance are described in separate reports available from the Department.

### **Mountain Whitefish**

Mountain whitefish are members of the family Salmonidae which also includes trout and char. They are a recognized game fish in Idaho although often overlooked and underutilized by anglers. Mountain whitefish are widely distributed in Idaho's rivers and lakes and they require cold water. This species spawns from October into December. As a game fish, it readily takes artificial flies or bait and puts up a good fight when hooked. During the winter when most fishing activity slows down in Idaho, mountain whitefish can provide some good fishing because of their active winter feeding habits.

Mountain whitefish populations are adversely affected by similar factors that impact trout populations including water management, channel degradation, water pollution, disease, and non-native species interactions. Because they are geographically and physically

isolated, mountain whitefish in the Big Lost River basin are genetically distinct from other Snake River populations of mountain whitefish. Mountain whitefish located in the Sinks drainages of eastern Idaho, have experienced recent declines in distribution and abundance. Sampling completed in 2002-2004 indicate that mountain whitefish currently occupy about 44 miles of stream, or about 21% of historical levels. Adult abundance in 2004 was estimated to be 2,501 fish or about 1% of historic levels.

A petition for an emergency listing of Big Lost River whitefish under the Endangered Species Act was filed by non-governmental organizations in mid-2006. The Department is working with state and federal resource agencies, non-governmental organizations, and irrigators to protect and conserve this unique population of mountain whitefish. During this planning period, the Department will complete a management and conservation plan for the Big Lost River mountain whitefish.

### **White Sturgeon (Snake and Kootenai rivers)**

The white sturgeon is the largest freshwater fish in North America, reaching documented sizes of up to 18 feet in length and almost 1,400 pounds. White sturgeon historically occurred in the Snake River downstream from Shoshone Falls, the lower Salmon River, and in the Kootenai River. White sturgeon are given heightened management attention from the Department because they are unique, attain a large size, are long lived, and provide tremendous sport fishing opportunities.

Sturgeon numbers have declined in Idaho for a variety of reasons. The decline began in the 1880s when demand for smoked sturgeon and caviar caused populations to be over-harvested. Construction of dams that began in the early 1900s through the late 1960s accelerated the decline as much of the large, free-flowing river habitat required by sturgeon was lost. Sturgeon populations in the Snake River drainage are generally restricted to short river reaches and are isolated from other populations by dams. White sturgeon in the Kootenai River move freely between Kootenay Lake in British Columbia, Canada, the Kootenai River in Idaho, and upstream as far as Kootenai Falls in Montana. Commercial fishing for sturgeon in Idaho was stopped in 1943. Harvest of sturgeon from the Snake River drainage has been prohibited since 1970. Harvest of sturgeon was also prohibited in the United States' section of the Kootenai River beginning in 1984 because this population was also decreasing. Kootenai River white sturgeon were listed in 1994 by the USFWS as an endangered species under the Endangered Species Act. Because of the listing and continued population decline, for conservation purposes, the Kootenai River was closed to sturgeon fishing in 1995.

The Department's statewide white sturgeon management goal is to preserve, restore, and enhance viable white sturgeon populations capable of providing sport-fishing opportunity. The Department has five policies governing white sturgeon management within their native range:

1. Status of existing sturgeon populations will be determined and monitored, and factors suppressing populations will be evaluated.
2. Sport fishing will be regulated commensurate with population status.
3. Habitat loss or degradation will be opposed and measures will be promoted to improve limiting factors.

4. Importation of non-native sturgeon will be restricted to avoid potential genetic or disease impacts to native stocks.
5. Sturgeon populations may be supplemented with native stocks where necessary, to maintain future management options, to research survival rates, to utilize suitable rearing habitat where natural recruitment does not exist, and create fishing opportunity.

The Department has also introduced hatchery-reared white sturgeon outside their native range in the Snake River below American Falls Dam in southeastern Idaho, to create additional catch-and-release fishing opportunity. Over 400 white sturgeon were stocked from 1990 to 1998 and a popular fishery has developed. The fishery is expected to be dependent on periodic stocking of hatchery-reared sturgeon. During this planning period, the Department may consider further expansion of white sturgeon fishing opportunity in appropriate habitats outside the historic range.

Wild Kootenai River white sturgeon are declining. Research conducted on the Kootenai River sturgeon population showed that no significant recruitment has occurred since 1974. Changing flow patterns have resulted in increased deposition of fine sediments in previously rocky and productive sturgeon spawning areas. One such area is a section of the river in the vicinity of Shorty's Island. Wild sturgeon spawn in this reach, but few if any eggs survive in the sandy bottom. In 2006, an experiment to enhance white sturgeon spawning habitat was initiated in this spawning area. Several hundred yards of large rip-rap were strategically placed in the river to increase velocities and create rock substrate where sand currently exists due to the change in flow patterns.

Trapping of nutrients behind Libby Dam is potentially another contributing factor to reproductive failure. Lack of reproduction was a major factor in listing Kootenai sturgeon under the Endangered Species Act. The Department will continue to participate on the Kootenai Sturgeon Recovery Team of the USFWS to develop recovery measures that emphasize restoration of natural reproduction and recruitment to the Kootenai River white sturgeon population.

Successful white sturgeon culture techniques have been developed. The Kootenai Tribe of Idaho has operated an experimental sturgeon hatchery since 1990 to gain knowledge about limiting factors to wild sturgeon reproductive success in the Kootenai River and to provide genetic diversity to the depressed wild stock. An additional backup facility was brought on line in 1999 at the Kootenay Trout Hatchery in British Columbia. Juvenile hatchery sturgeon have been stocked as age one and two year old fish in the Kootenai River in 1992, 1994 and every year from 1997 through 2006. Survival of stocked age one and two year old sturgeon is 60% the first year after stocking and 90% in succeeding years. In addition, larval sturgeon were released in 2000, 2001, and 2002 and sturgeon eggs were stocked in suitable habitat above Bonners Ferry in 2005 and 2006 in experiments to learn more about limiting factors to wild sturgeon reproductive success. High survival of age one and two year old hatchery sturgeon has maintained the genetic diversity of the sturgeon population, but has raised concerns about potential competition with wild sturgeon.

Between 1989 and 2000, over 6,300 young hatchery sturgeon were released into the mid-Snake River. These fish were tagged then stocked in free-flowing reaches between major dams where reproduction has been eliminated. Smaller releases were also made in the lower Boise River, in Oxbow and Hells Canyon reservoirs, and into the Snake River downstream from American Falls Dam.

Evaluation of stocked hatchery sturgeon in the Snake River suggests that these fish do not survive as well as wild fish. Body condition factors are somewhat less than wild fish condition and there is a concern regarding genetic swamping of wild populations with offspring from a small number of parents. Until survival, condition factors, and the potential for genetic swamping by stocked juveniles are carefully evaluated, the Department will not release hatchery-reared white sturgeon in the native range of naturally spawning Snake River fish during this six-year planning period. Ongoing studies of hatchery reared sturgeon in the Snake River and the Kootenai River will provide important information for future programs, which may utilize hatchery produced fish to meet management goals.

The sturgeon permit program ended in 1996 but field observations since then suggest that fishing effort for white sturgeon in the Snake River has continued to increase. Even with the current catch-and-release regulations, hooking mortality, illegal harvest, and tribal harvest may impact populations if total mortality rates become too high to be sustained. Without angler effort and catch data, it is impossible for biologists to sort out the effects of sport fishing from other sources of mortality. Methods to collect new information might include reinstating the angler permit program or conducting structured creel surveys.

During this planning period, the Department will monitor sturgeon fishing effort and catch relative to population status. The following questions will be addressed.

1. What is the white sturgeon fishing pressure as compared to the last ten years, for tribal and non-tribal anglers?
2. How much catch-and-release angling can be provided without impacting white sturgeon populations?
3. Is tribal harvest in the Hells Canyon reach adversely affecting the population?

During this planning period, the Department will complete a white sturgeon management plan that will provide long-term policy direction to our staff, and ensure persistence of this species in its historical range. The Department's management plan for white sturgeon will also provide policy guidance for Idaho Power Company's White Sturgeon Conservation Plan (WSCP; Idaho Power Company 2005). The Department, other agencies, and Indian tribes collaborated with Idaho Power Company on development of a WSCP for the Snake River. This effort occurred during a period when Idaho Power Company was seeking new licenses from the Federal Energy Regulatory Commission for its Snake River hydropower system between Shoshone Falls and the Hells Canyon Complex. Idaho Power Company's efforts, guided by their WSCP, are intended to mitigate for operational impacts of its hydropower projects on white sturgeon throughout the Snake River. During this six-year planning period, the Department, as per its mandate, will collaborate with Idaho Power Company, the States of Oregon and Washington, federal agencies, and Indian tribes to implement and monitor the success of Idaho Power Company's mitigation efforts for white sturgeon. Since new license

terms for these hydropower projects are a minimum of 30 years, this will be a long-term commitment by the Department.

### **Warmwater and Coolwater Game Fish**

Warmwater and coolwater game fish are very popular with Idaho anglers providing sport fisheries in approximately one-third of the surface waters of the state. Anglers, especially bass anglers, have learned that length limit regulations can improve the average size of bass in some fisheries, and that bass that can be produced and recycled many times for sport fishing enjoyment.

All of the warmwater and coolwater sport fish species in Idaho are introduced species. The major species that the Department actively manages are largemouth bass, smallmouth bass, black and white crappie, bluegill, channel catfish, yellow perch, walleye, and tiger muskie. The presence of these fish in Idaho presents both opportunities and challenges for the Department. On the positive side, warmwater species can create productive sport fisheries in altered habitats and lowland lakes and ponds. The presence of warmwater species can also be negative when their introduction affects native salmonid fisheries through competition and predation.

A majority of Idaho anglers still prefer trout fishing, but many of their preferred waters now contain warmwater species. While trout still provide the bulk of angling opportunity, bass angling has gained a strong following. Statewide there are several instances of “two-story” fisheries that have increased angling opportunity using stocked or wild trout and warmwater fish populations in the same waters. Typically, costs to maintain a trout fishery through stocking are increased when warmwater species are abundant. The warmwater species present in Idaho can successfully reproduce in most areas, making them less expensive to manage than trout stocking programs.

### **Largemouth and Smallmouth Bass**

Both largemouth and smallmouth bass were some of the very first non-native species introduced into Idaho and they now support many popular fisheries. Bass are prolific enough to produce adequate numbers of young fish without stocking. However, the growing season for bass in Idaho is generally short due to the high altitude and northern latitude. Research studies indicated that bass growth is regulated primarily by water temperature and not food availability, so efforts to improve bass fisheries focus on regulations that allow bass to live longer.

Largemouth bass are generally most successful in smaller ponds and lakes that get warm, where vegetation is present, and they have an abundant forage base of fish. However, 31,500-acre Coeur d’Alene Lake and the eight connecting “lateral lakes” support a very popular fishery for largemouth bass. Growth of largemouth bass in Idaho is limited primarily by water temperature and is generally much slower than areas of the country where bass are native. Due to their slow growth, largemouth bass are susceptible to overharvest. Despite slow growth rates and low productivity water in many areas of the state, Idaho anglers enjoy good bass fishing from a combination of restrictive regulations and strong support for catch-and-release fishing.

Smallmouth bass are most successful in Idaho's large lakes and reservoirs and the Snake River. Smallmouth bass have greatly expanded their range in Idaho. This species can thrive in waters with limited forage fish because they utilize crayfish as a preferred food item and will feed on zooplankton and aquatic insects longer than largemouth bass. Idaho's mainstem reservoirs and large lakes offer large expanses of rocky shorelines that generally support crayfish and other large aquatic insects. Smallmouth bass growth can also be slow, requiring 5 to 7 years before they reach the statewide length limit of 12 inches. Anglers seek smallmouth bass because their aggressive nature and high abundance tends to provide fast fishing action.

Smallmouth bass populations are rapidly expanding in some waters where they are negatively impacting native species as well as other popular warmwater fisheries. Smallmouth bass were intentionally introduced in Hayden Lake in 1983, but were illegally moved to Coeur d'Alene Lake in about 1990. They have now spread upstream to most of the lateral lakes, the lower Coeur d'Alene, St. Joe, and St. Maries rivers as well as downstream to the Spokane River. Montana Fish Wildlife and Parks introduced smallmouth bass into Noxon Reservoir on the Clark Fork River in 1983 and 1986 and they are now well established in Lake Pend Oreille, the Pend Oreille River, and have moved upstream into the Priest Lake system. Smallmouth bass prey on juvenile westslope cutthroat trout and bull trout and they have significantly reduced many of the native minnow species in these waters. Smallmouth bass are also impacting popular largemouth bass, crappie, and perch fisheries. Several eastern Washington lakes are now being managed with a limit of 10 smallmouth bass with no more than one over 15 inches in an attempt to increase harvest on small fish, reduce the smallmouth bass population, and relieve predation pressure on other species. Respondents to the 2006 angler opinion survey also suggest that the Department should consider managing largemouth bass differently than smallmouth bass. The Department will consider managing smallmouth bass differently than largemouth bass in some waters of the state during this planning period.

Because of relatively slow growth and increasing angler harvest, the Department instituted a statewide 12-inch minimum size limit on all bass in 1986 to improve average size and catch rates. Quality and trophy bass fishing opportunities were created on some waters by further reducing or delaying harvest with special regulations that allowed bass to live longer and reach larger average size. Most Idaho anglers define a "quality" size bass as a 14- to 16-inch fish. Bass over 20 inches are generally considered fish of "trophy" size. Quality and trophy bass management differs in the size of bass, the total catch rates, and the harvest opportunity the regulations are designed to provide. They are defined as follows:

Quality Bass Management - A management program using slot limit regulations which reduces or delays harvest to provide increased catch rates for 12- to 16-inch bass, but where less than 20% would exceed 16 inches. Under quality bass management, the percentage of fish that exceed 12 inches would be greater than under general regulations, but total harvest rates may be reduced.

Trophy Bass Management - A management program using special regulations, which reduces or delays harvest to provide increased numbers of larger bass such that 20% or more exceed 16 inches. Trophy bass



management would maximize both catch rates and size of bass and provide only for harvest of trophy-sized bass.

Special regulations used under quality and trophy bass management provide a combination of a two-fish bag limit and various size limits and/or seasonal harvest restrictions. The primary regulation for quality bass management requires anglers to release all bass prior to July 1 to prevent harvest during the pre- and post-spawn period when large bass are most vulnerable to harvest. Harvest after July 1 is restricted to two fish, none between 12 and 16 inches. Quality management may also include a 16-inch minimum size limit where harvest of bass less than 12 inches is not appropriate. The primary regulation for trophy bass management would require anglers to release all bass less than 20 inches. There are no season restrictions under trophy management because the spawning period may be the only time bass of legal size are vulnerable to harvest.

During this planning period, the Department will continue to manage designated lakes and reservoirs for quality bass in addition to managing some for trophy fishing opportunity. Where biologically feasible and supported by anglers, we will manage additional waters for quality or trophy bass fishing.

There is no 12-inch size limit for smallmouth bass in the Clearwater River, Salmon River, and in the Snake River below Hells Canyon Dam. The Department is encouraging the harvest of any size bass in these river systems in an attempt to reduce predation on salmon and steelhead juveniles.

### **Black and White Crappie**

Crappie are probably the most difficult warmwater species for the Department to manage successfully for Idaho anglers. In smaller water bodies in southern Idaho, crappie tend to stunt and do not reach a size preferred by anglers. Better population structure is generally found in larger, more productive reservoirs. Populations can fluctuate greatly from year to year regardless of regulations. In northern Idaho, the lack of large fish is generally due to the short growing season and angler harvest in some waters rather than too many fish. These species eat primarily zooplankton when small, then becoming more opportunistic when they reach a large size. Crappie are usually most vulnerable to anglers when concentrated near shoreline structure during the spring spawning season. During other times of the year, they suspend off the bottom in pelagic waters making them more difficult to catch.

Hayden Lake in north Idaho is currently the only lake in the state being managed for quality white crappie with a 10-inch minimum size limit and 15 fish limit. Research is currently being conducted to determine if other waters are biologically suitable for quality crappie regulations. Anglers would have to accept reduced harvest opportunity for a chance to consistently catch large (10-14 inch) crappie. More waters will be considered for quality crappie fisheries during this planning period if the specific body of water is biologically suited and there is angler support.

### **Bluegill**

Bluegill and to a lesser extent pumpkinseed sunfish, are the main prey for largemouth bass. Bluegill provide popular warmwater fisheries for harvest-oriented anglers in many

waters. For either of these species to grow to an acceptable angler size, there must be considerable predation on their young. By managing largemouth bass with a quality or trophy regulation, the increased density of bass reduces young bluegill densities and allows for improved growth. Bluegill can reach weights of over a pound when largemouth bass growth and survival are good. Pumpkinseeds rarely exceed a half-pound, however. Bluegill have outcompeted pumpkinseed sunfish in nearly all north Idaho waters where they have been introduced. Hybrids between the two species exist in some lakes. Bluegill have replaced perch in some north Idaho lakes. Care must be taken when considering bluegill introductions for new waters because they can sometimes replace, rather than add to an existing popular warmwater fishery. Anglers enjoy bluegill because of their ease of capture, scrappy fight, and abundance.

### **Yellow Perch**

Yellow perch can produce important sport fisheries in Idaho's larger reservoirs and lakes (e.g., Cascade Reservoir). Many ice fisheries in north Idaho lowland lakes are supported by yellow perch. The species tends to have cyclic year class strength where the formation of strong year classes can dominate and suppress subsequent year classes for several years. Stable yellow perch populations and fisheries are associated with productive waters generally larger than 10,000 acres which have complex fish communities. The complex fish communities are viewed necessary to maintain the appropriate balance of predation to prevent stunting and, at the same time, provide alternate food items for other predators. Yellow perch are extremely fecund, producing up to 40,000 eggs per female, and can easily stunt because of overpopulation or, sometimes because of suppressed food supplies caused by poor water quality. In a mixed fishery, young yellow perch are an important food source for other predators. When yellow perch become established in trout fisheries, trout growth can be severely impacted. The Department has renovated fisheries because of illegal introductions of yellow perch into waters managed for trout. Once yellow perch are introduced, it is extremely difficult and expensive to eliminate them to allow a more appropriate fish species to become established.

### **Catfish**

Catfishes introduced into Idaho consist of channel, flathead, brown and black bullhead species, and three other rarely found species (yellow bullhead, blue catfish, tadpole madtom). All species are generally fished for with bait. The channel catfish is by far the preferred target species of anglers especially in the Snake River system from Swan Falls Reservoir downstream. Channel catfish reproduce successfully in some Idaho waters and have become self-sustaining in many southwest Idaho waters. In north and eastern Idaho lowland lakes and reservoirs, channel catfish do not reproduce successfully due to the lack of suitable temperatures for spawning. In these areas, fisheries for channel catfish have been supported by stocking of hatchery fish. Fish over 8 inches long must be stocked to avoid heavy predation by bass. Channel catfish have grown to sizes of 19 pounds in several north Idaho lakes and are providing very popular fisheries. Supplies of hatchery channel catfish have been inconsistent. Currently there is no bag limit on any catfish species. Consideration will be given to managing hatchery supported channel catfish fisheries with some type of bag limit during this planning period.

Flathead catfish are generally confined to the middle Snake River and Brownlee Reservoir. This species is considered a trophy species in southwest Idaho with individuals commonly reaching over 20 pounds. Bullhead catfish are very successful in small water bodies although they can tend to overpopulate and stunt, and may out-compete channel catfish. Bullhead catfish are easily captured while bait fishing and can tolerate poor water quality.

### **Walleye**

Walleye is one of the most controversial introduced species in the western United States. In general, waters of the western U.S. do not have the diverse and abundant forage base needed to support these prolific keystone predators. As a result, walleye introduced in the western U.S. typically exhibit poor growth and often create conflict with management of other game species. The Idaho Fish and Game Commission approved a policy in the 1980s to introduce walleye only in closed systems where they have no chance of escaping to other waters. Walleye were first introduced into Salmon Falls Creek Reservoir in south-central Idaho in the mid-1970s. The Department currently manages walleye in Salmon Falls Creek Reservoir, Oakley Reservoir, and Oneida Reservoir.

Walleye were documented in Hayden Lake in the early 1980s, in the Bear River system, and a reproducing population now exists in Lake Pend Oreille and the Pend Oreille River. These populations originated from walleye that were introduced illegally or that drifted in from elsewhere in the drainages. The Department will monitor these populations and if possible, eliminate them or control their expansion. In 2006, the Department went to no limit on walleye in all waters statewide where they are not being specifically managed.

Walleye can significantly impact native fish populations and existing sport fisheries. The Department will not restrict harvest or permit catch-and-release fishing contests or tournaments on walleye in waters where unauthorized introductions have occurred. The Department will not introduce walleye into new waters during this planning period.

### **Northern Pike**

Northern pike were illegally introduced into Cave Lake in north Idaho in 1972. Cave Lake is one of the nine "chain or lateral lakes" connected to the Coeur d'Alene River. Northern pike were also collected in the Clark Fork River below Cabinet Gorge Dam in 1974. Both of these introductions came from northern pike populations that were illegally established in Montana waters. Northern pike spread rapidly throughout the Coeur d'Alene system and additional illegal introductions established northern pike in Hayden, Twin, Spirit, Blue, and Freeman lakes. In 2003 and 2005, northern pike were discovered in Perkins and Bonner lakes, two Kootenai drainage lowland lakes. Northern pike are currently found only in the Panhandle Region of Idaho.

Northern pike grow fast, are highly aggressive and are good eating, making them a desirable sport fish for some anglers. However, northern pike have negatively impacted native species and other sport fisheries through predation. Northern pike in Coeur d'Alene Lake prey on native westslope cutthroat trout adding another mortality factor to an already depressed population. In 2006, the Department went to no limit on northern pike to

discourage illegal introductions into other waters. The Department will not restrict harvest or permit catch-and-release fishing contests or tournaments on northern pike in waters where unauthorized introductions have occurred. The Department will not expand the range of northern pike in Idaho.

### **Tiger Muskie**

Tiger muskie are a sterile hybrid cross between a female muskellunge and male northern pike. The first introduction of tiger muskie into the state was made in Mud Lake in 1988. Additional introductions occurred statewide but only after careful consideration.

Tiger muskie are utilized to provide trophy fisheries in waters to take advantage of abundant populations of non-game species such as Utah chub and suckers. They are used in five north Idaho lowland lakes with balanced warmwater fish communities and stocked put-and-take rainbow trout fisheries to provide a trophy fishery as a safe alternative to northern pike. All of the current state record fish were caught in Hauser Lake with the record being 38 pounds 7 ounces from 2001. Tiger muskie are also used on a limited basis for experimental control of brook trout in alpine lakes. The use of tiger muskie in alpine lakes will continue during this planning period and the Department will closely monitor results of the program.

In lakes and reservoirs where tiger muskie have been stocked to provide fisheries, the Department manages with a 2-fish, 40-inch minimum size limit regulation. During this planning period, additional waters will be considered for tiger muskie management where the forage base is adequate and where there are no conflicts with other fish management goals.

### **Native Nongame Species**

Statewide fisheries management goals include maintaining or restoring native populations of fish in suitable waters and historic habitats to ensure they have a high probability of long-term persistence, and are present in appropriate numbers to perform ecological functions. There are a number of nongame fish species that are native to Idaho. These include 8 sculpins, 10 minnows, 6 suckers, one lamprey, and one species of trout-perch.

The ecological importance of nongame species in their native habitats has only recently been considered, and many of these species play an integral role in supporting fish and wildlife communities. All fish and wildlife in Idaho are to be preserved, protected, perpetuated, and managed by the Department. Native nongame fishes are important for ecological, scientific, aesthetic, and cultural reasons.

There are a number of native nongame fish that are abundant and widely distributed in Idaho including chiselmouth, peamouth, northern pikeminnow, longnose dace, speckled dace, redbside shiner, largescale sucker, and mottled sculpin. These species are regularly documented during the Department's routine field sampling efforts.

In many instances, little is known about the status or distribution of native nongame fish species. As with native game fishes, habitat degradation and other factors have adversely affected native nongame fishes and the ecological communities they occupy.

Species with very limited ranges or special habitat needs include the Bear Lake sculpin, Shoshone sculpin, Wood River sculpin, northern leatherside chub, Pacific lamprey, and sand roller. Fish with restricted ranges and small population size can be more prone to extinction than species with more widespread distributions. Pacific lamprey are anadromous fish and face essentially the same threats to survival as salmon and steelhead. Other species, including some of the minnow species, may actually increase to the point where the fish community is out of balance or no longer in a natural condition due to habitat changes such as reservoir construction. It is therefore important that the Department, in coordination with other agencies, understand the current distribution and population status of native nongame species, and to ensure persistence of these species.

During this planning period, the Department will do the following regarding native nongame fish species:

The Department will advocate protecting habitat for all aquatic communities supporting native fish species. In particular, special attention will be given to fish communities supporting native species with limited distributions. We will work with state and federal land management agencies, private landowners, and others to promote good land and water stewardship.

The Department will enhance its understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species through monitoring and research, as appropriate funds are available.

The Department will take the lead in developing species management or conservation plans for native fishes including plans that address fish assemblages containing native sport and nongame fish.

The Department will take a proactive role in informing and educating Idaho citizens, agencies, and decision-makers about population status and the ecological and intrinsic value of native nongame species.

### **Alpine Lake Management**

Anglers utilizing alpine (mountain) lakes have consistently expressed the highest level of satisfaction with their fishing experience. Alpine lakes provide an enhanced fishing experience in scenic country with the opportunity for solitude and remoteness. Alpine lakes are also important components in Idaho's recreation economy. Over 40,000 anglers fish in alpine lakes each year.

It is estimated that over 3,000 alpine lakes exist in Idaho, ranging in size from small temporary ponds to large lakes over a mile long. Approximately 1,355 lakes are stocked or have natural fish populations. Many of the lakes have received fish since the early 1900s when fish stocking was conducted by backpack and horseback followed by aerial stocking in the last 50 years. Stocking of most lakes is done on two or three-year rotational schedules and is guided by a Memorandum of Understanding with the United States Forest Service. Although most of the species historically stocked were native to Idaho, they were not always native to certain watersheds. During the 1920s to 1950s, brook trout were stocked into many lakes and established naturally reproducing

populations. Other apparently unsuccessful non-native fish stocked in the early 1900s included arctic char and Atlantic salmon. Yellowstone cutthroat trout were utilized for stocking through the 1980s in both native and non-native watersheds. All strains of rainbow trout used for stocking mountain lakes were of non-native stocks. In addition, bull trout, golden trout, brown trout, and grayling have been stocked to provide diverse fishing opportunities and meet specific management needs.

Historical alpine lake management was conducted to provide diverse angling opportunities. Wilderness areas were not designated at the time and little consideration was given to native fauna occurring in the lakes. Prior to fish introductions, amphibians were the top vertebrate carnivores in most alpine lakes (Pilliod et al. 1996). Introductions of fish into some of these lake systems have reduced amphibian populations through predation and competition (Hoffman and Pilliod 1999).

In recent years, the Department has developed an adaptive management approach to guide the alpine lake fish-stocking program. Information from a variety of sources is incorporated to continuously optimize the total array of benefits from the alpine lake program. Ecological and biological aspects of maintaining healthy amphibian populations are now considered in determining how alpine lakes are managed. Potential impacts to downstream native fish populations are also part of the decision process.

During this six-year planning period, the Department will develop an alpine lakes management plan. We will also continue to evaluate alpine lake management based on the following guidelines:

1. Where desirable and feasible, some lakes will be maintained as fishless. Fishless lakes will allow for maintenance of natural conditions for native fauna within alpine ecosystems.
2. Management of alpine lakes in wilderness and national recreation areas will be coordinated closely with the appropriate land management agencies.

The "Policies and Guidelines for Fish and Wildlife Management in Wilderness and Primitive Areas" manual, developed by the U.S. Forest Service, U.S. Bureau of Land Management, and the Association of Fish and Wildlife Agencies, will guide management of these alpine lakes. Stocking plans for wilderness lakes should address impacts on fisheries, lake ecosystems, recreational use, and aesthetics. The Department is the lead agency for fish population management in alpine lakes. Stocking rates and frequencies will be adjusted to respond to changes in angler preferences and access.

3. Self-sustaining native trout populations will be maintained.

Determination of lake capability of providing natural reproduction will be made when the lake is surveyed. Stocking will be modified or eliminated to reduce the detrimental effects of supplementing more fish on existing populations and reducing costs.

Species of greatest conservation need, native species, and threatened and endangered species within alpine lake drainages will be given management priority.

Priority will be placed on management of alpine lakes to reduce or eliminate impacts to native species in and downstream from alpine lakes. In these drainages, sterile fish may be stocked to eliminate potential interbreeding with native fish in the drainage.

Self-sustaining populations of non-native species may be reduced where feasible, to achieve native species goals or other fish management goals.

#### 4. Amphibian and Natural Fauna Plans.

Most of the 1,645 alpine lakes in Idaho currently designated as fishless appear to provide amphibian habitat. Lakes that are fishless and that have never been stocked previously may remain fishless. A few lakes that currently hold fish may be removed from the stocking schedule as a research experiment to measure fish amphibian and other natural fauna population responses. These lakes will be selected to maintain biotic integrity of amphibian and invertebrate populations or to improve trout growth potential in adjoining lakes. Amphibians and natural fauna will be included as part of the Department's alpine lakes management plan.

#### 5. Non-native fish control.

Brook trout and other non-native fish can negatively impact native fish populations. Management will be directed towards reducing or eliminating negative effects of non-native fish populations on native fish by utilizing regulations or population management actions. Tiger muskie will be used in a few selected lakes as a management tool to either remove non-native fish (primarily brook trout) from alpine lakes or improve the brook trout fishery by reducing their numbers thereby increasing their size.

### **Anadromous Fisheries Management**

The Snake River upstream from Lewiston historically produced an estimated 55% of the summer steelhead trout, 40% of the spring Chinook salmon, and 45% of the summer Chinook salmon in the Columbia River. Historically, Idaho was also a key production area for fall Chinook. Lesser numbers of sockeye and coho salmon inhabited the Snake River drainage although Snake River coho were declared extinct in the mid-1980s. Runs of naturally reproducing salmon and steelhead in Idaho have generally improved since historic lows experienced in the mid-1990s, but they are still lower than the 1960s and early 1970s. The decline in run size led to federal Endangered Species Act (ESA) listings starting in 1992. Populations within four ESA-listed Evolutionarily Significant Units (ESUs) occur in Idaho: Snake River sockeye (endangered), Snake River spring/summer Chinook (threatened), Snake River fall Chinook (threatened), and Snake River steelhead (threatened), which adds federal complexity to state management. More specific information about which populations are included in these ESUs is in the Threatened and Endangered Species Section of this plan.

The Department's long-range goal of the anadromous fish program is to preserve Idaho's salmon and steelhead runs and recover them to provide benefit for all users. This management goal complements Compass objectives to: Maintain or improve game populations to meet the demand for hunting, fishing and trapping and ensure the long-term survival of native fish, wildlife, and plants. The anadromous management program will

employ many of the key Compass strategies consistent with these objectives, generally described below.

Key management objectives to achieve the management goal are: 1) maintain genetic and life history diversity and integrity of both naturally- and hatchery-produced fish; 2) rebuild naturally-producing populations of anadromous fish to utilize existing and potential habitat at an optimal level; 3) achieve equitable mitigation benefits for losses of anadromous fish caused by development of the hydroelectric system on the Snake and Columbia rivers; 4) improve overall life cycle survival sufficient for delisting and recovery by addressing key limiting factors identified in all "H's" of hydropower, habitat, harvest, and hatchery effects; 5) allow consumptive harvest by sport and treaty fishers; and 6) coordinate regional management with Idaho anadromous management to ensure achievement of Idaho management objectives and long-range program goal.

To help meet the anadromous program long-range goal and federal recovery goals, Idaho's anadromous fish management utilizes both natural and hatchery production. In natural production waters, populations are sustained by spawning and rearing in the natural habitat without human intervention, regardless of the parentage of the spawners (i.e. naturally produced progeny of hatchery or wild/natural origin fish). Hatchery production occurs in a controlled artificial spawning and rearing environment with hatchery fish released to provide fishing opportunity or to sustain populations. For management purposes, the Department classifies three groups of salmon and steelhead based on definition of production and broodstock history: wild, natural, and hatchery fish.

### **Wild/Natural**

Wild fish are native fish, which have no history of reproductive introgression with hatchery or non-native fish or a limited amount unlikely to have had genetic effect. These fish are naturally produced without artificial intervention. Natural fish also result from natural production, but their parentage may include hatchery fish of native or non-native origin. For example, naturally spawning spring Chinook in the Clearwater Basin are considered natural because they were reintroduced from hatchery broodstock. Coho in the Snake Basin is another example of natural fish management where hatchery fish are the foundation of a reintroduction effort. In Idaho, "conservation" describes the fishery management strategy applied to most wild/natural salmon and steelhead populations (see Part 2 drainage management plans) during this planning period. Because populations of these fish are so low, this management strategy prohibits directed harvest and/or angling in order to minimize harvest mortality. Conservation-oriented strategies seek to maintain a diversity of wild (without hatchery influence) and natural populations (may have hatchery influence) that are broadly distributed across the range of current anadromous fish habitat.

The Department will emphasize maintaining remaining populations of wild, native stocks of salmon and steelhead where they occur in sustainable habitat. Examples include wild steelhead in the Selway River and the South Fork Salmon River drainages, or wild salmon and steelhead in the Middle Fork Salmon River drainage and the Salmon Canyon tributaries (Table 3).



---

Table 3. Geographic location of primary wild populations of salmon and steelhead.

**Spring/Summer Chinook**

**Salmon River**

Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon and South Fork Salmon Rivers:

Lower mainstem South Fork Salmon River (Poverty Flat)

Secesh Drainage (South Fork Salmon River tributary)

Middle Fork Salmon River Drainage

Valley Creek

**Steelhead**

**Clearwater River**

Lower Clearwater tributaries excluding Lolo Creek drainage

Lochsa River Drainage

Selway River Drainage

**Salmon River**

Salmon River tributaries from mouth to Middle Fork Salmon River, excluding Little Salmon River.

Rapid River (Little Salmon River tributary)

South Fork Salmon River Drainage

Middle Fork Salmon River Drainage

---

Maintaining genetic integrity and diversity of the wild stocks is considered essential to continued production (hatchery and natural) of fish evolutionarily suited for Idaho habitat, as well as being the only practical means of fully utilizing the production capability of wilderness streams. Preserving the current diversity of populations is critical so that

survival improvement effected by management changes in the four “H’s” (habitat, hatcheries, hydropower, harvest) or by natural environmental variables, such as ocean regime, can be capitalized on for rebuilding and recovery.

Artificial production will be limited or absent in areas managed for wild production. Clear benefit as a result of benefit/risk assessment must be demonstrated before considering new interventions using artificial propagation as a safety net for wild/natural populations that may be at risk of loss of population viability during the next management period. Bringing wild fish into captivity will be considered only if essential for long-term conservation. Careful monitoring of wild/natural salmon and steelhead populations will be necessary for future conservation and recovery management decisions.

Releases of hatchery-produced fish will be managed to minimize straying as juveniles or adults into non-targeted or wild fish streams. Use of natural fish in hatchery programs will be controlled to avoid reducing genetic integrity or fitness of the population.

Management activities to increase wild and natural salmon and steelhead abundance will focus on improving life cycle survival. Key priorities for scientific assessment and recommendations will be the Snake and Columbia rivers migration corridor and regional fisheries. Improvements in spawning and rearing habitat that provides significant survival benefit for wild/natural populations of salmon and steelhead will be pursued in collaboration with land managers and private landowners. Hatchery production will be used consistent with policy and scientific information to provide selective fisheries and supplement natural populations.

### **Anadromous Hatcheries**

Idaho's anadromous fish hatcheries were built as mitigation for lost production and survival due to hydroelectric development. Management of salmon and steelhead hatcheries is focused on producing juvenile and adult fish to provide harvest opportunity and to enhance natural production, through activities such as supplementation.

Hatchery fisheries are sustained by some degree of artificial production, generally for several generations. They are released from hatcheries primarily as smolts and return as adults for spawning and subsequent artificial production of their progeny. The primary objective is to provide harvest opportunity. Fisheries can be offered when enough hatchery adults, surplus to broodstock needs, return and when mortality of non-target stocks are minimal. Genetic material or behavior among hatchery returns may be different than wild/natural salmon and steelhead due to adaptation to the hatchery environment. Of the fishery management classifications (see Part 2 Drainage Management), “anadromous” refers to management which targets harvest opportunity on hatchery-origin fish while protecting wild and natural fish.

Department-approved evaluation studies will continue to direct the use of hatchery fish to preserve and rebuild natural stocks. Evaluation and implementation of supplementation programs targeting natural fish populations will be regionally coordinated. The Idaho Supplementation Studies (ISS) for Chinook salmon currently encompasses several tributaries and hatcheries. This study will be completed during this planning period and

results will guide continuing supplementation actions in concert with information from other studies. New efforts using hatchery production to sustain and rebuild natural steelhead numbers are being initiated. Although there has been short-term increase of spawners in many supplementation cases, there are also examples of little or no change. Rebuilding runs only through supplementation or other artificial production mechanisms is unlikely if life cycle survival is less than needed for spawner replacement. The Department will continue to carefully assess the risks of using hatchery fish over the long-term to bolster numbers of fish in the natural environment.

The Department's anadromous hatchery program will: (1) strive to produce juvenile fish that maximize survival to adulthood through disease control, fish culture practices, and release strategies; and (2) provide fish at various life stages that can be utilized for harvest, supplementation, reintroduction, and research purposes. A continuing role will be to help preserve salmon and steelhead populations on the verge of extinction until life cycle survival permits rebuilding. The Department will continue to develop hatchery practices for use with natural broodstocks to produce returning progeny suitable for subsequent natural production. We will also continue to mark hatchery smolts prior to release to maximize hatchery selective fishery opportunities and to easily identify hatchery fish to maximize broodstock management options.

## **Fisheries Research**

The mission of the Department's Fisheries Research Section is:

*To develop and effectively communicate scientifically sound information and tools to enhance the management of Idaho's fisheries.* The Fisheries Research section has four organizational components: anadromous fish species mitigation, resident fish species mitigation (both 100% federal funding), discretionary research, and program management/technical support (the latter two funded with 75% federal sport fish restoration funds).

Mitigation research is applied in an adaptive management approach. Population monitoring evaluation, experimental manipulations, and other findings are used to recover populations of endangered or threatened sockeye, Chinook, steelhead, Kootenai River white sturgeon, bull trout, kokanee, burbot, redband trout, westslope cutthroat trout, Yellowstone cutthroat trout, and Bonneville cutthroat trout, rainbow trout, and other species that have been adversely impacted by hydropower systems. The general direction of these research activities is coordinated with other resource agencies, provincial, tribes, and federal or utility funding entities and set through specific funding contracts.

The ESA status of anadromous sockeye, Chinook salmon, and steelhead, along with recovery planning and legal issues mandate long-term research efforts on these species. Current long-term anadromous research tasks are identified in Table 4. In addition, Department anadromous research and management personnel identified and ranked additional information needs for improved anadromous management and recovery efforts during the next five years (Table 5).

Resident fish mitigation research is designed to mitigate for fish populations impacted by development of the federal Columbia River hydropower system. Population monitoring, evaluation, and other findings are used to improve or recover populations of Kootenai River white sturgeon, kokanee, rainbow trout, bull trout, mountain whitefish, burbot, and several cutthroat subspecies that have been adversely impacted by hydropower systems (Table 6).

The general direction of these research activities is coordinated with other resource agencies, provincial governments, Indian tribes, and federal or utility funding entities and set through funding contracts.

To provide direction for the remainder of the Department's fisheries research program, a combination of management, hatchery and research personnel identified information and tools that would enhance fisheries management in Idaho (Table 7). This "Dingell-Johnson" funded research program is structured and operated to provide maximum flexibility in addressing rapidly changing statewide management issues.

Table 4. Anadromous Mitigation Research, 2007 – 2012.

| <b>Anadromous Mitigation Research Projects</b>   | <b>Schedule</b> |
|--|-----------------|
| Document the contribution hatchery-produced salmon and steelhead make towards meeting management and mitigation objectives.                              | 2007-2012       |
| Maintain captive broodstocks of Snake River sockeye salmon. Document the efficacy of various reintroduction strategies.                                  | 2007-2012       |
| Determine the efficacy of captive rearing as a conservation tool to prevent localized extinctions of spring/summer Chinook salmon.                       | 2007-2012       |
| Develop an integrated, web-based anadromous hatchery database.   | 2007-2012       |
| Develop fine-scale genetic profiles for natural origin salmon and steelhead.   | 2007-2012       |
| Develop genetic stock identification techniques to estimate stock-specific escapement of Idaho Snake River Chinook and steelhead over Lower Granite Dam. | 2007-2012       |
| Evaluate Chinook salmon supplementation strategies to increase natural production.   | 2007-2012       |
| Monitor abundance, productivity and distribution of naturally produced Chinook salmon adults and juveniles.  | 2007-2012       |
| Monitor abundance, productivity and distribution of naturally produced steelhead adults and juveniles.   | 2007-2012       |
| Research and monitor stock-specific life history patterns and characteristics of naturally produced Chinook and steelhead.                               | 2007-2012       |

Table 5. Additional anadromous research questions (prioritized by anadromous personnel) that require attention and funding solutions, 2007 – 2012.

|    |   |
|----|---|
| 1  | Can we complete a standardized genetic baseline description of population structure for wild & hatchery Chinook & Steelhead populations in Idaho? |
| 2  | Can we quantify steelhead escapement and distribution (hatchery and wild)?  |
| 3  | Can we expand PIT tag sample size for estimating the stock composition, timing, and survival rates among adult returns?                           |
| 4  | Would a nutritional boost in hatchery steelhead, Chinook and sockeye provide for increased returns?   |
| 5  | Are off-site releases of hatchery steelhead reproductively successful?  |
| 6  | What are the reasons for and what are the differences between hatcheries in SARs for Chinook?   |
| 7  | What is the life history/ productivity pattern of steelhead populations in the Snake River DPS?   |
| 8  | Can we identify environmental factors that affect jack/adult ratios?  |
| 9  | Can we quantify the impact of catch and release on Chinook (include gear types and/or hooking methods)  |
| 10 | Can we conduct an angler opinion survey to address non-biological anadromous fishery issues?  |
| 11 | Are current rearing conditions of steelhead affecting precocity and life history traits (returning ocean age)?                                    |
| 12 | Why do we see density-dependence in under-seeded habitat?   |
| 13 | Does pathogen load affect SAR in anadromous fish?   |
| 14 | Are our current steelhead fisheries changing steelhead stock characteristics through harvesting?  |
| 15 | How does local habitat shape the freshwater productivity of local stocks?   |
| 16 | Are there competition or predation issues with hatchery steelhead releases on natural parr/smolt?   |
| 17 | Should we evaluate indirect or delayed PIT tagging mortality or other biological effects?   |
| 18 | Is the integrated hatchery design good for hatchery and natural components of the stocks?   |
| 19 | Can we quantify the impact of catch and release on steelhead? (include gear types and hooking methods)?   |
| 20 | What is the cumulative effect of lead in high-use fisheries?  |
| 21 | Can we develop corrections for snorkeling data?   |
| 22 | Can we use parentage analysis techniques to evaluate straying (Idaho  |

|    |  |
|----|--|
|    | Supplementation Studies)?  |
| 23 | What factors of the re-introduction of spring Chinook in the Clearwater Basin contributed to the establishment of self-sustaining populations? |
| 24 | Can we affect changes in juvenile survival with tributary fertilization?   |
| 25 | Can steelhead kelts contribute to recovery?  |

Table 6. Resident Species Mitigation Research, 2007 – 2012.

| <b>Resident Mitigation Research Projects</b>  | <b>Schedule</b> |
|---|-----------------|
| Monitor and evaluate adult white sturgeon spawning and juvenile rearing responses to changes in Kootenai River temperature, flow/discharge and habitat enhancement efforts prescribed in the Kootenai Sturgeon Recovery Plan. | 2007 -20012     |
| Evaluate phosphorus and nitrogen addition to the canyon reach of the Kootenai River in terms of changes in periphyton, zooplankton, benthos, and associated shifts in fish populations.                                       | 2007-2012       |
| Assess trends in bull trout redds in Kootenai River tributaries   | 2007 -2012      |
| Work with local landowners and federal and state land management agencies to improve rainbow trout recruitment and rearing habitat in Kootenai River tributaries  | 2007-20 12      |
| Monitor and evaluate burbot recovery measures implemented via the KR Conservation Strategy  | 2007-20 12      |
| Monitor predator/ prey dynamics and evaluate the kokanee stocking program in Lake Pend Oreille to assist in restoration of kokanee and protect bull trout.  | 2007-20 12      |
| Develop methods to reduce lake trout predation on kokanee and also quantify rainbow trout abundance in Lake Pend Oreille.   | 2007-20 10      |
| Develop guidelines for the winter water level of Lake Pend Oreille that will benefit kokanee spawning, potentially impact lake trout spawning, and meet the needs of downstream species that are federally protected.         | 2007-2009       |
| Evaluate the installation of strobe lights on Dworshak Dam if that technology is utilized as a method to minimize kokanee entrainment.  | 2009-20 12      |
| Evaluate the benefits to the kokanee fishery of the fertilization efforts in Dworshak Reservoir, once the effort begins.  | 2008-20 12      |
| Identify native salmonid limiting factors in Upper Snake River Basin to develop, fund and implement restoration programs  | 2007-20 12      |

Table 7. Discretionary Research Priorities, 2007-2012.

| Management Needs Addressed by Discretionary (DJ) Research  | Schedule  |
|--|-----------|
| Lake and reservoir studies<br>Warmwater fish studies<br>-Life history characteristics and variation between populations<br>-Prediction of crappie year-class strength<br>-Effects of exploitation on warmwater fisheries<br>-Can we develop an accurate correction factor for angler tag returns?  | 2006-2011 |
| Sterile fish studies<br>-Continue evaluation of sterile fish performance in high mountain lakes<br>-Continue to refine sterilization recipes for westslope cutthroat and other fish<br>-Evaluate potential for sterilization to improve kokanee fisheries<br>-Evaluate potential of using predators to eliminate or improve brook trout fisheries in high mountain lakes   | 2006-2011 |
| Improve Hatchery Trout Return to Creel<br>-Evaluation of the "raceway effect" – can we detect stragglers early enough to save feed costs, etc.<br>-Predator training studies – can we "train" catchables and fingerlings to avoid predators?<br>-Stream catchable mortality studies – what is the fate of the 60-90% of stream uncatchables and can this mortality source be reduced?<br>-Can hatchery conditioning of fish improve return to creel?<br>-Identify optimum hatchery densities that lead to better catch rates and return to creel | 2006-2011 |
| Native Species Studies/Coordination<br>-Development and maintenance of statewide databases for native species<br>-Redband trout population assessment in the Upper Snake River Basin<br>-Mountain whitefish population assessment in the Upper Snake River Basin<br>-Development of native species conservation plans<br>-Can introgressive hybridization be reduced in hybridized populations of cutthroat trout?<br>-Population Viability Analysis<br>How many pops are needed to reduce risk  | 2006-2011 |
| Hatchery/Wild Trout Competition<br>-Quantify effects of stocking on wild trout and non-game species  | 2006-2011 |
| Does bait hooking mortality decrease with the use of alternative hooks?  | 2006-2011 |
| Conduct angler use, fish harvest, and angler economic surveys as needed  | 2006-2011 |
| Develop database and GIS coverage for fish species distribution as needed to support fish management and Endangered Species Act listing needs.   | 2006-2011 |



## Other Aquatic Species

All wildlife are the property of the state and are protected and managed by the Department (Idaho Code 36-103). Aquatic animals that are important to, may be impacted by, or may have an impact on fish management include amphibians, mollusks, crustaceans, and insects. Aquatic mammals and birds, that may effect fish management, are not considered in this plan.

The blueback trout (*Salvelinus alpinus oquassa*), formerly the sunapee trout, was synonymized with the blueback trout by taxonomists. It was introduced into alpine lakes of the Sawtooth Range many years ago. The Idaho population of this exotic char is the only population outside of its native range of northeastern New England and southeastern Canada, where only a few populations remain. Because it is not native, it will not be considered an "at risk" species, but the Department will protect this fish and its habitat. The Department will protect this species by suppressing publicity, carefully monitoring the populations to determine their status, and by not stocking other species, which would adversely affect blueback trout in waters where they occur.

One amphibian, the bullfrog (*Rana catesbiana*), is classified as a Game Fish for management purposes and is subject to sport harvest. Management consists of restricting harvest to the same season as other game fish in waters where bullfrogs occur. Scientists specializing in amphibians are concerned about apparent declines in amphibian abundance and what effect non-native amphibians such as the bullfrog may have on native species. The Department will not transplant bullfrogs into other water bodies. It is illegal for the public to do so as well. The Department will enhance educational efforts about the negative impacts of bullfrogs on native amphibians. The public is currently able to purchase bullfrogs for private ponds; however, it is illegal to do so unless they have a private pond permit which includes bullfrogs as one of the allowed species. The Department will enhance its oversight to include more enforcement if needed. No specific program for bullfrogs is proposed for this six-year plan.

Crayfish are crustaceans and for management purposes are also classified as Game Fish and are subject to sport and commercial harvest. There are three native crayfish species in Idaho and all are members of the genus *Pacifastacus*. Management consists of restricting harvest to the same season as other game fish in waters where they occur for sport and commercial harvest and regulating types of gear used. Due to potential negative impacts on native species and potential problems associated with burrowing species on irrigation dikes, non-native crayfish will not be allowed to be imported into Idaho without an extensive review by the Department (American Fisheries Society "Introductions of Aquatic Species" guidelines), and approval of that review by the Director.

Other amphibians, crustaceans, aquatic insects, and mollusks provide forage for game fish, are used by anglers for bait, or are of scientific or aesthetic value. The Department has developed conservation plans for the Columbia spotted frog and the Coeur d'Alene salamander and present populations will be monitored while conducting routine fish surveys.

## Special Management Issues

### Endangered Species Act

The Endangered Species Act is a federal law passed by Congress in 1973. Its purpose is to provide a means of ensuring the preservation of animal and plant species that are in danger of extinction. An endangered species is any species that is in danger of extinction throughout all or a significant portion of its range, whereas a threatened species is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Species may be broadly defined to include isolated breeding populations that are significant for ecological importance such as the Kootenai River white sturgeon, which is comprised of a single spawning population. Restoration of a species to a level safe from extinction is the key aim of the act. Typically, restoration actions are guided by a recovery plan, and the tools of recovery may range from captive breeding to land acquisition. Critical habitat is also usually identified for listed species in order to provide special protection for key breeding and rearing areas.

There are five fish species in Idaho that are listed as threatened or endangered under the federal Endangered Species Act. The Snake River sockeye salmon was listed as endangered in 1991. Naturally-produced Snake River spring, summer, and fall Chinook, excluding spring Chinook in the Clearwater River, were listed as threatened in 1992 and several related hatchery stocks were added to the listing in 2005. The Kootenai River white sturgeon was listed as endangered in 1994. Naturally-produced Snake River steelhead trout were listed as threatened in 1997. Bull trout were listed as threatened throughout its entire range in Idaho in 1998. NOAA Fisheries (formerly the National Marine Fisheries Service) oversees management of listed anadromous species such as salmon and steelhead. The USFWS has legal responsibility for the management of listed resident species such as bull trout and Kootenai River sturgeon. In 2000, the Office of Species Conservation was legislatively created within the Office of the Governor to provide coordination, cooperation, and consultation among various state and federal agencies with Endangered Species Act responsibilities in Idaho. The core functions of the Office of Species Conservation are to coordinate federal Endangered Species Act programs with state agencies; solicit, provide and delegate funding for Endangered Species Act programs; negotiate agreements with federal agencies concerning endangered species; serve as the state's "one-voice" on Endangered Species Act policy; provide a mechanism for Idaho citizens to voice Endangered Species Act concerns; and facilitate collaboration between state, federal and private stakeholders.

Section 9 of the Endangered Species Act prohibits the taking of listed species unless authorized by the federal regulatory agency in charge. "Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or to attempt to engage in any such conduct. Essentially all of the Department's management and research activities for listed fish and other fish species that coexist with listed fishes, fall under the definition of take. Even though the Department is a conservation agency, it must be federally authorized to conduct tasks that preserve, protect, and perpetuate fish and wildlife resources when its actions take listed fish. The Endangered Species Act requires federal managers to determine that proposed actions are not likely to jeopardize the continued existence or recovery of listed fishes.

The administrative requirements for both the Department and the federal managers to propose and authorize activities are very lengthy because of their legal nature. Considerable reporting to the federal managers is also required. These responsibilities are in addition to state management functions. The substantial research, management, and administrative activities associated with federally listed fishes are supported primarily with federal contracts because federal hydropower development has been a major factor in the decline of all of Idaho's current federally-listed anadromous fishes as well as Kootenai River sturgeon.

Research, propagation, and management of listed fishes are directed at preservation and recovery in order to remove or delist them. The sockeye captive broodstock program implemented in 1991 is a significant example of a preservation action taken by the Department. Information and education about the status and presence of listed species has also been emphasized.

Changes in the Department's management of other species are sometimes required to reduce potential adverse effects to listed fishes. An example is the hatchery steelhead program where there are concerns about interactions such as competition and predation with listed Chinook. The Department has taken actions to minimize these interactions. Steelhead releases have been shifted out of listed Chinook spawning and rearing areas and release numbers have been reduced. Impacts on bull trout in Lake Pend Oreille are being reduced through an aggressive angler harvest and commercial netting program on non-native lake trout. Another example is that the Department has eliminated use of brook trout in its hatchery program to reduce potential genetic introgression with bull trout. Brook trout are still managed via our hatchery at Henrys Lake and are used solely at that location, outside of the range of bull trout.

The Department will work with the Governor's Office of Species Conservation and federal managers to develop sound, biological approaches to delisting and recovery that address key factors of decline. We will ensure that programs do not jeopardize listed fishes but the Department will not support needless constraints imposed on recreational fisheries and fishing opportunity without defensible biological information.

### **Fish Species at Risk**

In Idaho, a number of races (or subspecies) and species of fish are considered to be at risk for local extirpations, range constrictions, or extinctions due to their limited or declining range or undetermined/declining population status. The Commission is authorized under *Idaho Code* Sections 36-104(b) and 36-201 to adopt rules concerning the taking of wildlife species (including fishes) and the classification of all wildlife in the state of Idaho. These rules are cited in full as IDAPA 13.01.06.000 et seq., Rules of the Idaho Fish and Game Commission, IDAPA 13.01 .06, Rules Governing Classification and Protection of Wildlife. These rules were updated in 2005. The Department will continue to review and recommend changes to these species classifications as biological information warrants.

The Department defines and classifies threatened and endangered species in this plan similar to federal definitions:

Threatened Species: Any native species likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of its Idaho range.

Endangered Species: Any native species in danger of extinction throughout all or a significant portion of its Idaho range.

Species listed as threatened and endangered wildlife under Idaho Code have no statutory protection in contrast to the federal Endangered Species Act. Their classification as threatened or endangered is a policy statement for management and not for legal purposes. In Idaho, the burbot and Pacific lamprey are listed as endangered under Idaho Code but not under the federal Endangered Species Act, while sockeye salmon and the Kootenai River population of white sturgeon are federally listed as endangered and also have the same classification under Idaho Code. Fishes recognized as threatened under Idaho Code include bull trout, Chinook salmon (spring/summer and fall runs), and Snake River steelhead. These threatened fish are also federally listed and given protection under the Endangered Species Act.

In previous plans, the Department acting under the direction of the Commission, classified certain native fishes as "Species of Special Concern." The Department no longer uses this classification. The Department classifies species as Game Species, Protected Nongame, Threatened or Endangered Species, or Unprotected and Predatory Wildlife.

Game Species: Those species of wildlife classified as Big Game Animals, Upland Game Animals, Game Birds, Migratory Birds, Game Fish, Crustacea, or Furbearing Animals may be taken only in accordance with Idaho law and rules established by the Idaho Fish and Game Commission.

Protected Nongame and Threatened or Endangered Species: No person shall take or possess those species of wildlife classified as Protected Nongame, or Threatened or Endangered at any time or in any manner, except as provided in Sections 36-106(e) and 36-1107, Idaho Code, by Commission rule, or IDAPA 13.01.10, "Rules Governing the Importation, Possession, Release, Sale, or Salvage of Wildlife," Subsection 100.06.b. Protected Nongame status is not intended to prevent unintentional take of these species, protection of personal health and/or safety, limit property and building management, or prevent management of animals to address public health concerns or agricultural damage.

Unprotected and Predatory Wildlife: Those species of wildlife classified as Unprotected Wildlife and Predatory Wildlife may be taken in any amount, at any time, and in any manner not prohibited by state or federal law, by holders of the appropriate valid Idaho hunting, trapping, or combination hunting and fishing licenses, provided such taking is not in violation of state, county, or city laws, ordinances, or regulations.

Under *Idaho Code*, when a species is classified as Endangered, Threatened, or Protected Nongame, this does not automatically create a management action response as would happen if the federal Endangered Species Act were applied. The Department will consider these species when making any fishery management decisions that affect their numbers, genetic integrity, or habitat. Likewise, we will use our knowledge of these fish to affect decisions by other agencies, entities, or individuals relative to the health of these species.

### **Comprehensive Wildlife Conservation Strategy**

As the State's fish and wildlife management agency, the Department has the legal responsibility to develop a statewide Comprehensive Wildlife Conservation Strategy (CWCS). The Department is the appropriate agency to develop and carry out a CWCS.

The statutory authority for managing all wildlife is entrusted to the Department acting under the policy guidance of the Commission. Although the Department is the State's lead fish and wildlife manager, it is not a major land management agency compared to the federal land management agencies or Idaho Department of Lands, and does not administer significant regulatory programs other than regulating the take of wildlife. This requires that the Department work effectively with others to conserve fish and wildlife.

State fish and wildlife agencies are the foundation of our nation's wildlife conservation efforts. The federal government places the primary responsibility for implementing wildlife management programs with the 50 states. Because of this, state fish and wildlife agencies have taken the leadership role in authoring the CWCS. Effective management and conservation depends upon a partnership with Congress to provide consistent and adequate funding to the States. For decades, federal funding to the States in the form of excise taxes on arms and ammunition (Pittman-Robertson Federal Aid to Wildlife Restoration Act of 1937) and fishing equipment and motorboat fuel (Dingell-Johnson Federal Aid to State Fisheries Act of 1950 and Wallop-Breaux Act of 1984), has focused primarily on and has been largely responsible for successful programs that ensure the conservation and sustainable use of game species for hunting and fishing. However, there has been a lack of both state and federal funding to manage the many fish and wildlife species not supported by hunting and fishing license fees and excise taxes.

To remedy this, Congress established the State Wildlife Grants (SWG) program in 2001. The purpose of this program was to provide a consistent and dedicated source of funding for those species that traditionally received little conservation attention. The SWG program provides the States the opportunity and funding to proactively work to conserve Species of Greatest Conservation Need. By attempting to avoid species declines, the Department hopes to limit costly and time-consuming Endangered Species Act listings, recovery efforts, and associated land use restrictions and potential restrictions on state fish and wildlife management. The SWG program provides funding for the States to realize the long-term commitment to prevent species from becoming federally listed as Threatened or Endangered. To make the best use of the SWG program, Congress charged each state and territory to develop a statewide CWCS by October 1, 2005. The Department submitted its Draft CWCS to the USFWS by October 1, 2005 and it was approved in February 2006 (IDFG 2006).

The CWCS identifies and focuses on species and habitats of greatest conservation need. NatureServe and its Natural Heritage Network member programs have developed a consistent method for evaluating the relative imperilment of both species and ecological communities. These assessments lead to the designation of a conservation status rank. For plant and animal species, these ranks provide an estimate of extinction risk. Status assessments are based on the best available information, and consider a variety of factors such as abundance, distribution, population trends, and threats. A full description of how species status assessments and final state ranks were derived is detailed in the Department's CWCS (IDFG 2006).

A list of Species of Greatest Conservation Need (SGCN) was developed for Idaho and included 26 fish species (Table 8). A complete description of fish species listed in Table 8 along with scientific literature supporting these descriptions is found in the CWCS developed by the Department (IDFG 2006).

Table 8 includes the current NatureServe global ranks, Idaho Conservation Data Center state ranks, status under the Endangered Species Act of 1973, administrative designations of the USDA Forest Service and USDI Bureau of Land Management, and the Department's classification under the administrative rule. Definitions for interpreting NatureServe conservation status ranks (GRanks and SRanks) can be found in Appendix 1. The list of SGCN was divided into two parts. The first part consists of species with substantial information pertaining to their status in Idaho. The second part includes species lacking essential information pertaining to their status in Idaho.

The Department will seek funding from nontraditional sources to do status assessments, monitoring, or research of nongame species on this list. The Regional Fishery Managers, in concert with the Fisheries Bureau, will pursue information on population status and distribution by integrating inventory and monitoring activities into their annual work plans. The logical progression is to develop species management or conservation plans to guide recovery or maintenance of populations. When appropriate, the Department will collaborate with other state, federal, Indian Tribes, or private entities to develop conservation plans. The first priority for conservation plans will be candidate species for federal listing. Notably from a fisheries management standpoint, the list of SGCN includes Idaho's three subspecies of cutthroat trout, all of which are classified as Game Fish. Cutthroat trout provide important recreational fisheries in Idaho.

The Department will closely control the stocking of fish species and other aquatic organisms that might compete or interbreed with, prey upon, or indirectly have a detrimental affect on these "at risk" fish species. In some cases, artificial supplementation may be the only viable alternative. This is where species management or conservation plans will provide direction.

Appendix B: COMMON AND SCIENTIFIC NAMES OF IDAHO SPECIES OF GREATEST CONSERVATION NEED

| Taxa  |                               | GRank  | SRank | ESA | FSR1 | FSR4 | BLM    | IDFG Classification           |
|---|-------------------------------|--------|-------|-----|------|------|--------|-------------------------------|
| Common Name   | Scientific Name               |        |       |     |      |      |        |                               |
| <b>Species with Substantial Information Pertaining to Status</b>  |                               |        |       |     |      |      |        |                               |
| <b>LAMPREYS</b>   |                               |        |       |     |      |      |        |                               |
| Pacific Lamprey   |                               | G5     | S1    |     | S    |      | TYPE 2 | Endangered Species            |
| <b>RAY-FINNED FISHES</b>  |                               |        |       |     |      |      |        |                               |
| White Sturgeon (Snake River System)                               | Acipenser transmontanus       | G4     | S1    |     |      |      | TYPE 2 | Game Fish                     |
| White Sturgeon (Kootenai River System)                            | Acipenser transmontanus       | G4T1   | S1    | LE  |      |      | TYPE 1 | Game Fish; Endangered Species |
| Northern Leatherside Chub   | Lepidomeda copei              | G1G2   | S2    |     |      |      | TYPE 3 | Protected Nongame Species     |
| Bonneville Cutthroat Trout  | Oncorhynchus clarkii utah     | G4T4   | S3    |     |      | S    | TYPE 2 | Game Fish                     |
| Yellowstone Cutthroat Trout                                       | Oncorhynchus clarkii bouvieri | G4T2   | S2    |     | S    |      | TYPE 2 | Game Fish                     |
| Westslope Cutthroat Trout   | Oncorhynchus clarkii lewisi   | G4T3   | S3    |     | S    | S    | TYPE 2 | Game Fish                     |
| Inland Redband Trout  | Oncorhynchus mykiss gairdneri | G5T4   | S4    |     | S    |      | TYPE 2 | Game Fish                     |
| Steelhead (Snake River System)                                    | Oncorhynchus mykiss gairdneri | G5T2T3 | S3    | LT  |      | S    | TYPE 1 | Game Fish; Threatened Species |
| Sockeye Salmon (Snake River)                                      | Oncorhynchus nerka            | G5T1   | S1    | LE  |      | E    | TYPE 1 | Game Fish; Endangered Species |
| Kokanee   | Oncorhynchus nerka            | G5     | S2    |     |      |      |        | Game Fish                     |
| Chinook Salmon (Snake River fall-run)                             | Oncorhynchus tshawtscha       | G5T1   | S1    | LT  |      | T    | TYPE 1 | Game Fish; Threatened Species |
| Chinook Salmon (Snake River spring/summer-run)                    | Oncorhynchus tshawtscha       | G5T1   | S1    | LT  | S    | T    | TYPE 1 | Game Fish; Threatened Species |
| Bear Lake Whitefish   | Prosopium abyssiicola         | G1     | S1    |     |      |      | TYPE 2 | Game Fish                     |
| Bonneville Cisco  | Prosopium gemmifer            | G1     | S1    |     |      |      | TYPE 2 | Game Fish                     |
| Bonneville Whitefish  | Prosopium spilonotus          | G1     | S1    |     |      |      | TYPE 2 | Game Fish                     |
| Bull Trout  | Salvelinus confluentus        | G3     | S3    | LT  |      | S    | TYPE 1 | Game Fish; Threatened Species |
| Burbot  | Lota lota                     | G5     | S1    |     | S    |      | TYPE 3 | Game Fish; Endangered Species |
| Bear Lake Sculpin   | Cottus extensus               | G1     | S1    |     |      |      | TYPE 2 | Protected Nongame Species     |
| Shoshone Sculpin  | Cottus greenei                | G2     | S2    |     |      |      | TYPE 2 | Protected Nongame Species     |
| Wood River Sculpin  | Cottus leiopomus              | G2     | S2    |     |      | S    | TYPE 2 | Protected Nongame Species     |
| <b>Species Lacking Essential Information Pertaining to Status</b> |                               |        |       |     |      |      |        |                               |
| <b>RAY-FINNED FISHES</b>  |                               |        |       |     |      |      |        |                               |
| Lake Chub   | Couesius plumbeus             | G5     | SNR   |     |      |      |        | Unprotected Wildlife          |
| Umatilla Dace   | Rhinichthys umatilla          | G4     | SNR   |     |      |      |        | Unprotected Wildlife          |
| Leopard Dace  | Rhinichthys falcatus          | G4     | SNR   |     |      |      |        | Unprotected Wildlife          |
| Blue Sucker   | Catostomus discobolus         | G4     | SNR   |     |      |      |        | Unprotected Wildlife          |
| Pygmy Whitefish   | Prosopium coulterii           | G5     | SNR   |     |      |      |        | Game Fish                     |
| Sand Roller   | Percopsis transmontana        | G4     | SH    |     |      |      |        | Unprotected Nongame Species   |

## **Private Fish Ponds**

The Department issues a private fish pond permit to members of the public as a way to acquire approved fish species for their own use, enjoyment, and management. The permit designates that those fish are private property and not a public resource. Fishing and harvest from a permitted private fish pond are at the discretion of the owner and do not fall under Department rules. The private fish pond permit does not exempt the pond owner from all other required permits required by other County, State and Federal agencies for water rights, dam construction, etc.

Idaho has regulated the import, transport and stocking of fish into private fish ponds since 1976 to prevent the introduction and spread of undesirable fish species and fish diseases into the public waters. Private fish pond owners who wish to stock their pond with fish are required to obtain a private fish pond permit and, if necessary, a fish transport permit specifying number, species, hatchery origin and destination from the Department. This permitting process requires that the fish to be stocked will be compatible with Regional Fishery Management Drainage Plans and free of reportable diseases (see below). The Department's Regional Office serving the pond owner will issue private fish pond permits and fish transport permits drawing from a list of approved trout sources provided by the Fisheries Bureau. When necessary, sterile trout will be required for management consistency. If other species are desired and are not commercially available, but are found in nearby Idaho waters, the permittee may acquire a fish transport permit from the Department to harvest fish from approved waters. All standard fishing rules for those waters will apply.

With the proliferation of private fish pond construction across the state, it is becoming increasingly difficult for fishery managers to keep track of new ponds and new pond owners are frequently unaware of the private fish pond permit and fish transport permit requirements. This situation is potentially a serious threat to established fisheries. The Department will work with the private fish culture industry, the Idaho Department of Agriculture (which licenses private hatcheries within Idaho), local real-estate offices and local construction companies (specializing in pond construction) to increase awareness of private fish pond and fish transport permit requirements, procedures, and the risks of non-native species to public resources.

Establishing that a private aquaculture facility is free of reportable diseases will require an annual inspection of trout lots intended for sale to private pond owners. The list of reportable pathogens (Class A viruses and *Myxobolus cerebralis*) in the current and approved version of the Model Program of the Pacific Northwest Fish Health Protection Committee (PNFHPC) defines "serious diseases" as one in which the potential of a particular pathogen to cause a disease state is one that exceeds a certain tolerance threshold. When use of sterile trout is required, a level of induction consistent with aquaculture standards will likewise be applied.

## **Aquatic Nuisance Species**

Aquatic Nuisance Species (ANS) are non-indigenous plant or animal species that threaten the diversity or abundance of native species, the ecologic stability of infested waters, or commercial, agriculture, aquaculture, or recreation activities dependent on such waters. ANS are the cause of significant ecological and socio-economic problems



throughout North America. Invasive species, such as Zebra mussel *Dreissena polymorpha*, Eurasian water milfoil *Myriophyllum spicatum*, and New Zealand mudsnail *Potamopyrgus antipodarum* are being introduced into new habitats in North America at an alarming rate. Introductions of these and similar species into Idaho are accidental with the organisms attaching themselves to or being transported in boats, live wells and other equipment used in contaminated waters and then being transplanted when the equipment is moved to Idaho waters. After introduction, populations often spread rapidly due to lack of natural controls. Once established, they often displace native species, clog waterways, impact municipal and industrial irrigation and power systems, degrade ecosystems, reduce or threaten recreational and commercial fishing opportunities, and can cause wildlife and public health problems.

The Department will actively work with other state and federal agencies and interested non-governmental organizations to develop a State of Idaho Aquatic Nuisance Species Plan to aid in the prevention and management of ANS. Preventing the introduction of non-desirable aquatic species is the most efficient and economical method of controlling these species due to the cost of removal and very low chance of success. Public education is the primary means to prevent the introduction of these nuisance aquatic species to Idaho waters. The Department will actively provide education and information to the public on prevention techniques in its media and public outreach programs. During this planning period, the Department will continue to work with the Idaho Department of Agriculture and other state and federal agencies to increase public awareness of the potential problems and how to maintain clean boats, trailers, waders, and other aquatic equipment when traveling from water to water.

In addition to planning and education, the Department should, by our own actions, be a lead agency in dealing with these threats to fisheries habitats in the State and Region. The Department will continue to use Hazard Analysis and Critical Control Point programs in hatchery and field work to reduce the risk of introducing new species or spreading existing species in Idaho.

ANS other than fish of immediate concern include the plant, Eurasian watermilfoil, the bivalves, Zebra mussel and quagga mussel *D. bugensis*, and the snail, New Zealand mudsnail. These species are highly invasive in suitable aquatic habitats and can quickly become a nuisance. Eurasian watermilfoil can completely choke off a waterway and prevent boating, swimming, and fishing, along with altering the habitat for native species. This plant has been found in Cocolalla, Spirit, and Hayden lakes and the Pend Oreille system in north Idaho, Payette Lake near McCall, and several isolated ponds in southwest Idaho. Zebra mussels form dense colonies that can clog intake screens on water supply lines and compete with native bivalve populations. To date, this species has not been found in Idaho. New Zealand mudsnail, which have been in Idaho since at least the 1980s, are found primarily in southern Idaho. They are present in the water supplies of some of the Department's hatcheries requiring the modification to the receiving waters of individual hatcheries to prevent release of the snail into uncontaminated waters.

## **Aquatic Species Control**

The ability to prevent the introduction of, control or remove non-desirable aquatic species from specific waters is a major concern of fishery management. Two primary reasons for controlling non-desirable fish and other species are 1) control of exotic species to prevent or reduce negative impacts on native species in natural habitats and 2) control of both exotic and native species in altered habitats to maintain or improve fishing for desirable species.

Concern over the introductions of new fish species has increased. The Department conducts a review following the American Fisheries Society guidelines for "Introductions of Aquatic Species" prior to any new species introduction, either by the public or the Department. However, with the increasing ease of purchasing and shipping live fish through overnight mail systems; many people have the capability of releasing non-native fish into Idaho waters. Several of these species can have drastic negative impacts on native species and over all fishing success in Idaho waters. Legally, all fish and wildlife, except for a few commercial species, require an import permit from the Department before being brought into Idaho, however not all members of the public know this. The few commercial exceptions such as rainbow trout are under the jurisdiction of the Idaho Department of Agriculture. During this planning period, the Department will increase efforts to inform the public of the importation requirements and will work with other state and federal agencies in controlling undesirable importations.

The ability to control or remove populations of fish in order to improve fishing or to protect native species is a major fisheries management tool. Currently rotenone is an approved piscicide and has proven useful in removing undesirable species. Applying piscicides requires permits from the Departments of Agriculture and Environmental Quality. The Department utilizes the "Lake Renovation Procedures Manual" to guide renovation projects (Horton 1997). If other chemicals are approved to control fish, they will be considered by the Department. Although non chemical methods of controlling undesirable species may not be as effective, they can be considered if conditions warrant. They include manual removal by electrofishing or netting, dewatering, installing barriers to prevent fish movement, and adding predatory species such as tiger muskie to control stunted fish populations.

Throughout Idaho, the presence of certain non-native fish species has negatively affected native fish fauna. This situation has resulted from state and federal agency and illegal public introductions of non-native sport fish. The original intent of these legal non-native species introductions was well intended, however, in retrospect, state and federal agencies did not fully anticipate the adverse consequences of these actions. Non-native species can prey on, compete with, or hybridize with native fish species leading to extirpations or serious declines in native fish populations. Since the extent of this problem is widespread and pervasive in many cases, the Department has few or no available options to eliminate or suppress non-native species. Dealing with the management issues posed by non-native species effects on native fish is an increasingly difficult and growing challenge for the Department.

Non-native trout species such as brook trout, brown trout, and rainbow trout are desired by many anglers. In Idaho, these species oftentimes provide the only local fishing opportunities available, and as such, the Department will attempt to balance the need for

increasing the persistence and expanding the range of native species with the desire by anglers to maintain these locally important fisheries.

During this planning period, the Department will continue to assess and implement methods to control or eliminate unwanted non-native fish where they pose serious risks to native species persistence and survival. Target species for control could include brook trout, lake trout, brown trout, introduced rainbow trout stocks, northern pike, and walleye. The Department intends to use biological, chemical, and physical methods to control unwanted fish species from Idaho waterways. The Department will adopt a realistic approach in dealing with non-native species as it will be impossible to eliminate them from many of our aquatic environments. We will also propose and seek Commission approval to liberalize fishing rules and regulations when needed to allow the public and/or commercial interests where appropriate to assist in removal of non-native sport fish.

### **Biological**

The Department will continue using sterile predators such as tiger muskie in lowland lakes and alpine lakes to control non-native fish populations. Before considering the introduction of a fish species into a water body, the Department will review and assess potential impacts using the American Fisheries Society (AFS) policy regarding introductions of aquatic species (AFS Policy Statement #15: Introductions of Aquatic Species). We will involve the public in our decision-making process and consult with the appropriate state and federal agencies, including neighboring states.

### **Chemical**

In certain situations, the Department will consider the use of fish toxicants to remove non-native fish from Idaho waterways under the guidance of our Lake Renovation Procedures Manual (Horton 1997). Applications in flowing waters must be handled differently than lakes as the toxicant can quickly move downstream and affect areas not intended for treatment. Currently, rotenone is the only chemical registered and approved for use as a fish toxicant by the Environmental Protection Agency. The Department will involve the public in our decision-making process and consult with local officials as well as state and federal agencies, including neighboring states. The Idaho Department of Environmental Quality must approve any proposal for the use of fish toxicants in Idaho waterways.

### **Physical**

The Department will consider and employ the use of nets, electrofishing, and dewatering as is feasible, as physical control methods for non-native fish species. For instance, during this planning period, the Department will intensively use nets in Lake Pend Oreille to capture and remove non-native lake trout and rainbow trout to benefit native bull trout and westslope cutthroat trout and prevent an important kokanee population from collapsing. Electrofishing will be used in small streams to suppress and possibly eliminate brook trout and introduced rainbow trout stocks that compete and hybridize with native bull trout and cutthroat trout. In situations where continued separation between native salmonids and non-native species is necessary for conservation purposes, the Department will cooperate with land management agencies in constructing upstream passage barriers. We will consider potential impacts on other aquatic species before making decisions on constructing barriers.

## **Special Fishing Opportunities**

### **Youth Fishing Opportunities**

Competing recreational activities may limit the time that new anglers have to develop fishing skills necessary to make fishing an enjoyable experience. The Department has been asked to manage certain waters for anglers who may not have the skills or the ability to compete with more experienced anglers. During the previous planning period, the department implemented the Family Fishing Waters program to encourage and enhance family fishing, including the introduction of youths to fishing. During this planning period, the Department will work with local communities, counties and sportsmen's groups to encourage some urban fishing waters be managed for the use of children younger than the age of fourteen. This is in keeping to the Department's mission to provide continued supplies of fish for all of the anglers in Idaho and in responding to the changing needs of society.

### **Commercial Fisheries**

The Idaho Legislature enacted commercial fishing legislation in 1988 to document the use of crayfish and nongame fish for commercial purposes. Later that year, the Commission adopted commercial fishing rules. The rules established an equitable fee structure for the take of these resources. Some nongame fish have commercial value as animal feed, fish bait, fertilizer, and for human consumption. These species may reduce game fish populations through competition and predation and may be a nuisance to sport anglers. In many Idaho waters, the majority of the fish biomass is nongame fish such as suckers, carp, pikeminnow, and chubs. More recently, the Commission approved rules for the commercial take of lake trout from Lake Pend Oreille. Commercial harvest of some fish species not classified as nongame may have value as a management tool in the future, and will be considered where appropriate.

Crayfish are a species used for human consumption and are an important bait species for fishing. They are also an important food source for some of our sport fishes. The effect of commercial exploitation of crayfish on the food availability for game fishes is unknown. However, reporting requirements for the commercial license will provide the Department with continued information during this planning period.

Currently, commercial fishing activity is greatly reduced. Since 2001, only two to three licenses have been issued each year outside of the Lake Pend Oreille lake trout fishery. Prices paid for live crayfish at large markets outside of Idaho were less than the cost of harvesting them and generally do not justify the cost of shipping. In 2004 and 2005, about 1,000 pounds of crayfish were reported harvested each year. The decline for other commercial fish has continued with only occasional interest in harvesting common carp in recent years.

The Commission approved a commercial rod-and-reel fishery for lake trout on Lake Pend Oreille in 2002 as part of an ongoing effort to reduce lake trout numbers.

Commercial anglers were restricted to normal sport fishing tackle, but were allowed to use as many rods as they desired. Entry to the fishery was restricted to 10 licenses. In 2003, all 10 licenses were purchased, but by July 2006, only four anglers were still pursuing some type of commercial fishing activity. Strict Food and Drug Administration requirements for fish handling and processing and the lack of a large market for lake trout have limited participation.

Lake whitefish were introduced in Lake Pend Oreille in the 1890s and have been commercially fished in the Great Lakes for over 100 years. An evaluation of the lake whitefish population in Lake Pend Oreille in 2005 indicated there are an estimated 2 million fish that could be exploited commercially at over 50% annually. This type of commercial fishing opportunity could provide incentive and means to sustain the level of lake trout by-catch needed to help suppress the lake trout population. Public and Commission approval for establishment of a commercial lake whitefish fishery on Lake Pend Oreille will be pursued during this planning period.

### **Fishing Contests**

Effective July 1, 1989, the Department was given the statutory authority to regulate fishing contests, tournaments, and derbies. Pursuant to that authority, a permit is required from the Department when: 1) an event is planned that is based on the capture of an individual fish, size, or number of fish; 2) the participants pay an entry fee; 3) a prize is offered to participants based on the capture of an individual fish, size, or number of fish captured; 4) the total prize value is greater than \$1,000 or the individual entry fee is greater than \$25; 5) the number of boats is greater than 10 or the number of individual contestants is greater than 20; or 6) there is a live fish weigh-in. Legislation passed in 2000 now requires the Department to charge a fee for any fishing contest, tournament, or derby.

Applications are reviewed for the potential impact of the contest on other recreational users or impacts to fish populations or fish management goals for the body of water selected. Additional harvest restrictions may be included as provisions of a harvest contest permit.

The Department recognizes and permits two types of fishing contests: 1) a catch-and-release contest where contest rules require specific procedures to keep target species of fish alive and healthy, and require that all fish caught by participants be released back into the contest water on the same day they were captured, and 2) a harvest contest where contest rules allow participants to keep the fish. In the next six years, the Department will work towards providing more information to the public and streamlining the permit process through the use of the Internet.

### **Aquatic Education**

The goals of the Department's aquatic education program are to:

Create an environmentally literate citizenry that takes an active role in natural resource stewardship and increase and maintain participation in fishing. The Department has identified three overlapping components of Aquatic Education that serve to meet these

two goals: angler recruitment and retention, fishing education, and stewardship education. These components are consistent with the Department's statutory mission to preserve, protect and perpetuate and manage fish and wildlife. These components also support goals, objectives and strategies outlined in the Department's strategic plan.

Angler recruitment and retention efforts involve a variety of components aimed at increasing participation in fishing. These include a direct mail campaign, radio advertisements, television advertisements, television specials on fishing, and billboards. These efforts will continue as long as they successfully recruit and retain anglers.

Fishing education efforts include fishing clinics, Free Fishing Day, fishing camps, the Fishing as a Lifetime Sport curriculum, rod loaner program, publications highlighting where to fish, stocking reports, angler information requests, and fishing forecasts. These efforts give anglers the skills, equipment, and/or information they need to have a successful fishing experience. Future efforts will consist of adding stewardship messages to all classes and publications, and the development a volunteer angler program. The volunteer angler program will train volunteers to teach fishing classes to their local community groups, such as scouts, 4-H, and school groups.

Stewardship education efforts have a mission to create public awareness of Idaho's aquatic resources and issues, which will create support for Department programs and efforts to conserve aquatic resources and the wildlife values the public depends on. Department employees have identified four critical topics on which stewardship education efforts should focus: riparian habitat, water quality, water quantity, and angler ethics. Specific stewardship programs occurring in many regions include Trout in the Classroom, teacher education trunks, Department participation in various local fairs and water-related events, and Project Wild teacher courses. Hatcheries provide an opportunity for the public to view and learn about fish and related issues. Many hatcheries have informational kiosks and offer tours to interested groups. The MK Nature Center in Boise provides education programs on riparian habitat and fish for thousands of students annually, and sponsors the annual Salmon and Steelhead Days. Future stewardship efforts will include the expansion of the Trout in the Classroom program to each region of the state and the development of additional stewardship messages and kiosks and other locations to display them.

## **Fishing Access**

Providing access for anglers to fish is an important part of the Department's fisheries program. Most water in Idaho is owned by the State, but anglers are not allowed to trespass across private property to fish. Public access must be maintained or provided in many areas. When surveyed, anglers regularly indicate that providing access for fishing is an important function of the Department. The Department spends about 5% of the fisheries budget on fishing access exclusive of the steelhead and salmon permit account. The steelhead and salmon permit account uses a portion (\$4.00) of the cost of each steelhead and salmon permit primarily to acquire, maintain, and improve access for steelhead and salmon fishing. This program will continue as funds and opportunity allows. The Department is required to spend 15% of the funds it receives from the Sport Fish Restoration Federal Aid Program (Federal Assistance) administered by the USFWS, on motorboat access projects.

Increasing commercial and private development of waterfront and streamside property tends to reduce access for all recreationists, especially anglers. The Department will continue to participate in land management actions to be a voice for anglers. Involvement in local planning and zoning decisions or state and federal planning efforts can help preserve traditional access to fishing waters. The Department will continue its programs of landowner relations, acquiring easements, leasing, or purchase and development of key areas to provide access for anglers to public waters.

Additional fishing docks and access facilities for persons with disabilities will be provided at public fishing lakes and reservoirs. Boat ramps and docks will be built or existing ones repaired or replaced where appropriate. Approximately \$2.1 million per year will be expended in the next six years for the maintenance of existing, or acquisition and development of new boating and fishing access facilities. Major funding for these projects is provided through USFWS Federal Assistance program through excise taxes on fishing and boating equipment and motorboat fuel.

The Department has participated in the construction of fishing ponds in several Idaho communities. This worthwhile program encourages cost share cooperation with private, local and governmental entities to mutually benefit sportsmen and to increase fishing opportunities for young or beginning anglers. The Department benefits by recruiting new anglers to the sport, by providing urban fishing areas close to population centers and by attaining a very high return to creel from the number of fish stocked.

Each management region of the state has a Department access specialist who works in conjunction with field fisheries managers and headquarters staff to acquire and maintain fishing access areas. About 325 sites are currently in the access program and provide fishing access, boat ramps and docks, parking, and toilet facilities. In addition, the program has constructed and developed some major fishing waters such as Deer Creek, Spring Valley, and Horsethief reservoirs. The program cooperates with local irrigation districts and others to help repair dams, spillways, and outlet works to maintain or enhance fisheries. Costs of this program are currently about \$500,000 annually. As future access sites are developed, the Department will need to consider ways to minimize maintenance requirements. Anglers and volunteers will be asked to help reduce costly maintenance so that more access opportunities can be provided. During the previous six-year plan period a long range plan was developed for the fishing and boating access program. Priorities for improving existing sites were developed in the plan and during this planning period we will complete the renovation of as many sites as possible.

### **Outfitting and Guiding**

In Idaho, professional licensed outfitters and guides provide an important function by making fishing opportunities accessible to resident and non-resident anglers. During this planning period, the Department will work to develop a Memorandum of Understanding (MOU) between the Idaho Fish and Game Commission and the Idaho Outfitters and Guides Licensing Board (IOGLB) that will describe the roles of the Commission and IOGLB in managing outfitted fishing activities. The MOU will address resource capacity (including biological limitations and social acceptability), associated biological and social issues, and overlap of land-based and river-based outfitted fishing use.

## **Other Statewide Fisheries Activities**

During this planning period, the Fisheries Bureau will undertake or provide support for a number of other key activities that fall outside managing fish, habitat, or anglers. Database management and development continues to be an important function provided by Headquarters staff with assistance from the regions. The Idaho Fish and Wildlife Information System or IFWIS, is the infrastructure developed by the Department to support the various databases. Existing databases managed as part of IFWIS include 1) Standard Stream Survey, 2) Juvenile Trapping, 3) Spawning Ground Survey, 4) StreamNet Reference, 5) Genetics, 6) Pathology, and 7) Aging. Databases currently in production by Department staff include 1) Hatchery, 2) Standard Lakes Survey, and 3) Collection Permit.

Additional activities that will be undertaken by Department staff during this planning period that have statewide relevance include biennial fishing regulation changes and opinion surveys.

## **Law Enforcement and Public Outreach**

A stated goal of the Compass is to “sustain Idaho’s fish and wildlife and the habitats upon which they depend.” Enforcing fishing rules is an identified strategy to maintain or improve fish populations to meet the demand for fishing.

Idaho’s conservation officers spend approximately 50% of their time enforcing fish and game laws and regulations through routine patrols, directed patrols, enforcement Action Plans and investigations. Conservation Officers annually contact over 80,000 licensed hunters and anglers, issuing an average of 5,000 citations and warnings. Additionally, contacts with anglers and hunters provide the conservation officer opportunities to interact, communicate, and educate the public.

Enforcement activities that address regional fishery priorities have been developed by enforcement and fishery personnel (Table 9). “Directed Patrols” allow individual officers to focus or emphasize patrol activities on federally listed species, species or populations at risk, or popular fisheries when fish are vulnerable. Enforcement Action Plans are designed to coordinate efforts of multiple officers and other personnel, addressing critical fisheries and Species of Greatest Conservation Need. Action Plans may include a multi-pronged approach to address the fishery that may include a public outreach component. Action plans measure efforts and effectiveness of patrols that will be used to develop future plans.

Waters and fisheries not listed will continue to receive attention through routine patrols as needed.



Table 9. Fishery Enforcement Priorities by Region for 2007-2012.

| <b>Panhandle Region</b>   |  |  |
|---|--|--|
| <b>Water</b>  | <b>Species</b>                           | <b>Enforcement Direction</b>   |
| Kootenai River  | Native Trout<br>White sturgeon<br>Burbot | Directed compliance patrols to restore self-sustaining populations   |
| Pend Oreille tributaries  | Bull Trout                               | Focused patrols to monitor and protect spawning bull trout. Increase outreach programs to educate the public on Bull Trout identification and the effects of unlawful harvest. |
| Regional Waters   | Non-native species                       | Increase public awareness campaign and enforcement efforts to detect and deter illegal introductions of exotic fish species.   |
| Coeur d'Alene Lake  | Kokanee                                  | Increased uniform boat patrols to educate and gain compliance of the kokanee closure   |
| Coeur d'Alene River   | Westslope cutthroat                      | Directed patrols to enforce special regulations, including catch and release sections, to improve size and numbers of cutthroat.   |
|   |  |  |
| <b>Clearwater Region</b>  |  |  |
| <b>Water</b>  | <b>Species</b>                           | <b>Enforcement Direction</b>   |
| All regional waters   | Bull trout                               | Enhanced compliance patrols and public outreach.   |
| NF-Clearwater, Lochsa, Selway Rivers and Tributaries                              | Westslope cutthroat                      | Directed patrols to gain compliance of the 2 fish limit, or catch and release special regulations protecting cutthroat trout   |
| Main Salmon and Little Salmon Rivers  | Chinook Salmon                           | Implementation of annual Action Plan to monitor the fishery  |
| Snake, Clearwater, SF-Clearwater, NF-Clearwater, Salmon, and Little Salmon Rivers | Steel head                               | Directed patrols to monitor the fishery and protect wild steel head. Increased efforts to focus on the lower bag limit on the Clearwater River.                                |
| Snake River-Hells Canyon  | White Sturgeon                           | Directed patrols and public outreach campaigns in this catch and release only fishery  |
|   |  |  |

| <b>Southwest Region</b>           |                       |  |
|-----------------------------------|-----------------------|--|
| <b>Water</b>                      | <b>Species</b>        | <b>Enforcement Direction</b>   |
| SF-Boise River                    | Bull Trout            | Implement Action Plan protecting bull trout and increasing public awareness and accurate fish identification |
|                                   | Redband trout         | Directed patrols to protect older age class wild trout   |
| NF & MF Boise River               | Bull Trout            | Implement Action Plan protecting bull trout and increasing public awareness and accurate fish identification |
| Snake River                       | White Sturgeon        | Directed patrols and public outreach campaigns in this catch and release only fishery                        |
| SF Salmon River                   | Chinook Salmon        | Implementation of annual Action Plan to monitor the fishery and protect wild salmon                          |
| Bear Valley Creek                 | Chinook Salmon        | Directed patrols and public outreach campaign to protect spawning wild salmon                                |
|                                   |                       |  |
| <b>Magic Valley Region</b>        |                       |  |
| <b>Water</b>                      | <b>Species</b>        | <b>Enforcement Direction</b>   |
| SF-Boise River                    | Bull Trout            | Directed patrols and public outreach protecting bull trout from harvest                                      |
| Jarbridge/Bruneau rivers          | Bull Trout            | Implement Action plan protecting bull trout from harvest and increasing public awareness                     |
| Snake River                       | White sturgeon        | Implement an action plan to address protection of sturgeon and public outreach                               |
| Regional Lakes/Reservoirs         | All                   | Directed compliance patrols to increase officer presence.  |
| Sublett Reservoir and Tributaries | Yellowstone cutthroat | Implement Action Plan to protect spawning cutthroat and enhance public outreach and education.               |
| Salmon Falls Cr. Res.             | All                   | Implementation of Action Plan to research the effectiveness of officer patrol methods.                       |
|                                   |                       |  |
| <b>Southeast Region</b>           |                       |  |
| <b>Water</b>                      | <b>Species</b>        | <b>Enforcement Direction</b>   |
| Daniels Reservoir                 | Trout                 | Directed compliance patrols of the special regulations   |
| Springfield Reservoir             | Trout                 | Implement Action Plan to address compliance of trophy regulations  |
| Regional Streams                  | Cutthroat trout       | Directed compliance patrols of July 1 season protecting spawning cutthroat.                                  |

| <b>Upper Snake Region</b> |   |  |
|---------------------------|---|--|
| <b>Water</b>              | <b>Species</b>  | <b>Enforcement Direction</b>   |
| SF-Snake River            | Yellowstone cutthroat                                 | Directed compliance patrols and implementation of an Action Plan to address the special regulations limiting cutthroat to catch and release. Outreach campaign to educate public of the no limit on rainbow and protection of the cutthroat stock. |
| Henrys Lake               | Yellowstone cutthroat                                 | Directed patrols of the special regulations and implementation of an Action Plan to address extended fishing hours.  |
| Little Lost River         | Bull Trout  | Implement Action Plan protecting Bull Trout and increasing public awareness of bull trout presence.  |
|                           |   |  |
| <b>Salmon Region</b>      |   |  |
| <b>Water</b>              | <b>Species</b>  | <b>Enforcement Direction</b>   |
| Upper Salmon River        | Chinook Salmon  | Implementation of Action Plan to protect spawning salmon in closed waters  |
| Salmon River              | Steelhead   | Directed patrols to monitor fishery and protect wild steelhead   |
| Lemhi River               | Redband, Cutthroat, Bull Trout, Chinook and Steelhead | Directed compliance patrols of special regulations   |
| Salmon River Drainage     | Westslope cutthroat                                   | Directed compliance patrols on rivers and streams for the catch and release fishery  |

## 2006 Angler Opinion Survey Results

### Anglers and Their Preferences

To obtain angler input for development of the 2007-2012 Fisheries Management Plan, the Department conducted a random mail survey (Appendix 2). Similar surveys were conducted in 1967, 1977, 1987, 1994, and 1999. A total of 9,600 fishing license buyers were randomly selected from the 2005 license buyer database, including 8,400 residents and 1,200 non-residents, to ensure statistically valid estimates from a minimum of 500 respondents for each of the Department's seven regions. Responses were received from 3,790 residents and 571 non-resident anglers for a 45% and 48% return rate, respectively.

It should be noted that while equal numbers of surveys were mailed out in each Department region, statewide results were weighted based on the proportion of license buyers per region.

### Angler Characteristics

Residents constitute about two-thirds of the anglers who fish in Idaho. The greatest numbers of resident anglers live in the Southwest (40%) and Panhandle (15%) regions and about 2% live in the Salmon Region (Table 10). Most non-resident anglers come from Utah and Washington.

---

Table 10. Percent of resident fishing license holders by Department region.

| Region            | 1999 | 2005 |
|-------------------|------|------|
| Panhandle         | 14   | 15   |
| Clearwater        | 10   | 9    |
| Southwest         | 38   | 40   |
| Magic Valley      | 13   | 12   |
| Southeast         | 12   | 11   |
| Upper Snake River | 12   | 11   |
| Salmon            | 1    | 2    |

(407,731 individuals purchased Idaho fishing licenses in 2005).

Considering residents and non-residents, the average age of respondents was 49 years. Over 78% of respondents were male. Over 50% of respondents have fished more than 20 years in Idaho. Most anglers get information on fishing from friends and family, fishing

tackle shops, or newspapers. Less than 5% seek information from Department offices while over 11% use the Department's internet website. About 47% of respondents claimed they use the internet at home to research information on fishing. Anglers most often fish with spouses, friends, and children.

Survey respondents said that 80% of the children under the age of 14 that are living at home fish, a significant increase from 1987 when only 30% under the age of 14 fished, and about an 8% increase over the 1999 survey.

### Fishing Habits

Trout remain the most sought after fish in Idaho (Table 11). Anglers were asked how often (never, occasionally, often) they fished for a host of fish species over the last five years. Combined, over 90% of anglers listed trout as a species they "occasionally" or "often" fished for. Other species that were occasionally or often sought by anglers included bass (60%), steelhead (49%), kokanee (44%), bluegill/perch/crappie combined (56%), and "anything that bites" (69%). Other fish species that were either occasionally or often fished for combined included whitefish (23%), Chinook salmon (32%), sturgeon (15%), and walleye (13%). The majority of respondents were bank anglers and the most used fishing gear was bait and artificial lures.

Table 11. Most preferred species of fish sought in Idaho by total anglers from 2001-2005.

| Type of fish                   | Never | Occasionally | Often |
|--------------------------------|-------|--------------|-------|
| Bluegill/perch/crappie         | 44    | 42           | 14    |
| Bass                           | 40    | 40           | 20    |
| Walleye                        | 87    | 11           | 2     |
| Catfish/bullhead               | 64    | 28           | 8     |
| Steelhead                      | 51    | 34           | 15    |
| Chinook salmon                 | 68    | 24           | 8     |
| Trout                          | 6     | 32           | 62    |
| Kokanee                        | 56    | 30           | 14    |
| Whitefish                      | 77    | 18           | 5     |
| Sturgeon                       | 85    | 12           | 3     |
| Carp/sucker/other nongame fish | 80    | 16           | 4     |
| Tiger muskie/pike              | 88    | 9            | 3     |
| Anything that bites            | 31    | 34           | 35    |

The top five reasons that anglers use when deciding where to fish in declining order of importance are natural beauty of area, presence of favorite fish, solitude, chance to catch big fish, and the chance to catch a lot of fish. There were no major differences apparent regarding preferred fish species or important reasons for fishing between resident and non-resident anglers.

## **Fisheries Management**

Idaho has roughly 26,000 miles of fishable streams and 202 major lowland lakes and reservoirs. Habitat conditions have a great influence on fish populations and strongly dictate the species and numbers that can be supported. Lowland lakes and reservoirs and large rivers generally support many kinds of fish including bass, trout, and nongame species. Small, colder streams and high elevation lakes typically only support a few species of fish. Different management strategies involving stocking and special fishing rules are used to best provide the diversity of fishing that anglers want.

Fishing rules are a primary tool used by the Department to manage fish populations and provide different types of angling experiences. Establishing more restrictive fishing rules generally is well accepted by the angling public, especially if they understand why it is being done, but it is not without controversy.

To assist in providing guidance to the Department in managing Idaho fisheries, the angler opinion survey included a number of questions about the types of fishing experiences desired by anglers and how they feel about special regulations in fisheries management. Additionally, anglers were asked to weigh in on the issues of fishing contests and tournaments, bass management, and anadromous fishery management.

As part of its overall responsibilities for fisheries management in Idaho, the Department carries out a number of activities desired by the public. The public was asked how important a number of these activities are to them. The following 10 fisheries management activities were judged to be very important to somewhat important in declining order of importance by all anglers combined (resident and non-resident):

1. Protecting and improving fish habitat
2. Enforcing fishing regulations
3. Managing for native trout fisheries
4. Maintaining/improving existing fishing access sites and boat ramps
5. Providing places for family fishing
6. Managing for quality/trophy trout in rivers and streams
7. Managing quality/trophy trout in lakes and reservoirs
8. Providing fisheries information
9. Managing catch-and-keep trout fisheries
10. Steelhead fishing in rivers

Both resident and non-resident anglers that were surveyed cited protecting and improving fish habitat and enforcing fishing regulations as their most important Department management activities.

Overall, anglers believe the Department is doing a fair to good job in a number of fisheries management activities.

## **Special Regulations in Fisheries Management**

### **Quality and Trophy Size Management**

In previous angler opinion surveys, the Department has asked anglers about the use of quality and trophy management to produce more and larger trout and bass to catch but not necessarily harvest fish. Generally, more anglers supported these rules than not. In the 2006 angler opinion survey, the Department again quizzed anglers about their opinions regarding quality and trophy management for trout and bass. When asked if the Department changed regulations on a stream or lake requiring an angler to release all of the fish caught, how likely were they to fish at that location, 47% said they would be very likely to somewhat likely to fish there, while 45% responded they were unlikely to very unlikely to fish there. Angler responses differed somewhat when posed with the question, "If a stream or lake was managed by the Department to provide the opportunity to catch trophy size fish, how likely would you fish that stream or lake even if you had to release all of the fish you caught?" About 58% of respondents said they were very likely to somewhat likely to fish a stream a lake under this scenario, while 34% said they were somewhat unlikely to very unlikely to fish. Anglers favored fishing regulations that produce quality and trophy size fish even if it meant reducing the number of fish that could be harvested.

Resident anglers were much less likely to continue fishing at a stream or lake where the Department changed regulations requiring the release of all fish caught than non-resident anglers (41% vs. 62%). Similarly regarding the question: "If a stream or lake was managed by the Department to provide the opportunity to catch trophy size fish, how likely would you fish that stream or lake even if you had to release all of the fish you caught?", non-resident anglers were much more favorable of this regulation scenario than resident anglers (70% vs. 52%).

### **Methods to Reduce Harvest and Conflict**

Anglers were asked about various ways to reduce harvest if trout populations in rivers and streams were being over-harvested. They largely did not support restricting angler use or shortening the fishing season. However, they did support restricting the number of trout that could be harvested, restricting the size of trout that could be kept, and restricting the type of gear. Resident and non-resident angler responses largely were in agreement except that non-residents (68%) were much more supportive of gear restrictions than resident anglers (48%) as a way to reduce harvest of trout.

The Department asked a series of questions regarding potential management actions designed to reduce conflicts among anglers. Overall, anglers did not favor limited entry permits as an alternative to special regulations. They appeared more supportive of special regulations as a means to reduce angler participation and crowding. However, resident and non-resident anglers differed on the questions pertaining to the use of special regulations to reduce conflicts. Non-residents were much more supportive of the use of special regulations than were residents.

### **Bass Management**

Fishing for bass in Idaho continues to be very popular, generally ranking second only to fishing for trout. The Department instituted statewide 12-inch minimum length regulations

for bass in 1986 to increase numbers of larger bass. Certain bass fisheries are also managed for quality and trophy options. Restrictive regulations are used at these fisheries to provide better catch rates and larger fish (>16 inches). Based on the angler opinion survey, while less than 50% of anglers do not fish for either largemouth or smallmouth bass, roughly 63% have a future interest in fishing for both species.

Anglers believe the Department should attempt to develop and manage more largemouth bass waters where feasible. Respondents to the survey also suggest that the Department should consider managing largemouth bass differently than smallmouth bass. Results from the survey on the issue of bass management showed no apparent differences between resident and non-resident anglers.

### **Fishing Contests and Tournaments**

Anglers expressed their opinions on fishing contests and tournaments in Idaho. About 54% of anglers told us they were somewhat unlikely to very unlikely to cancel their fishing trip if they knew that a contest or tournament was going to take place on the body of water they planned to fish. Over 70% of anglers told us they would fish somewhere else, and a somewhat lesser majority answered they would either change their fishing time or adjust their boat ramp location.

The Department asked anglers to express their level of agreement or disagreement with allowing fishing tournaments on various types of fisheries. By a majority, anglers answered that they do not favor fish tournaments on the following types of fisheries:

1. Steelhead on large rivers using boats
2. Steelhead on small rivers
3. Chinook salmon on large rivers using boats
4. Chinook salmon on small rivers
5. Catch-and-release trout waters using float boats
6. Catch-and-release trout waters by wading
7. Quality trout waters using float boats
8. Quality trout waters by wading
9. Backcountry trout waters

Anglers are more supportive of the Department allowing fishing tournaments directed at bass in lakes, and trophy fishing in large lakes, but apparently feel otherwise about permitting tournaments directed at trout, salmon, and steelhead.

The Department currently allows the harvest of non-native trout during a fishing tournament on rivers and streams where there would be a conservation benefit to native trout. Anglers were asked their opinion about “non-profit” versus “for-profit commercial” fishing tournaments that are designed to benefit native trout fisheries. Anglers are largely in favor of non-profit tournaments that benefit native trout fisheries but evenly divided regarding for-profit type tournaments. We did not detect any major differences of opinion between resident and non-resident anglers regarding contests and tournaments.



## **Salmon and Steelhead Fisheries**

In the angler opinion survey, the Department asked a number of questions regarding fishing for Chinook salmon and steelhead in Idaho. Approximately 27% and 44% of respondents reported fishing for Chinook salmon and steelhead, respectively. Given a choice of management options when considering whether to offer recreational fisheries for hatchery spring/summer Chinook salmon when excess hatchery fish are not abundant, anglers supported keeping the fishery closed or managing for a longer season by reducing the bag limit to one fish. However, when asked how important the daily bag limit was when deciding whether or not to fish for steelhead or Chinook salmon, the majority of anglers told us the daily bag limit was somewhat important to very important in making their decision.

The Department asked anglers specific questions regarding the steelhead fishing framework for the Clearwater River drainage. About 8.5% of the respondents participated in the catch-and-release steelhead fishery. Overall, anglers are generally satisfied with the season framework for steelhead angling instituted by the Department on the Clearwater River drainage. They also support the Department managing additional areas for non-motorized steelhead fishing.

Anglers were asked by the Department how important salmon recovery was to them both before and after the significant Chinook salmon fisheries held in Idaho during 2001 and 2002. While a majority of anglers believed salmon recovery was somewhat important to very important before and after the record 2001 and 2002 fisheries, there was not a significant shift in either direction regarding angler beliefs following the fisheries.

## **Public Review of the 2007-2012 Fisheries Management Plan**

The Department solicited public review of our fisheries management programs on two occasions to assist with development of the 2007-2012 Fisheries Management Plan. We received comments via electronic mail, the Department's website (<http://fishandgame.idaho.gov>), telephone, standard mail, and comments written on angler opinion surveys.

Anglers around the state made a number of suggestions to the Department on issues they would like to see in the fisheries management program. The Department makes many decisions primarily based on what is best for the resource. Other decisions are made almost entirely as a matter of public or social preference. It is important for the Department to hear the views of all anglers, not just organized groups or anglers with special fishery interests. A survey, such as the random mail survey, provides an unbiased picture of the angling public as a whole. For the last few angler opinion surveys including 2006, the majority of anglers told us that fish habitat protection was their number one priority for the Department. Based on that type of feedback, in 1991 the Department established positions across the state to serve as liaisons in dealing with fish habitat protection. The habitat protection program has been well received by the public and other agencies. Because of the continued strong support for protecting fish habitat from our public, the Department proposes to expand our efforts in habitat restoration on a statewide basis.

## **Comments of Agencies and Indian Tribes**

The Department asked state and federal resource agencies (including neighboring state fish and wildlife agencies) and Idaho Indian Tribes to provide input on development of the 2007-2012 Fisheries Management Plan. Where appropriate, their input is reflected in this plan. A key component of the comments received is the need for continued and improved collaboration and cooperation among agencies, Tribes, and the Department in managing land and water resources that affect the status and health of fish populations in Idaho. The Department will continue its strong cooperative relationships with agency and Tribal partners in land and water management issues.

## **Statewide Issues and Strategies**

Based on the 2006 Angler Opinion Survey, angler input given on this plan, and Department priorities, the following are the major areas of concern and program direction we intend to pursue during this planning period. Along with each major program we provide the appropriate strategies from the Compass that we will pursue to attain success.

1. Protecting and restoring fish habitat.
2. Providing a diversity of angling opportunities.
3. Providing family fishing opportunities managed as consumptive fisheries with simple fishing rules.
4. Providing quality and trophy fishing opportunities for trout and bass.
5. Protecting and enhancing native trout populations.
6. Maintaining hatchery trout programs in streams, lakes, and reservoirs.
7. Protecting and enhancing salmon and steelhead populations.
8. Providing fishing information to the public.
9. Improving the condition of boating and fishing access sites.
10. Recruiting and retaining new anglers.
11. Continuing efforts to make fishing rules easier to read and understand.
12. Improving understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species.
13. Developing management plans for native game and nongame fish species.

## **1. Protecting and Restoring Fish Habitat**

As in past surveys, the angling public responded that the Department should continue its emphasis on habitat protection. We plan to continue to work with state and federal agencies, private landowners, industry, non-governmental organizations, Indian tribes, and local and county governments to reduce impacts of land-disturbing activities, improve land and water management practices, and to provide water quality and habitat capable of supporting native and introduced fish populations. The Department will emphasize water management issues in water bodies that provide important recreational fisheries or support native fish populations.

The Department has environmental staff biologists in six of its seven regions. Environmental staff biologists annually review hundreds of land and water management proposals and make recommendations to avoid or mitigate impacts to fish habitat. They collaborate and coordinate with other agencies and private landowners to promote and consider fish habitat issues during the planning process for land and water management development. During this planning period, the Department will continue to support these important efforts.

The Department will continue to solicit the assistance of volunteer help in habitat protection or rehabilitation programs during this planning period. This has increased public awareness of the importance of fish habitat and expanded the public's feeling of ownership.

During this planning period, the Department will seek to enhance its involvement in fish habitat restoration. Historically, the Department has been involved to some extent in habitat restoration projects, most notably in the Salmon River Basin. We will explore options for dedicating personnel and funding to fish habitat restoration efforts on a prioritized drainage and stream basis.

There are a number of federal programs where available funding can be used on fish habitat enhancement projects in Idaho. These include the Wildlife Habitat Incentives Program, Environmental Quality Incentive Program, Conservation Security Program, Pacific Salmon Coastal Restoration Fund, Landowner Incentive Program, State Wildlife Grants, Fish Restoration Irrigation Mitigation Act, U.S. Fish and Wildlife Service Partners for Wildlife and Special Grants, and in the near future, the Western Native Trout Initiative.

The Department emphasis for habitat restoration will be on cost-effective actions that will have measurable benefits on native fish species as well as valuable fisheries supported by introduced species. Our approach will be pragmatic, and we will pursue and implement habitat restoration projects as much as possible with other cooperators to share funds and responsibilities. The Department will work with other agencies, Indian Tribes, private landowners, irrigators, non-governmental organizations, and others to seek collaborative and creative ways to secure funding and leverage available monies. The Department intends to pursue restoration projects on a prioritized basis as much as possible; however, significant opportunistic projects will be considered as well.

## **Compass Strategies**

--Identify species with the greatest need for conservation action. --

Restore native species where they have declined or disappeared.

--Assist public and private landowners in the conservation, restoration, and enhancement of native fish, wildlife, and plants.

--Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish, wildlife, and plants.

--Develop measurable and achievable management objectives for fish and wildlife habitat.

--Assess and prioritize habitats for protection, restoration, and enhancement.

--Provide information, analysis, and recommendations to improve fish and wildlife habitats and reduce impacts from land and water use and development.

--Seek mitigation for adverse impacts to fish and wildlife.

--Provide incentives and assistance to landowners to improve habitat on private land.

--Work in cooperation with other agencies and local governments to prevent the introduction and spread of invasive species.

--Develop partnerships with landowners, land management agencies, and others to restore, enhance, and conserve fish and wildlife habitats.

--Obtain funding through grants and partnerships that support the Department's mission. ----

--Develop new funding for fish and wildlife programs that benefit all Idaho citizens.

## **2. Providing a Diversity of Angling Opportunities**

Anglers informed us that while they support special regulations as a tool to protect and enhance fish populations, they also want us to maintain harvest opportunities. Idaho anglers support a diversified mix of fishing opportunities. A mixture of hatchery and wild trout management and general, quality, and trophy management regulations for cold and warmwater species will be used to provide diverse angling opportunities within geographic areas. A diversity of angling opportunity, especially near population centers, will encourage greater use and increased angler satisfaction.

Providing a diversity of fishing experiences, ranging from urban to wilderness, from areas with highly social fisheries (such as ice fishing or family fishing waters) to fisheries that provide opportunities for solitude (e.g., alpine lakes or remote streams), and fisheries that lend themselves to guiding and outfitting to fisheries that provide relative freedom for competition with outfitted parties, is also a means by which the Department can meet the demands of a broad spectrum of anglers.

The Department currently stocks 19 different fish species and 16 additional "strains" to

provide a diversity of angling opportunities. Some of these species may be proposed for introduction in lakes and reservoirs to continue providing a diversity of species available within various geographical areas. Other game fish and forage fish species may be considered for introduction into Idaho waters on a case-by-case basis. However, intensive studies of new species introductions and their potential effects on wild trout and other existing species, particularly native species, will be made prior to any proposed introductions.

### **Compass Strategies**

--Provide opportunities and experiences based on demand, Idaho's landscapes, and fish and wildlife resources.

--Stock and transplant fish and wildlife where appropriate and cost-effective.

--Develop regulations that increase opportunity and variety while reducing conflicts between user groups.

--Assess participation, demand, and satisfaction with hunting, fishing, and trapping opportunities. Adjust management to achieve objectives.

--Collaborate with land management agencies to provide a variety of recreational opportunities, manage access, reduce impacts and conflicts, and achieve objectives for recreation and fish and wildlife populations.

--Provide fish and wildlife based recreation on lands owned or management by the Department.

### **3. Providing Family Fishing Opportunities Managed as Consumptive Fisheries with Simple Fishing Rules.**

Based on the Angler Opinion Survey, providing opportunities for family fishing is one of the most preferred Department management programs. In response to anglers' requests for more family-oriented fishing opportunities and simplified rules, the Department developed Family Fishing Water regulations. In these areas, there are year-round seasons, a general six-fish limit for trout, bass, walleye, and pike and no bag limit on other species. There are no length limits or tackle restrictions. There are designated Family Fishing Waters located in every region of the state.

Providing information on available fishing areas and increasing angler access will serve to increase family fishing opportunities. During the past planning period, the Department developed or renovated several fishing ponds. The Department also developed access guides for Family Fishing Waters by region. During this six-year period the Department will continue to identify and develop new fishing waters near populated areas to provide increased fishing opportunities without detracting from existing hatchery-supported fisheries. This will benefit family groups and novice anglers who traditionally do not travel far to participate in fishing activities.

### **Compass Strategies**

--Provide opportunities specific to needs of beginners, youth, people with disabilities, and families.

--Develop regulations that increase opportunity and variety while reducing conflicts between user groups.

--Assess participation, demand, and satisfaction with hunting, fishing, and trapping opportunities. Adjust management to achieve objectives.

--Provide fish and wildlife based recreation on lands owned or managed by the Department.

--Provide specialized access opportunities for people with disabilities.

--Provide user-friendly regulations and information.

#### **4. Providing Quality and Trophy Fishing Opportunities for Trout and Bass**

Anglers continue to support Quality and Trophy management on Idaho waters. A quality or trophy fishery is one specifically managed to limit harvest in some way to provide enhanced catch rates and/or larger fish. Anglers favored fishing regulations that produce quality and trophy size fish understanding that it meant reducing the number of fish that could be harvested. Anglers did not support limiting access to areas as a means of reducing harvest so the Department will not consider this idea.

During this six-year period, the Department proposes to manage existing quality and trophy waters for those specific purposes and establish additional quality and trophy waters in areas where demand exists. The Department will explore the opportunity for creating additional largemouth bass fisheries. The demand for trophy trout fishing opportunities is particularly high in southwest Idaho. The Department will work towards satisfying that demand by acquisition of new waters or development of existing waters.

#### **Compass Strategies**

--Provide opportunities and experiences based on demand, Idaho's landscapes, and fish and wildlife resources.

--Stock and transplant fish and wildlife where appropriate and cost effective.

--Develop regulations that increase opportunity and variety while reducing conflicts between user groups.

--Assess participation, demand, and satisfaction with hunting, fishing, and trapping opportunities. Adjust management to achieve objectives.

--Provide fish and wildlife based recreation on lands owned or managed by the Department.

--Assess opportunities to access private land.

--Enforce hunting, fishing, and trapping regulations.

## 5. Protecting and Enhancing Native Trout Populations

During this six-year period, the Department will continue to emphasize protection and enhancement of native trout. Anglers largely support protecting and improving fish habitat and managing for native trout fisheries. The Department's native trout program historically was largely based on protecting existing habitat quality and to a lesser degree, enhancing habitat to improve wild trout populations. As mentioned previously, the Department wants to expand its involvement in habitat enhancement efforts statewide. The Department will continue to seek collaborative ways to do this.

The Department will manage for native trout in streams and lakes with the potential to support acceptable fisheries on native trout. This may involve varying levels of harvest regulation necessary to maintain catch rates and protect native trout. Additional measures may be necessary in special circumstances to protect spawning native trout where they might be especially vulnerable to harvest. The Department will also strive to control overharvest and mortality of native trout through nonregulatory means. Public information materials and programs will be used to promote nonconsumptive values of native trout and educate anglers on release methods to minimize hooking mortality.

The Department continues to undertake measures to restore native trout access to streams where culverts, diversions, dams, and other manmade structures have blocked passage and access to historically spawning and rearing areas. The Department will continue to advocate that entities responsible for development that impacts the connectivity of rivers and streams should be responsible for maintaining or restoring fish passage for native trout and other native aquatic fauna. The Department will encourage passage facilities and screens on new structures and will work with owners of existing structures to improve native trout access to important habitats.

### **Compass Strategies**

- Develop measurable and achievable management objectives for game species.
  - Set harvest rules and regulations to achieve long-term sustainability of populations and habitat.
  - Enforce fishing, hunting, and trapping regulations.
  - Use artificial propagation, stocking, and translocation where appropriate and cost effective.
  - Intentionally introduce non-native fish and wildlife only if they do not pose genetic, competitive, or predatory risks to native or desirable fish and wildlife.
  - Inventory, monitor, and assess the status of native fish, wildlife, and plants and the habitats upon which they depend.
  - Identify species with the greatest need for conservation action. --
- Restore native species where they have declined or disappeared.
- Provide information on the distribution, abundance, and conservation of native fish, wildlife, and plants.

--Assist public and private landowners in the conservation, restoration, and enhancement of native fish, wildlife, and plants.

--Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish, wildlife, and plants.

--Develop measurable and achievable management objectives for fish and wildlife habitat. --

Assess and prioritize habitats for protection, restoration, or enhancement.

--Provide information, analysis, and recommendations to improve fish and wildlife habitats and reduce impacts from land and water use and development.

--Seek mitigation for adverse impacts to fish and wildlife.

--Provide incentives and assistance to landowners to improve habitat on private land.

--Work in cooperation with other agencies and local governments to prevent the introduction and spread of invasive species.

--Develop partnerships with landowners, land management agencies, and others to restore, enhance, and conserve fish and wildlife habitats.

--Monitor fish and wildlife populations for disease.

--Prohibit the importation of fish and wildlife that pose an unacceptable disease risk.

--Ensure that propagation, stocking, and translocation of fish and wildlife do not contribute to the introduction or transmission of diseases.

--Enhance and enforce laws to protect fish and wildlife populations from disease.

--Reduce or eliminate the risk of transmission of disease between captive and free-ranging fish and wildlife.

--Develop risk assessment, public information, and response strategies for fish and wildlife disease threats.

--Collaborate with other agencies and education institutions on disease control, prevention, and research.

--Promote hunting, fishing, and trapping as legitimate uses of fish and wildlife and compatible with conservation of all wildlife.

--Monitor public support for fish and wildlife recreation and management.

--Publicize resource management issues and Department programs that address them.

--Develop cooperative efforts to gather and exchange information on fish, wildlife, and plants.



## **6. Maintaining Hatchery Trout Programs in Streams, Lakes, and Reservoirs**

The Department proposes to maintain its current emphasis on hatchery trout programs in streams where there is convenient angler access, return to anglers is good, and stocking does not negatively impact native species. Where hatchery fish are stocked in waters accessible to wild/native fish, all fish stocked will be those subjected to sterilization at the egg stage unless there is a need to supplement wild/native fish with hatchery stocks for conservation purposes. Streams may be designated as "put-and-take" trout streams, which will be identified in brochures and maps made available to anglers. Put-and-take waters are expected to return 40% of stocked trout to the angler catch.

To enhance hatchery trout programs in lakes and reservoirs, the Department will continue planting larger numbers of fingerling and 5- to 7-inch put-and-grow sized trout in the fall where natural food and overwinter survival conditions are good. Put-and-grow fisheries are expected to return 100% of the weight stocked to the angler catch by number.

Where harvest restrictions are necessary to maintain or restore wild/native trout populations in streams, lakes, and reservoirs, harvest opportunity may be provided by allowing anglers to harvest marked hatchery fish.

### **Compass Strategies**

--Use artificial propagation, stocking, and translocation where appropriate and cost-effective.

--Intentionally introduce non-native fish and wildlife only if they do not pose genetic, competitive, or predatory risks to native or desirable fish and wildlife.

--Monitor fish and wildlife populations for disease.

--Prohibit the importation of fish and wildlife that pose an unacceptable disease risk.

--Ensure that propagation, stocking, and translocation of fish and wildlife do not contribute to the introduction or transmission of diseases.

--Reduce or eliminate the risk of transmission of disease between captive and free-ranging fish and wildlife.

--Provide opportunities and experiences based on demand, Idaho's landscapes, and fish and wildlife resources.

--Provide opportunities specific to the needs of beginners, youth, people with disabilities, and families.

--Stock and transplant fish and wildlife where appropriate and cost-effective.

--Assess participation, demand, and satisfaction with hunting, fishing, and trapping opportunities. Adjust management to achieve objectives.

--Continue to use revenue generated by hunters, anglers, and trappers for programs that benefit hunting, fishing, and trapping.

## **7. Protecting and Restoring Salmon and Steelhead Populations**

The range (Figure 2) and abundance (Figure 3) of anadromous salmon and steelhead in Idaho are reduced from historical conditions. About 62% of Idaho's historic spawning and rearing habitat for spring and summer Chinook salmon remains available. A similar amount of steelhead habitat remains. Current habitat is capable of producing up to an estimated 6.7 million spring/summer Chinook smolts and 3.1 million steelhead smolts at 70% of rearing capacity (IDFG 1992). Approximately 25% of the historical surface area of sockeye salmon nursery lakes in Idaho remains accessible. The greatest loss of production habitat has occurred for Snake River fall Chinook salmon, for which only 17% of the historical habitat is currently accessible. Approximately 30% of Idaho's streams inhabited by salmon and steelhead are located within areas designated as wilderness or waterways classified as wild and scenic rivers. This increases to over 50% with unroaded and undeveloped drainages included.

Within the existing range of salmon and steelhead, the reduction in abundance of naturally produced salmon and steelhead has been severe. Recently, there has been considerable variability in annual abundance, influenced by changes in ocean productivity and hydrosystem migration conditions. As an example, the 5-year average redd count for spring Chinook in the Middle Fork Salmon River, a wilderness sanctuary for native spring Chinook with preservation management, has decreased from 1,575 (1957 - 1961) to 142 (1995 - 1999), a 91% decline. Despite an improvement in the recent 5 year average (2001-2005) to 676 redds, this still represents a 57% decline from the 1957-61 period.

The Department's regulatory authority is limited to hatchery, harvest, and fish management activities to rebuild salmon and steelhead to meet the long-term goal and objectives. Regional efforts to achieve improved survival of Snake River salmon and steelhead intensified during the 1990s and continue as an important management activity. Improvement in juvenile and adult survival associated with migration through the lower Snake and Columbia Rivers provide our best opportunity for enhancement of all salmon and steelhead populations, wild or hatchery, in Idaho (Idaho Fish and Game Commission Policy, May 8, 1998). The Department will continue to use its technical expertise directed at in season and longer-term assessment to explore opportunities to improve survival of juvenile and adult salmon, steelhead, and as more information is available, lamprey. The role of the Department is to help strengthen the scientific foundation from which various management alternatives are considered and to make biologically based recommendations to the Commission, State of Idaho, National Marine Fisheries Service (NMFS), and other policy makers.

The four "H's" of hydropower development, habitat alterations, hatchery effects, and harvest have resulted in man-caused adverse effects to salmon and steelhead populations. However, the mainstem dam and reservoir system in the lower Snake and Columbia rivers continues to be the primary man-caused factor limiting recovery of Idaho's wild salmon and steelhead. To date, barging juvenile salmon and steelhead as a mitigation strategy for the dams and reservoirs has not provided sufficient survival improvement to rebuild salmon and steelhead populations.

As noted in the previous Fisheries Management Plan, in 1998 the Fish and Game Commission supported consideration of a natural river strategy in the lower Snake River as the best biological option at that time for regional consideration for recovery planning

(Fish and Game Commission Policy May 8, 1998). But, recognizing that the option would not likely be socially or politically acceptable, the Commission also directed staff to assess alternative recovery strategies adopted for implementation. Via life cycle survival studies, continuing transportation evaluation, and studies of new dam configurations and operations, Department staff continues the Commission-directed assessments.

The Department anticipates incremental improvement from changes in the configuration of federal dams and reservoirs during this planning period, largely through installation of removable spillway weirs at lower Snake River dams. Key regional decisions about important aspects of operations that affect dam and reservoir passage, such as flow and spill are expected during this planning period via a new Biological Opinion for the Columbia and Snake River federal hydrosystem and NMFS recovery plans. Additional expected "out of Idaho" actions affecting the migration corridor include predator controls for out-of-balance fish, bird, and mammal populations, and estuary improvements. We anticipate a continued need for use of cold water from Dworshak Reservoir to reduce temperature experienced by summer migrants in the lower Snake River. In addition, we expect continued implementation of Upper Snake River flow augmentation that is consistent with Idaho statutes, key state and tribal agreements, an Upper Snake River Biological Opinion for Bureau of Reclamation projects, and Idaho Power relicensing terms. The focus of this flow augmentation is expected to be the summer migration period.

The Department will focus expertise on both in season fish passage recommendations and on continuing assessment of transportation and river migration conditions. This work will be directed at determining the best balance between in river migration and transportation and defining the migration conditions (with new configuration aspects) that provide optimum life-cycle survival. We expect that transportation evaluation that was initiated in the 1990s and focuses on spring migrants (spring/summer Chinook and steelhead) will expand to include summer migrants (fall Chinook) to refine information about the survival effects of transportation versus the survival effects of a river migration strategy. Unless compelling evidence becomes available, the position of the Department remains to spread the risk between transportation and keeping fish in the river using whatever tools are available to create optimal in river migration conditions. However, we expect years such as 2001 when extremely poor in river conditions led the Department to generally support a maximized transport strategy for both spring and summer migrants so annual in season conditions will continue to play a crucial role in migration recommendations. Key to near- and long-term actions will be risk assessment to judge effectiveness of actions within the context of environmental variability (State of Idaho 2000), which the Department will continue to provide.

Habitat degradation for some specific populations of salmon and steelhead has also contributed to the overall decline. Mixed stock harvest for fall Chinook in the Columbia River is currently not sensitive to run size and remains much higher than harvest rates on spring/summer Chinook or steelhead. Drought and poor ocean rearing conditions during the early to mid-1990s, and burgeoning avian and pinniped predator populations, have exacerbated the mortality problems for anadromous salmon and steelhead. Since the last management period, many hatchery populations have also been included in ESA listings. A notable exception is that natural and hatchery spring Chinook salmon in the Clearwater River drainage were not listed because they were considered the product of previous reintroduction. The NMFS is the federal authority in charge of ESA-listed Snake River salmon and steelhead recovery. The result of federal listings is that actions to protect or enhance Idaho's salmon and steelhead in Idaho and the Columbia Basin must be consistent with the federal recovery plan and standards.

The Department administers and implements hatchery programs to fulfill fishery mitigation responsibilities from private and federal hydroelectric dams. Hatchery facilities that produce a total of about 20 million salmon and steelhead smolts are in operation as partial mitigation for losses to Idaho runs. The steelhead hatchery program generally meets production goals and provides a consistent fishery. However, low smolt-to-adult survival of spring and summer Chinook salmon smolts produced by Idaho hatcheries has not returned enough adults in many years to meet program production goals or provide harvest opportunity. During the last planning period, return of hatchery Chinook improved enough to provide annual fisheries, although the magnitude of the fisheries varied widely (Figure 4) and the return generally has not met federally identified mitigation goals.

Another key role of the hatcheries continuing during this planning period is supporting evaluation of supplementing natural salmon and steelhead populations. The Department will complete a large-scale Chinook supplementation evaluation in 2012. Recommendations from the analyses of this and other supplementation programs are expected at the end of this planning period that will help determine the efficacy of using our current hatcheries to aid longer-term recovery, guide production facility investments, and still provide consumptive fisheries.

The Department expects to continue the captive breeding program to perpetuate the few Snake River sockeye in existence in Redfish, Alturas, and Pettit lakes in the Stanley Basin. This program, initiated in 1991, is considered a gene preservation effort. Eggs from adults spawned in the hatchery are incubated and reared in the hatchery for three to five years to adulthood, and then they are spawned in the hatchery. This rearing strategy bypasses mortality associated with migration to the ocean and back and adult ocean rearing. During this planning period, the captive broodstock program will continue but there will also be an expansion in the program to rear more smolts that will be released into the natural environment, rather than reared to adulthood in the hatchery. The intent is to improve the overall fitness of the sockeye hatchery broodstock by including adults that have survived seaward migration and ocean maturation. During this planning period we also expect management to focus on strategies to improve the success of sockeye adults, which enter the Snake River, in completing their migration to the Stanley Basin.

Due to historic low spring and summer Chinook adult returns in 1994-95, the Department initiated additional preservation experiments to test the efficacy of captive techniques. Experiments have been conducted with Chinook salmon in the East Fork of the Salmon River, the West Fork of the Yankee Fork River, and the Lemhi River in conjunction with tribal and federal fish managers. Similar to the captive breeding program for sockeye, juvenile fish are reared to maturity in a hatchery, but are released as adults to spawn naturally. This technique is called "captive rearing." The Department expects to complete these experiments during the planning period and analytical results will also provide guidance about future intervention strategies.

During the last planning period, steelhead supplementation actions were implemented using hatchery stock that did not originate from the target population. The Department conducted outplants of juvenile and adults from this hatchery production in areas where wild steelhead have essentially been extirpated, with an intent to increase naturally returning steelhead, in part to use as future broodstock. To date, adult returns have not been sufficient for the broodstock transition, but this strategy will continue to be evaluated during this planning period. A steelhead supplementation program for the East Fork of the Salmon River using natural steelhead collected there as broodstock will be also evaluated to inform future actions.

The Department will continue to test hatchery intervention strategies and implement them where necessary and ecologically prudent to provide a safety net for selected populations at risk. Implementation of these measures must carefully balance the genetic and demographic risks of these unproven hatchery intervention strategies with the imminent risk of extinction. Because of uncertainties in approach and effectiveness of hatchery intervention strategies, as well as the need for evaluation, the Department will implement a suite of approaches coupled with continued support of anadromous refuge areas without hatchery intervention. This approach will guide Department assessment of supplementation proposals initiated by tribal or federal managers.

The wild salmon and steelhead management program, which includes a diversity of genetic refugia, will be maintained. Idaho's large areas of natural, native fish production, much of which is in areas classified as wilderness or Wild and Scenic Rivers, are critical to genetic preservation and evaluation of wild fish production and trends. These areas also act as controls for evaluating supplementation actions and provide needed insight about the effects of environmental variability versus management actions.

Hatchery salmon and steelhead programs that provide fishery mitigation have been modified to reduce potential ecological effects to listed fish and to provide greater program benefit. Modifications include altering release sites and numbers. This has been referred to as "hatchery reform" and is an ongoing process as new information is gained about hatchery and natural fish interactions. Work will continue on hatchery priorities such as improvement of fish health and smolt quality factors most likely associated with early migration mortality. The Department will continue to emphasize the important fishery mitigation role of most of Idaho's hatcheries and will not support exclusive use for recovery purposes.

Selective sport fisheries that safeguard naturally produced salmon and steelhead while providing fishing opportunity for hatchery fish will be designed and implemented when sufficient surpluses of adult hatchery fish return. The primary implementation tool for selective fisheries will remain adipose fin-clipping hatchery Chinook and steelhead targeted for sport harvest. Chinook salmon fisheries with a magnitude and variability similar to 2002-2006 are projected during this plan cycle (Figure 4). Steelhead harvest should remain within the range of the last five years, averaging 49% of the hatchery steelhead run crossing Lower Granite Dam (Figure 5). The Department will continue to use offsite fishery areas if necessary to reduce impacts to listed species while providing fishing opportunity. This can be accomplished by transporting surplus hatchery fish to non-anadromous water such as the Boise River for fishing.

Although the Department has little direct authority regarding anadromous fish habitat in Idaho, the goal will be to work with federal, state, and private landowners to first maintain current good quality habitat and fish populations to use it and secondly to improve habitat that is limiting productivity. An area of emphasis will be improvement of tributary streamflow and associated connectivity, and improved thermal regimes in the upper Salmon River drainage, including the Lemhi and Pahsimeroi rivers. The Department will use the screen mitigation program resources and expertise to work with landowners to develop legal, practical solutions to increase fish survival such as additional screens and diversion consolidation.

The Department will seek to ensure sufficient returns of anadromous fish to Idaho waters through negotiation or legal means to perpetuate both naturally- and hatchery-produced runs and to allow sport harvest in Idaho. Efforts will be continued in regional and Idaho forums to limit harvest impacts on weak stocks and to ensure a fair allocation for Idaho of the harvestable surplus of anadromous fish among the various Columbia Basin user groups when a surplus is available. Tribal ceremonial fisheries will continue to take precedence over sport fisheries. The Department will work with Idaho Indian tribes to develop ceremonial harvest opportunities in years when surplus fish for treaty subsistence harvest are not available. When surplus is sufficient for tribal subsistence or commercial harvest, both tribal and sport fisheries are expected to access harvestable surplus.

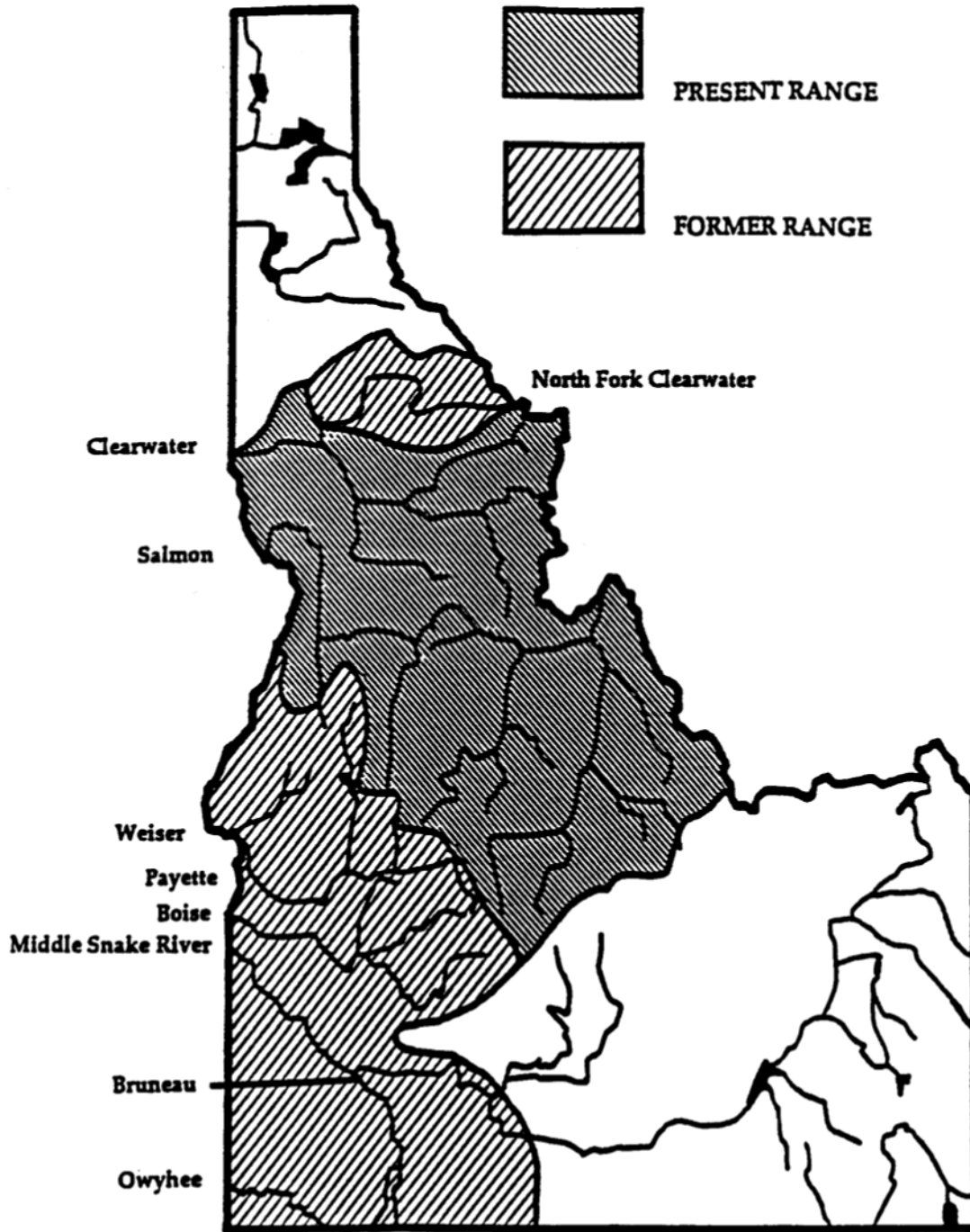


Figure 2. Present and former range of anadromous fish in Idaho

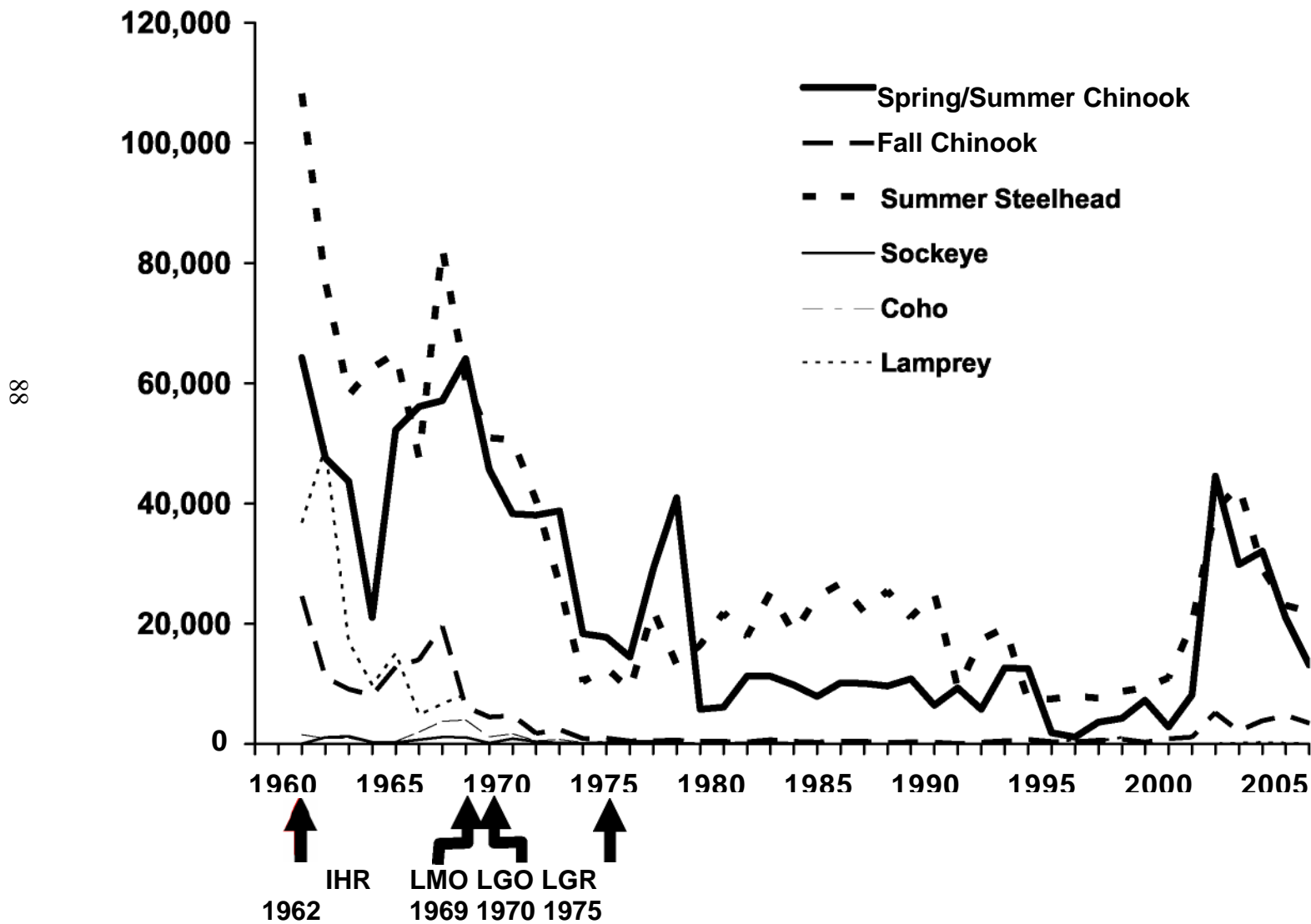


Figure 3. Historic adult passage of naturally produced anadromous fish runs at the upper most dam and counting facility in the Snake River, 1960-2005. (IHR = Ice Harbor, JDA = John Day, LMO = Lower Monumental and LGR = Lower Granite. Dates below facilities indicate first year fish were enumerated).



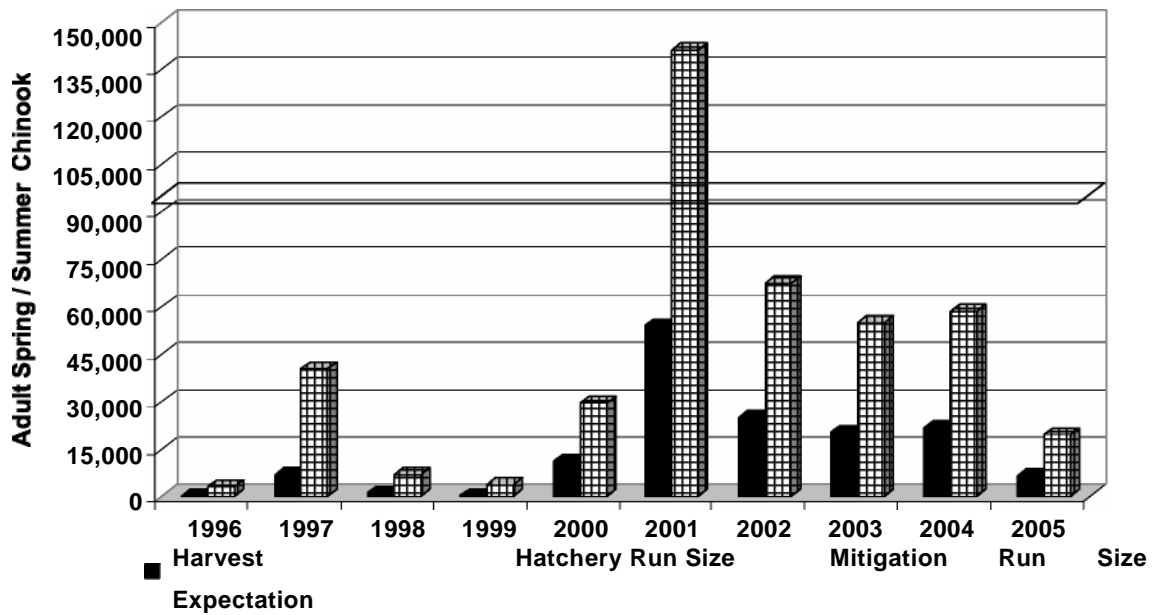


Figure 4. Annual numbers of Idaho adult hatchery spring/summer Chinook salmon in sport harvests and the spring/summer hatchery run sizes at Lower Granite Dam compared to the mitigation hatchery run size expectation.

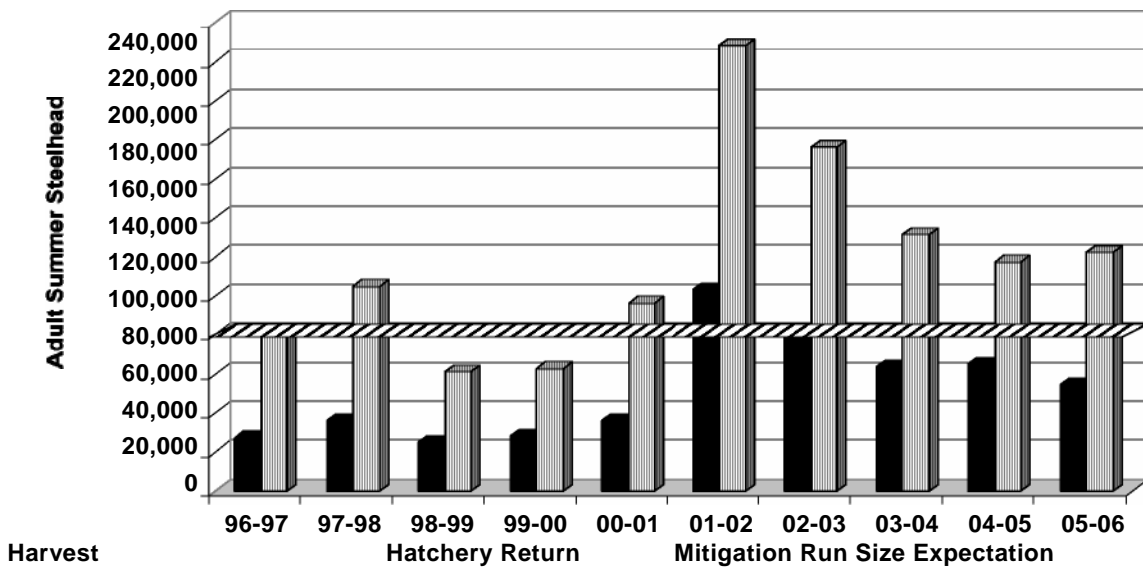


Figure 5. Annual numbers of Idaho adult hatchery steelhead in sport harvests and the steelhead run sizes at Lower Granite Dam compared to the mitigation hatchery run size expectation.

- Set harvest rules and regulations to achieve long-term sustainability of populations and habitat.
- Enforce fishing, hunting, and trapping regulations.
- Use artificial propagation, stocking, and translocation where appropriate and cost effective.
- Collaborate with tribes, private landowners, and agencies to manage populations and harvest for long-term sustainability.
- Inventory, monitor, and assess the status of native fish, wildlife, and plants and the habitats upon which they depend.
- Identify species with the greatest need for conservation action.
- Restore native species where they have declined or disappeared.
- Provide information on the distribution, abundance, and conservation of native fish, wildlife, and plants.
- Assist public and private landowners in the conservation, restoration, and enhancement of native fish, wildlife, and plants.
- Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish, wildlife, and plants.
- Develop measurable and achievable management objectives for fish and wildlife habitat.
- Assess and prioritize habitats for protection, restoration, or enhancement.
- Provide information, analysis, and recommendations to improve fish and wildlife habitats and reduce impacts from land and water use and development.
- Seek mitigation for adverse impacts to fish and wildlife.
- Provide incentives and assistance to landowners to improve habitat on private land.
- Acquire interest in property where Department management can provide exceptional benefits to fish and wildlife and associated recreation.
- Develop partnerships with landowners, land management agencies, and others to restore, enhance, and conserve fish and wildlife habitats.
- Monitor fish and wildlife populations for disease.

## **Compass Strategies**

- Ensure that propagation, stocking, and translocation of fish and wildlife do not contribute to the introduction or transmission of diseases.
- Enhance and enforce laws to protect fish and wildlife populations from disease.
- Reduce or eliminate the risk of transmission of disease between captive and free-ranging fish and wildlife.
- Develop risk assessment, public information, and response strategies for fish and wildlife disease threats.
- Collaborate with other agencies and educational institutions on disease control, prevention, and research.

### **8. Providing Fishing Information to the Public**

During this six-year planning period, the Department will continue its production of maps, brochures, and other information to make it easier for the public to understand and utilize their fishery resource. "Angler's Guide" brochures have been developed for major lowland lakes, urban fisheries, and reservoirs, which will include lake maps, location of angler facilities, information on species present, and angler tips. Family Fishing Waters maps and brochures have been developed. The Department publishes the Idaho Sportsman's Access Guide which provides a listing of motor boat and fishing access sites managed by the Department. Other brochures and guides will be developed as needed. We will also develop or expand informational type signs in high use areas (boat ramps, parks, trailheads, etc.), which may include brochures and maps. Location of hatchery-stocked trout will be advertised and maps made available through vendors and Department employees to direct anglers to these areas. The current methods for disseminating information will be expanded where possible. This includes radio, television, newspapers, and Department website and publications. Some of the areas where the Department will focus its attention include:

1. Fishing Rules - simplification, readability
2. Places to go Fishing - fishing water brochures; family fishing waters
3. Results of Fishing Surveys - regional newsletter reports, research reports, media articles and coverage
4. Fishing Tips - fishing leaflets, workshops
5. Environmental Issues - habitat and fish relationships, articles, regional newsletters, research reports.
6. Expand Information on Department Internet - fish stocking information, regulations, fishing surveys, and access areas.

Correct identification of fish is critical to attain the optimum fishery response to special regulations and for protection of federally listed species. Research conducted by the Department indicates that many anglers are unable to identify various species of salmonids and that aggressive on-site education campaigns can dramatically reduce misidentification and improve regulation awareness. The Department will continue to work on improving angler ability to identify various fish and to increase awareness of regulations using a combination of methods already tested and those remaining to be developed.

A sustained funding effort will likely be required to attain identification rates of 90% or above for some species.

--Emphasize ethics, safety, and fair chase in hunting, fishing, and trapping, and other wildlife education programs.

--Support mentoring programs for new hunters and anglers.

--Promote hunting, fishing, and trapping as legitimate uses of fish and wildlife and compatible with the conservation of all wildlife.

--Publicize the social and economic benefits of hunting, fishing, and other wildlife-based recreation.

--Monitor public support for fish and wildlife recreation and management. --

Provide user-friendly regulations and information.

--Provide timely and accurate information on recreational opportunities, management actions, and important news related to fish and wildlife.

--Publicize resource management issues and Department programs that address them.

--Develop effective methods for conveying and distributing information about fish and wildlife.

--Evaluate education, information, and outreach efforts and determine the needs, expectations, and interests of the public. Adjust programs to meet objectives.

--Provide a variety of "how to" hunting and fishing classes as well as other fish and wildlife educational opportunities.

--Continue to use revenue generated by hunters, anglers, and trappers for programs that benefit hunting, fishing, and trapping.

## **9. Improving the Condition of Boating and Fishing Access Sites**

The Department owns or has a management interest in 325 fishing and boating access sites in Idaho. The Department will spend approximately \$2.1 million annually in the next six years for the maintenance, development, and acquisition of sites for fishing and boating access. Funding comes primarily from the Dingell-Johnson and Wallop-Breaux programs through the U.S. Fish and Wildlife Service Federal Assistance program, license sales funds used to match the federal funds, and the Salmon-Steelhead set-aside program. In 2005, the Department published its Five-Year Statewide Fishing/Boating Access Facilities Plan. The purpose was to plan for the funding and implementation of recommended improvements to these sites and to seek ways to make the access program more efficient. A total of 228 of 325 access sites were identified as needing some kind of improvements; 70% of the sites managed by the Department. The preliminary cost estimate for the 228 improvement

projects exceeds \$5.5 million. The survey indicates that motor boat access sites are in better condition than fishing access sites and are generally more accessible to persons with disabilities. During this planning period, the Department will explore ways to attain the recommendations of the facilities plan.

The Department will continue its programs to improve its relations with landowners, acquire easements through leasing or purchase, and develop key areas to provide access for anglers. Additional fishing docks and persons with disabilities access facilities will be provided at public fishing lakes with limited fishing access. Additional boat ramps and docks will be built or existing ones repaired or replaced where appropriate.

### **Compass Strategies**

- Provide opportunities specific to the needs of beginners, youth, people with disabilities, and families.
- Provide fish and wildlife based recreation on lands owned or managed by the Department.
- Provide specialized access opportunities for people with disabilities.
- Monitor public support for fish and wildlife recreation and management.
- Maintain and upgrade facilities and equipment.
- Continue to use revenue generated by hunters, anglers, and trappers for programs that benefit hunting, fishing, and trapping.
- Obtain funding through grants and partnerships that support the Department's mission.
- Develop new funding for fish and wildlife programs that benefit all Idaho citizens.
- Seek efficiencies and cost savings in all programs.

### **10. Recruiting and Retaining New Anglers**

The 2006 Angler Opinion Survey indicated that over 50% of the anglers responding had fished for more than 20 years and averaged nearly 50 years in age. This indicates recruitment of new anglers is less than desirable. The Department will also attempt to understand why adult participation in fishing lapses. During this six-year planning period, the Department will increase efforts to recruit and retain new anglers. Efforts will include emphasis on development of additional fishing waters, particularly in urban areas, development of family-oriented facilities, and additional educational programs to fulfill the Department's desire to encourage children to start fishing. The Department annually conducts fishing clinics, in-classroom education, and rod-loaner programs to support new anglers. During this six-year planning period, the Department will continue to facilitate annual youth fishing clinics around the state to teach angler skills, fishing ethics, and an appreciation of habitat requirements needed to support fish populations. The growing interest in cooperative educational programs such as the *Trout in the Classroom*, and *Idaho Salmon and Steelhead Days* will be fostered.

The Angler Opinion Survey also pointed out that less than five percent of respondents belong to fishing clubs. The Department believes the average age of participants in fishing clubs is probably close to the average age of respondents to the opinion survey providing further support for declining participation by youth in fishing. The Department will work with angling clubs and organizations to introduce kids to fishing and find ways to keep them interested in fishing as a lifetime sport.

### **Compass Strategies**

- Provide opportunities specific to the needs of beginners, youth, people with disabilities, and families.
- Assess participation, demand, and satisfaction with hunting, fishing, and trapping opportunities. Adjust management to achieve objectives.
- Emphasize ethics, safety, and fair chase in hunting, fishing, trapping, and other wildlife education programs.
- Support mentoring programs for new hunters and anglers.

## **11. Continuing Efforts to make Fishing Rules Easier to Read and Understand**

The Department has been working progressively over the years to simplify fishing rules. However, in addition to societal demands, we must respond to biological issues as well. In part, Family Fishing Waters were devised to address the concern of many anglers that fishing rules were too complex. Rule changes will be recommended to the Commission on the basis of biological needs during development of the state's biennial fishing rules during this planning period, but Department recommendations will strive to fit with the suite of rule options currently in use. This six-year management plan will be used to guide future accommodation of nonbiological factors in rulemaking. However, the Commission holds authority to accommodate additional factors in rulemaking, such as societal needs, at any time. The Department will however, strive to make fishing rules easier to read and understand for the angling public.

The Department will develop a web-based Fishing Trip Planner, similar to the Hunt Planner, which will allow anglers to identify a body of water on a map, click on the map and retrieve information about species present, fish stocking records, fishing rules, access sites, land ownership, and fishing tips.

### **Compass Strategies**

- Set harvest rules and regulations to achieve long-term sustainability of populations and habitat.
- Provide user-friendly regulations and information.

## **12. Improving Understanding and Knowledge about the Distribution, Population Status, Habitat Preferences, and Management Needs of Native Nongame Species**

The ecological importance of nongame species in their native habitats has only recently been considered, and many of these species play an integral role in supporting fish and wildlife communities that include important game species. These native nongame fishes are important for ecological, scientific, aesthetic, and cultural reasons.

In most instances, little is known about the current status or distribution of these native nongame fish species. As with native game fishes, habitat degradation and other factors have adversely affected native nongame fishes and the ecological communities they occupy. Species with very limited ranges or special habitat needs include the Bear Lake sculpin, Shoshone sculpin, Wood River sculpin, leatherside chub, Pacific lamprey, and sand roller. The Department, in coordination with other agencies, will enhance its understanding and knowledge about current distribution and population status of native nongame species.

The Department will develop a conservation and management plan for native nongame fishes during this planning period.

### **Compass Strategies**

--Inventory, monitor, and assess the status of native fish, wildlife, and plants and the habitats upon which they depend.

--Identify species with the greatest need for conservation action. --

Restore native species where they have declined or disappeared.

--Provide information on the distribution, abundance, and conservation of native fish, wildlife, and plants.

--Assist public and private landowners in the conservation, restoration, and enhancement of native fish, wildlife, and plants.

--Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish, wildlife, and plants.

--Develop measurable and achievable management objectives for fish and wildlife habitats.

--Assess and prioritize habitats for protection, restoration, or enhancement.

--Provide information, analysis, and recommendations to improve fish and wildlife habitats and reduce impacts from land and water use and development.

--Provide incentives and assistance to landowners to improve habitat on private land.

--Work in cooperation with other agencies and local governments to prevent the introduction and spread of invasive species.

--Develop partnerships with landowners, land management agencies, and others to restore, enhance, and conserve fish and wildlife habitats.

--Publicize resource management issues and Department programs that address them.

### **13. Developing Management Plans for Native Game and Nongame Fish Species**

During this planning period, the Department will complete management plans for Snake River white sturgeon, Yellowstone cutthroat trout, Bonneville cutthroat trout, westslope cutthroat trout, and inland redband trout. Additionally, the Department intends to write a conservation and management plan for nongame fish. These plans are intended to be policy documents that establish goals, objectives, and strategies for managing populations across their range and the sport fisheries supported by these species. They will serve as guidance documents for Department staff and will establish for the public how we intend to manage their fishery resources. These policy documents will also serve notice to other agencies and entities about how the Department intends to conserve, protect, and enhance populations; work with others to protect and enhance habitat; and maintain state management authority over these important native game and nongame fish species.

#### **Compass Strategies**

--Develop measurable and achievable management objectives for game species.

--Use artificial propagation, stocking, and translocation where appropriate and cost effective.

--Collaborate with tribes, private landowners, and agencies to manage populations and harvest for long-term sustainability.

--Inventory, monitor, and assess the status of native fish, wildlife, and plants and the habitats upon which they depend.

--Restore native species where they have declined or disappeared.

--Provide information on the distribution, abundance, and conservation of native fish, wildlife, and plants.

--Collaborate with interested and affected parties to develop and implement plans to recover threatened and endangered species and conserve native fish, wildlife, and plants.

--Develop measurable and achievable management objectives for fish and wildlife habitat. --

Assess and prioritize habitats for protection, restoration, or enhancement.

--Develop partnerships with landowners, land management agencies, and others to restore, enhance, and conserve fish and wildlife habitats.

--Promote hunting, fishing, and trapping as legitimate uses of fish and wildlife and compatible with the conservation of all wildlife.



## Performance Targets for Major Programs

**Compass Goal: Sustain Idaho’s fish and wildlife and the habitats upon which they depend.**

**Compass Objectives:**

- Maintain or improve game populations to meet the demand for hunting, fishing, and trapping.
- Ensure the long-term survival of native fish, wildlife, and plants.
- Increase the capacity of habitat to support fish and wildlife.
- Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans.

| Program   | Performance   | Metric   |
|---|---|--|
| Protecting and restoring Habitat                          | Restore 5 miles or more of stream channel for native salmonids per year                     | Miles of stream restored   |
|   | Collaborate in 5 or more restoration projects per year on private lands                     | # of restoration projects on private lands                       |
|   | Collaborate in 5 or more restoration projects per year on public lands                      | # restoration projects on public lands                           |
|   | Seek 1:1 mitigation for adverse impacts to fish habitat                                     | % change in fish habitat<br># technical assistance contacts made |
| Protecting and enhancing native fish populations          | Restore native trout populations across their historical ranges                             | # collaborative efforts or partnerships                          |
|   | Maintain and increase native trout sport fisheries  | # miles/acres of native trout waters restored                    |
|   | Participate in and update range-wide and statewide conservation agreements for native trout | # agreements participated in or updated                          |
| Protecting and enhancing salmon and steelhead populations | Maintain salmon and steelhead population structure.   | # defined populations that have spawners                         |
|   | Restore historical access in the Salmon and Clearwater River basins                         | # diversions fitted with fish screens                            |

|   |  |                        |
|---|--|------------------------|
| Improving understanding and knowledge about the distribution, population status, habitat preferences, and management needs of native nongame species. | Conduct 3 surveys per year in each region    | # of surveys conducted |
| Developing management plans for native game and nongame fish species.   | Develop one species management plan per year | # of plans developed   |

**Compass Goal: Meet the demand for fish and wildlife recreation.**

**Compass Objectives:**

- Maintain a diversity of fishing, hunting, and trapping opportunities.
- Sustain fish and wildlife recreation on public lands.
- Increase opportunities for wildlife viewing and appreciation.
- Increase the variety and distribution of access to private land for fish and wildlife recreation.
- Maintain broad public support for fish and wildlife recreation and management.

| <b>Program</b>  | <b>Performance Target<br/>(Benchmark)</b>  | <b>Metric</b>  |
|---|--|--|
| Providing a diversity of Angling opportunities  | <p>Maintain a mixture of fishing opportunities statewide</p> <p>At least 67% of anglers are satisfied with angling opportunities; maintain average satisfaction score of 3.5 out of 5</p> <p>Provide 1.2 million angler-hours annually for salmon and steelhead</p> <p>Release approximately 7.7 million salmon and 3.9 million steelhead that are adipose-clipped from hatcheries to support selective fisheries annually</p> | <p># different types of opportunities per region</p> <p>% satisfied and average satisfaction score</p> <p># angler-hours for salmon and steelhead</p> <p># salmon and steelhead released annually from hatcheries that are adipose fin-clipped</p> |
| Providing family fishing opportunities managed as consumptive fisheries with simple fishing rules | Add 2 family fishing waters in each region within the next 5 years   | # of new family fishing waters   |

|  |   |   |
|--|---|---|
| Maintaining hatchery trout programs in streams, lakes, and reservoirs. | Stock between 35 and 42 million fish per year   | # hatchery trout stocked  |
| Providing quality and trophy fishing opportunities for trout and bass  | Assess population structure in all quality/trophy fisheries within 6 years<br><br>Develop 2 new quality/trophy largemouth bass fisheries during planning period<br><br>Develop 2 new quality/trophy trout fisheries during planning period<br><br>At least 67% of anglers are satisfied with angling opportunities; maintain average satisfaction score of 3.5 out of 5 | # quality/trophy fisheries surveyed<br><br># Proportional Stock Density (PSD) and Quality Stock Density (QSD) indices developed<br><br># new largemouth bass fisheries<br><br># new trout fisheries<br><br>% satisfied and average satisfaction score |
| Improving the condition of boating and fishing access sites            | Renovate 6 access sites per year (both IDFG and partnerships)<br><br>Add 2 new access sites per region per year   | # access sites renovated<br><br># new access sites developed  |

**Compass Goal: Improve public understanding of and involvement in fish and wildlife management.**

**Compass Objectives:**

- Improve citizen involvement in the decision-making process
- Increase public knowledge and understanding of Idaho's fish and wildlife

| <b>Program</b>                              | <b>Performance Target<br/>(Benchmark)</b>  | <b>Metric</b>   |
|---|--|---|
| Providing fishing information to the public | Increase by 5% per year the # of website visits to the Fishing Info area<br><br>Update fishing information on regional websites weekly<br><br>At least 67% of anglers are satisfied with fishing | # website visitors to Fish Info area per year<br><br>Days between updates<br><br>% satisfied and average satisfaction score |

|   |   |  |
|---|---|--|
|   | information; maintain average satisfaction score of 3.5 out of 5  |  |
| Continuing efforts make fishing rules easier to read and understand | At least 67% of anglers are satisfied with fishing rules; maintain average satisfaction score of 3.5 out of 5 | % satisfied and average satisfaction score |

**Compass Goal: Enhance the capability of the Department to manage fish and wildlife and serve the public.**

**Compass Objectives:**

- Attract and retain a diverse and professional workforce.
- Provide equipment and facilities for excellent customer service and management effectiveness
- Improve information management and business systems
- Improve funding to meet legal mandates and public expectations

| <b>Program</b>                       | <b>Performance Target<br/>(Benchmark)</b>  | <b>Metric</b>                       |
|--------------------------------------|--|-------------------------------------|
| Recruiting and retaining new anglers | Increase percentage of fishing license sales per capita to 1999 levels within five years | Fishing licenses sales per capita   |
|                                      | Recruit 250 new anglers per year   | # first-time fishing license buyers |
|                                      | Decrease annual license sales dropout rate by 10% within five years                      | Annual and cumulative dropout rate  |

## LITERATURE CITED

- Hoffman, R.L. and D.S. Pilliod. 1999. The ecological effects of fish stocking on amphibian populations in high-mountain wilderness lakes. Final Report. USGS/BRD Forest and Rangeland Ecosystem Science Center. Corvallis, OR.
- Horton, W.D. 1997. Lake Renovation Procedures Manual. Idaho Department of Fish and Game, Boise, ID.
- Idaho Department of Fish and Game. 1992. Anadromous Fish Management Plan, 1992-1996. Boise, ID.
- In Draft. Idaho 2003 Angler Economic Activity Report. Boise, ID.
- 2004. In Draft. Management plan for conservation of westslope cutthroat trout in Idaho. 2004 Draft Document. Boise, ID.
- 2005. The Compass. Idaho Department of Fish and Game Strategic Plan. Boise, ID.
- 2007. Management Plan for Conservation of Yellowstone Cutthroat Trout in Idaho. Boise, Idaho.
- 2006. –Idaho Comprehensive Wildlife Conservation Strategy. As Approved by the USDI Fish and Wildlife Service, National Advisory Acceptance Team. February 2006. Boise, ID.
- Idaho Power Company. 2005. Snake River White Sturgeon Conservation Plan. Boise, ID.
- May, B.E., W. Urie, and B.B. Shepard. 2003. Range-wide status of Yellowstone cutthroat trout (*Oncorhynchus clarkii bouvieri*) 2001. Multi-state Assessment Document. March 2003.
- May, B.E. and S. Albeke. 2005. Range-wide status of Bonneville cutthroat trout (*Oncorhynchus clarkii Utah*): 2004. Publication No. 05-02. Utah Division of Wildlife Resources, Salt Lake City, UT.
- Pilliod, D.S., D. Duncan, C.R. Peterson, and J.J. Yeo. 1996. Spatial distribution and habitat associations of amphibians in the Bighorn Crags, Frank Church River of No Return Wilderness. 1994 Final Report to USDA Forest Service, Intermountain Research Station, Boise, ID.
- Shepard, B.B., B.E. May, and W. Urie. 2003. Status of westslope cutthroat trout (*Oncorhynchus clarkii lewisii*) in the United States 2002. Multi-state assessment document. February 2003.

State of Idaho. 2000. State of Idaho's comments, draft biological opinion on operation of the federal Columbia River power system, including the juvenile fish transportation program and the Bureau of Reclamation 31 projects, including the entire Columbia Basin Project. Boise, ID.

*Part II*

**Fisheries Management Plan**

**Drainages**

## PART 2

### FISHERY MANAGEMENT PLANS BY DRAINAGE

This part of the 2007-2012 Fisheries Management Plan addresses specific management direction for individual waters on a drainage basis. The state is broken down into 35 separate drainages (Figure 6). Each drainage section consists of three parts:

#### 1. Overview

A narrative which describes the drainage, the various fisheries, and Department management of the drainage in general terms.

#### 2. Objectives and Programs

This section lists fisheries objectives for the drainage as a whole or a combination of water areas, and management programs necessary to achieve them.

#### 3. Management Direction

Management direction is presented as a table which lists the type of fisheries, species present, management, and further direction proposed for individual waters.

### DEFINITIONS OF TERMS USED IN DRAINAGE MANAGEMENT DIRECTION TABLES

#### 1. Fishery Types

- A. Coldwater - fisheries supported by resident populations of salmonid game fish including trout, char, non-anadromous salmon (kokanee, Chinook), and whitefish (family Salmonidae).
- B. Warmwater - fisheries supported by warmwater or coolwater game fish including bass, crappie, sunfish, catfish, northern pike, tiger muskie, walleye, and yellow perch (families Centrarchidae, Ictaluridae, Percidae, and Esocidae).
- C. Mixed - fisheries supported by a combination of coldwater and warmwater fish species.
- D. Anadromous - fisheries supported by anadromous salmonids (steelhead trout, Chinook salmon, and sockeye salmon).

#### 2. Species Present

The major sport fish species present and any other species being proposed for introduction at this time. Species which will be considered for introduction but are not proposed at this time are referred to under "management direction."



### **3. Fishery Management**

Describes the primary management applied to the water area; a secondary management listing may be given where a different specific management is applied to individual species. A more complete description of management types, fishery characteristics, and applicable regulations is provided in Part I of the Plan.

- A. Put-and-Take - a management scheme using intensive stocking of catchable size (larger than 8 inches) hatchery rainbow trout to provide high consumptive catch rates. Applied to small lakes, ponds, and reservoirs and certain streams or stream reaches with good access and moderate to high fishing pressure. Used where long-term survival and growth is limited due to water area characteristics or harvest rates. Other species, including some naturally produced trout, may be present. In the majority of instances, sterile rainbow trout are used.
- B. Wild - a management scheme that relies on the natural production potential of a water body to provide angling opportunity for native trout. This type of management may also apply to naturalized populations of non-native salmonids. Applied to water bodies with good to excellent trout habitat where consumptive fishing pressure is light to moderate.
- C. Quality - a management scheme that limits, by regulation, the size and/or numbers of fish which may be harvested in order to provide increased catch rates for larger fish which are considered quality size. This type of management may be applied to water areas or to specific species.
- D. Trophy - a management scheme that limits, by regulation, the size and/or numbers of fish which may be harvested in order to provide increased catch rates for larger fish which are considered trophy size. This type of management may be applied to water areas or to specific species.
- E. Conservation - a management scheme that allows angling but prohibits harvest in order to protect and rebuild the viability of a native fish population. This management may be applied to an individual species or to water bodies which are important spawning, rearing, migration, or wintering areas.
- F. Anadromous - a management scheme for anadromous steelhead and Chinook salmon, which provides for harvest opportunity where possible on known hatchery origin fish while preserving and rebuilding wild and natural fish.
- G. General - a general management scheme applied to lakes, reservoirs, rivers, and streams which do not fit the designations above and are generally considered yield (harvest) fisheries. General management waters may provide warmwater, coldwater, or mixed fisheries. Coldwater fishing is primarily managed through stocking of fry, fingerling, or catchable-size fish, which are expected to grow and contribute to the fishery over an extended time. No special regulations are applied.
- H. Family Fishing Water – a management scheme applied to a water body emphasizing family-oriented fishing opportunities with simplified rules including a year-round season, and no size or tackle restrictions.

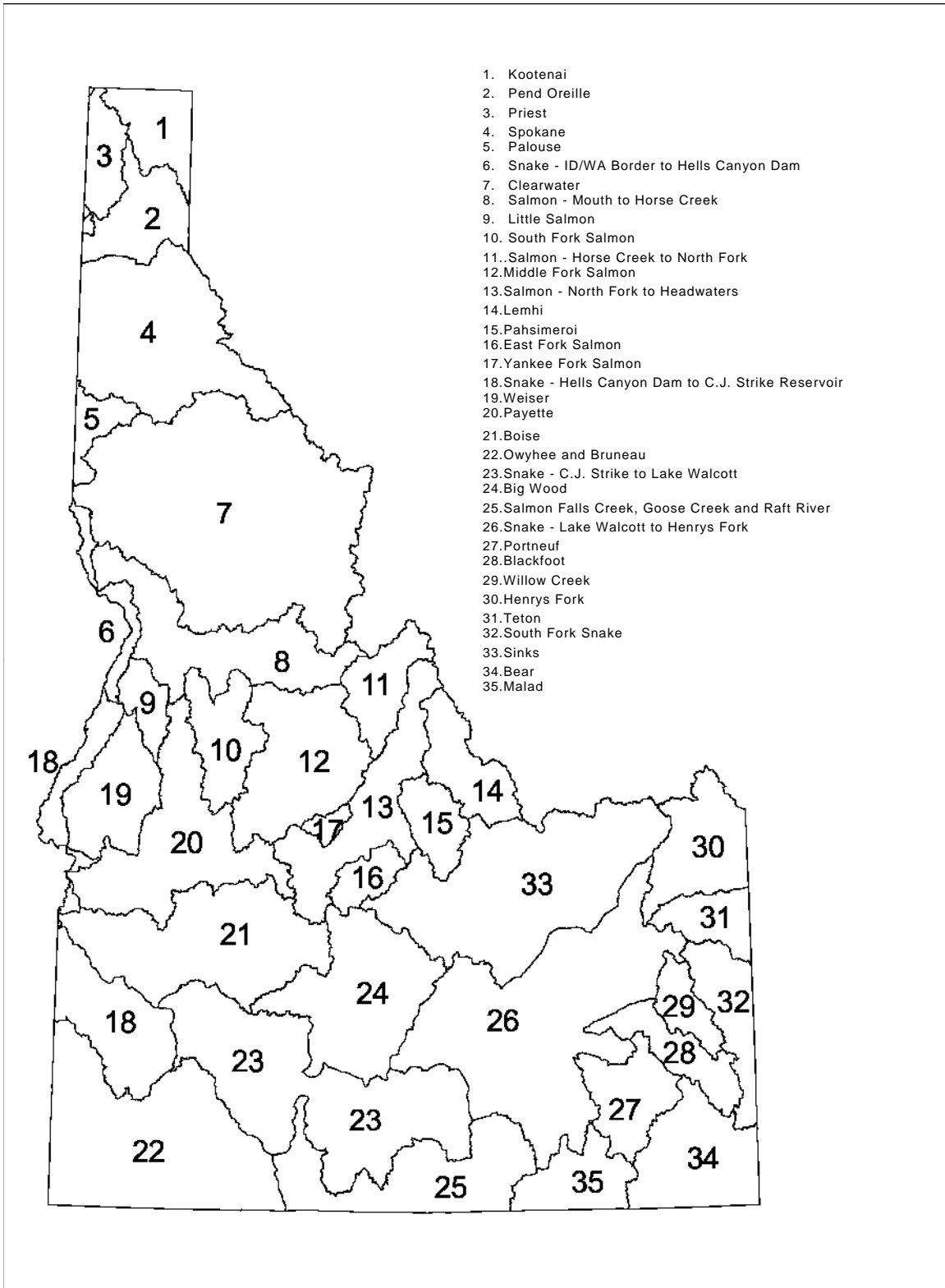
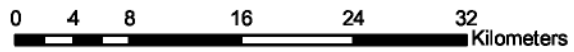
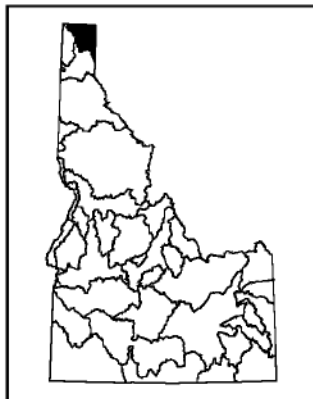
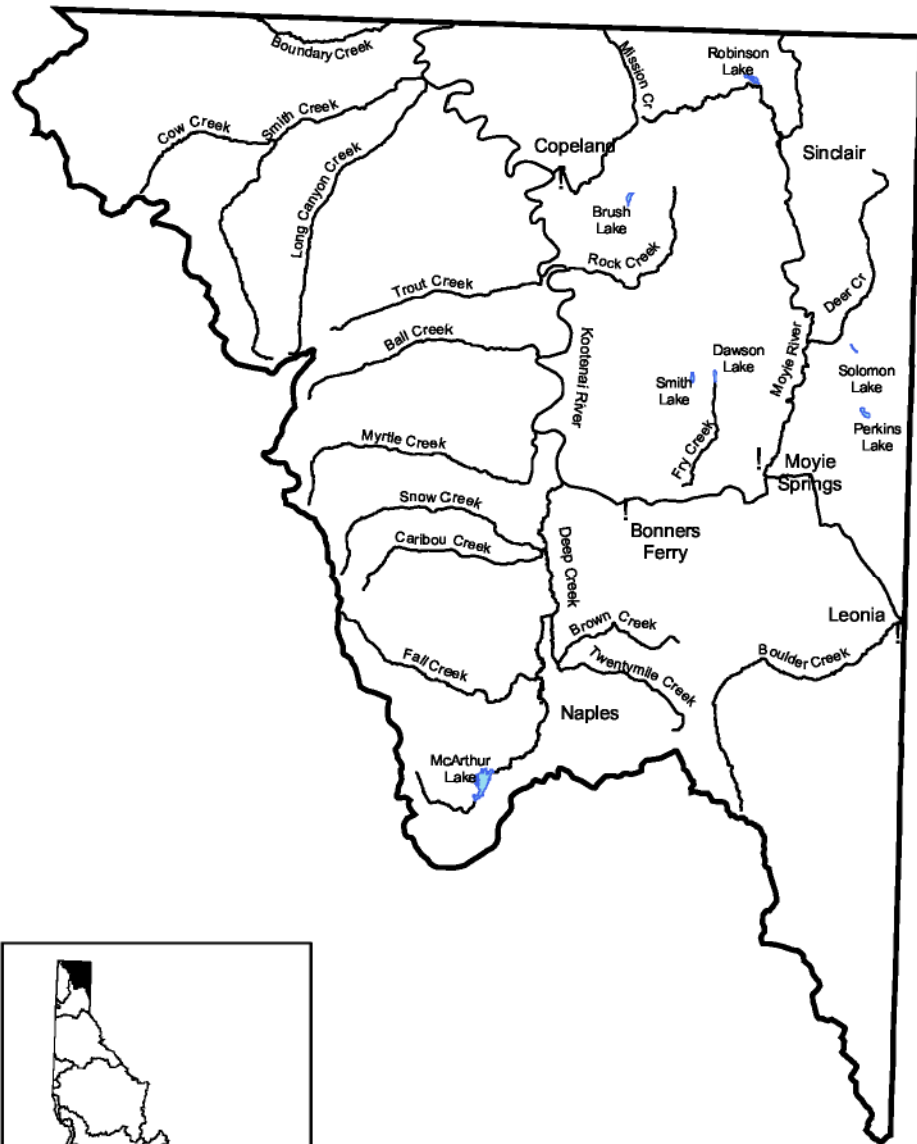


Figure 1. Statewide drainage map.

# Kootenai River Drainage



## 1. KOOTENAI RIVER DRAINAGE

### A. Overview

The Kootenai River is located at the north end of the Idaho Panhandle in Boundary County. It originates in southeastern British Columbia (BC), Canada flows south and west through Montana, and northwest through Idaho, then returns to Canada where it flows through Kootenay Lake and joins the Columbia River at Castlegar, BC. At the International border at Porthill, Idaho, it drains approximately 13,700 square miles with an average discharge of 16,100 cfs. The 66 miles of Kootenai River in Idaho can be divided into two reaches. The 47-mile section from Porthill to Bonners Ferry is a slow moving, broad, meandering river with pools up to 100 feet deep. A dam at the outlet of Kootenay Lake influences water level in the river as far upstream as Bonners Ferry. The 19 miles of river upstream from Bonners Ferry to Montana flows in a canyon with an average gradient of 3 feet/mile.

Inland redband (rainbow) trout are native to the Kootenai River drainage and are present in the mainstem Kootenai River and above barriers in some tributaries. Hatchery rainbow trout have been widely introduced throughout the drainage, and the only known pure strain redband in an accessible tributary are found in Callahan Creek. Other native salmonids include westslope cutthroat trout, bull trout, and mountain whitefish. Introduced brook trout are present throughout the drainage, and a few remnant early spawning kokanee from Kootenay Lake, BC, are present in the mainstem Kootenai River and some west side tributaries during the summer and fall. The Kootenai Tribe has recently supplemented these runs with kokanee from the North Arm of Kootenay Lake (Meadow Creek stock). Eyed eggs have been planted in several west side tributary streams formerly used by South Arm stocks. Kokanee salmon also enter the Kootenai River from Libby Reservoir (Lake Koocanusa) during some years.

The majority of waters in the Kootenai drainage produce fishing for trout. The Kootenai River and its tributaries, mountain lakes, lowland lakes, and the Moyie River all provide some type of trout fishing. Although numbers and size of native trout have been reduced since the early 1900's, the area has potential for improved fishery management, especially the Kootenai River.

Libby Dam was constructed in Montana in 1972, and its operation for flood control and power production changed the natural seasonal and daily flow, temperature, and productivity regimes in the Kootenai River. Mean flows during spring runoff have declined 50 percent and wintertime flows have tripled. Average wintertime water temperatures have increased by about 7°F, resulting in the river remaining virtually ice free. Sediments trapped behind Libby Dam have dramatically reduced turbidity and the availability of important nutrients in the river and lake. Nutrients are being replaced through fertilization projects in Kootenay Lake, BC since 1992 and an experimental project in the Kootenai River since 2005.

The Kootenai River is the only drainage in the State of Idaho where burbot (ling) are native. The Kootenai is also home to a genetically distinct population of white sturgeon. Fisheries for both of these species have been closed for conservation purposes since 1984 in response to major declines in these populations.

The Kootenai River white sturgeon was listed as an Endangered Species in 1994. The Kootenai River White Sturgeon Recovery Strategy is currently guiding recovery actions in the basin. Burbot were petitioned for listing in February 2000 although it was later determined they were not warranted for listing. Subsequently, a Burbot Conservation Strategy was developed in 2005 by stakeholders in the Kootenai Valley, including IDFG. This strategy provides the necessary guidance to recover burbot if steps are taken toward implementation. Alteration of the natural flow regime, on an annual basis for flood control and power production, and the holistic changes to the river ecosystem in terms of flow, substrate, temperature and nutrients are believed to be the primary reasons for the lack of successful reproduction of sturgeon and burbot. Elimination of former sloughs and backwaters from decades of diking are also suspected of contributing to their decline. Sinclair Lake is being considered for rearing of larval burbot as part of the Burbot Conservation Strategy.

Numerous tributaries drain the Selkirk and Purcell mountain ranges and enter the Kootenai River directly or through larger tributaries. Due to past glaciation, most Kootenai River tributaries are blocked by falls near their mouths, and recruitment of fish from tributaries is limited.

Habitat alteration and degradation have reduced trout production in naturally accessible portions of tributaries. Sedimentation from logging, roading, and wildfires has degraded former spawning and rearing areas. Manmade obstructions, diversions, and channelization have eliminated and isolated former trout habitat completely, especially in tributaries draining the west side. The Deep Creek, Boundary Creek, and Callahan Creek drainages are the largest accessible tributaries of the Kootenai River.

The trout fishery in the Kootenai River is currently depressed in part due to limited natural production. Studies indicate that most of the current recruitment of Kootenai River rainbow trout comes from tributaries in Montana. Some rainbow trout in the Deep Creek drainage were shown to utilize Deep Creek for spawning and rearing, but spent their adult life in Kootenay Lake, BC (an adfluvial life cycle). Improvements in tributary spawning and rearing habitat conditions in Idaho tributaries will be necessary to increase natural recruitment. Fishing regulations were modified in 2002 to address overharvest of mature rainbow trout and monitoring is showing increased numbers of larger trout. Genetics work indicate that pure strain redband populations are relatively rare and stocking of coastal strains of rainbow trout in Montana, Idaho and BC for many decades have produced a naturalized wild population. The only known pure strain redband populations remaining in Idaho tributaries include the adfluvial population from Deep Creek and redband that utilize Callahan Creek.

Libby Dam operations have also impacted the Kootenai River sport fishery. To improve river productivity, a nutrient replacement program was implemented in 2005. This involved adding liquid nitrogen and phosphorus to the Kootenai River near the Idaho Montana border. Improved survival and growth of native sportfish such as rainbow trout, cutthroat trout, and mountain whitefish is the goal. White sturgeon, burbot, bull trout, and kokanee may also benefit.

The Moyie River is the largest tributary of the Kootenai drainage in Idaho, but is isolated from the Kootenai River by a natural falls and dam near its mouth. The Moyie River originates at Moyie Lake in BC and flows 58 miles through Canada and 26 miles through Idaho. The river above Meadow Creek has a relatively moderate gradient with relatively few pools. Additional pools were created with rock grade control structures and bank barbs as mitigation for the PGT natural gas pipeline construction impacts in 1992. The river gradient below Meadow Creek is much steeper, providing much better summer trout habitat. Most of the trout production for the upper river appears to come from Canadian tributaries due to the lack of suitable spawning and rearing tributaries in Idaho. Deer and Meadow Creek provide enough wild trout production to support the wild trout fishery in the river below Meadow Creek. Angler access is limited in the upper river to several bridge crossings and two Forest Service campgrounds and in the lower river by only a few primitive drive-to access sites. Development of private property along the river has increased dramatically in the past decade. Historically, the Moyie River was managed primarily as a put-and-take trout fishery, but concerns about potential fish disease impacts in Canadian waters and poor returns of hatchery stocked rainbow trout, resulted in a change to wild trout management in 2000. Surveys in 2005 and 2006 indicate the river supports densities of about 250 rainbow trout and brook trout combined per mile and only a few cutthroat trout. Mountain whitefish were numerous. Currently, angler exploitation appears to be low, but local anglers claim the fishing pressure is increasing. If fishing pressure continues to increase, it may require more restrictive regulations to maintain the fishery as it is.

Eight natural lowland lakes (>5 acres) provide a mixed bag fishery for trout and warmwater species. Naturalized populations of largemouth bass, black crappie, brown bullhead, yellow perch and pumpkinseed sunfish are present in most lakes. Northern pike were illegally introduced in Perkins and Bonner lakes prior to 2005 and may start to show up in other Kootenai basin lakes if reproducing populations establish. Channel catfish, tiger muskie and bluegill sunfish fisheries have been established in some lakes. Put-and-take rainbow trout are stocked in these lakes to provide salmonid fisheries. At the request of the angling public, all Kootenai drainage lowland lakes are managed as Electric Motors Only.

Bonner Lake is the only lowland lake in the Kootenai basin managed as a Quality Trout fishery. Bonner Lake was chemically renovated in 1998 to remove stunted warmwater fish and rainbow trout stocking began in 1999. Quality Trout regulations (2 fish >14 inches, no bait) were established and a popular trout fishery ensued. This fishery remained popular for about five years until largemouth bass and pumpkinseed became abundant again and rainbow trout growth and survival declined. In 2005, mature northern pike were discovered from an illegal introduction. Bonner Lake will need to be rotenoned on a periodic basis (at least every 6-8 years) to restore the trout fishery because it is not possible to get a complete kill of all warmwater fish due to the weed growth in the lake and natural springs. When asked about potential management options for Bonner Lake, 41% of the 349 anglers responding from the Panhandle Region strongly or somewhat agreed to "Continue current management", while 12% strongly or somewhat agreed to "Manage for a harvest trout fishery which will result in small trout on average" and 26% strongly or somewhat agreed to

“Manage for a diverse warmwater fishery (perch, crappie, bass, bluegill) and a harvest trout fishery”. There is support for continued management of Bonner Lake as a Quality Trout fishery, but biological constraints and the cost of rotenone treatment may make this a less desirable option than managing another lowland lake in the Panhandle Region for a quality trout fishery.

McArthur Lake Dam impounds the headwaters of the Deep Creek drainage and forms a shallow, warm reservoir that is ideal for waterfowl production. The fishery is limited to primarily warmwater species (mainly perch, some largemouth bass and pumpkinseed). Wild adfluvial redband trout from Kootenay Lake, BC utilize tributaries above the dam for spawning and rearing. A fish ladder on the dam allows access to these tributaries, but warm water in the reservoir may increase mortality of downstream migrating juvenile fish. Boating restrictions imposed to protect nesting waterfowl and aquatic vegetation limit angler use. The reservoir is periodically drained to manage vegetation and enhance waterfowl production. This may actually enhance perch fishing by reducing the population and increasing subsequent growth of the fish that remain. Means of enhancing wild trout production should be investigated.

Nineteen mountain lakes in the Selkirk and Purcell ranges are stocked with trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Only fry from disease free hatcheries are used to stock Kootenai drainage mountain lakes to address Canadian fishery management concerns. Only sterile cutthroat and rainbow trout fry are used to stock mountain lakes to reduce potential impacts to native fish populations downstream. Westslope cutthroat trout, rainbow trout, and brook trout are present in most of the stocked lakes, although four lakes are reserved for specialty species such as grayling and golden trout. In a cooperative effort with Montana fishery managers, Callahan (Smith) Lake will only be stocked with grayling to minimize impacts to native redband in Callahan Creek. There are many alpine lakes located in the Kootenai drainage that currently do not support fish, either due to natural conditions or because they are no longer stocked. We will maintain these lakes in a fishless condition in order to maintain some natural alpine lake ecosystems for amphibians and invertebrates.

## **B. Objectives and Programs**

1. Objective: Improve the sport fishery in the Kootenai River.

Program: Implement and evaluate in-river flows designed to provide spawning and recruitment of white sturgeon and burbot (ling). Assist with implementation of the Burbot Conservation Strategy. Continue research to identify the flow needs of other native species (redband, cutthroat, bull trout and whitefish) and modify Libby Dam operations to restore ecosystem function.

Program: Evaluate the experimental release of nutrients and the effects on the fish community with emphasis on rainbow trout, bull trout and mountain whitefish. Secure long term funding to replace nutrients on permanent basis if results are desirable.

Program: Assess catch, catch rates, length frequency and harvest of trout to determine if regulations are resulting in more and bigger rainbow trout in the Kootenai River fishery.

Program: Determine where trout recruitment can be improved in Idaho tributaries through habitat improvement projects.

Program: Provide float boat access to the canyon reach of the Kootenai River.

Program: Work with government agencies, the Kootenai Tribe, private developers, interested angling groups and local schools to make protection, enhancement and acquisition of fisheries habitat a primary concern in land use decisions.

2. Objective: Improve fishing opportunities in the Moyie River.

Program: Monitor the species composition, abundance, size composition, growth and mortality of the trout population in the Moyie River and evaluate if the wild trout regulations are working to maintain the fishery, or if additional restrictions are needed to maintain a quality trout fishery without hatchery stocking.

Program: Improve public access through easements, cooperative agreements or purchase. Develop boat (rafts and drift boats) and walk-in access in the upper half of the river where private property limits access.

Program: Investigate the biological and social issues associated with an earlier opener when high water makes the upper river easier to float.

3. Objective: Improve the efficiency of hatchery put-and-take trout stocking programs in lakes.

Program: Evaluate rate of return, catch rate, and angler use on put-and-take trout fisheries through a routine data collection system.

Program: Adjust rate, timing or location of trout stocking to improve rate of return to the creel.

Program: Inform anglers of hatchery supported trout fishing opportunities through maps, brochures, media coverage and signing to improve return to the creel.

Program: Develop and utilize disease free, sterile stocks of rainbow and cutthroat trout to address concerns about potential impacts to wild trout.



Program: Continue periodic surveys of fish populations to monitor population status and fish growth in relation to physical and biological conditions and fishing regulations. Manage some lakes for specific fish species, such as trout, in order to maximize angling opportunity.

Program: Maintain maximum harvest opportunity for warmwater species and stocked trout in most lakes while providing quality or trophy management fisheries in a few lakes where biological and physical conditions and public support provide the right set of conditions for special management.

Program: Continue maintenance stocking of tiger muskie and channel catfish to maintain popular fisheries. Evaluate channel catfish harvest to determine if harvest restrictions are needed to maintain this hatchery-supported fishery.

4. Objective: Improve fishing and boating access.

Program: Develop or enhance fishing and boating access areas through easements, cooperative agreements or purchase. Utilize funds to build fishing docks for shoreline anglers.

5. Objective: Curtail illegal introductions of fish and aquatic nuisance species (ANS). Illegal introductions of exotic fishes and ANS threaten the stability of other established fisheries.

Program: Develop informational programs to educate anglers and the public to risks of random introductions of exotic species and ANS. Through planning, use enforcement efforts to curtail illegal introductions.

| DRAINAGE: Kootenai River                              |             |           |                               |              |  |
|---|-------------|-----------|-------------------------------|--------------|--|
| Water   | Miles/acres | Type      | Fishery                       |              | Management direction   |
|   |             |           | Species present               | Management   |  |
| Kootenai River from Montana border to Canadian border | 66/         | Coldwater | Rainbow trout                 | Quality      | Work toward obtaining more favorable flows and restore productivity to improve habitat conditions for salmonids. Utilize restrictive regulations to improve the trout fishery. Improve angler access.  |
|   |             |           | Cutthroat trout               |              |  |
|   |             |           | Mountain whitefish<br>Kokanee | General      |  |
|   |             |           | Bull trout                    | Conservation |  |
|   |             |           | White sturgeon<br>Burbot      | Conservation | Identify factors that are causing depressed populations and implement recommendations from BPA-funded research.  |
| Accessible tributaries to Kootenai River              | 130/        | Coldwater | Rainbow trout                 | General      | Enhance trout production for the Kootenai River by identifying critical streams, improving spawning and rearing habitat conditions, and modifying regulations if necessary. Work with the British Columbia and Kootenai Tribe fishery managers to restore kokanee. |
|   |             |           | Cutthroat trout               |              |  |
|   |             |           | Brook trout                   |              | Maintain harvest closure in tributary streams. Determine critical habitat and improve conditions.  |
|   |             |           | Kokanee                       | Conservation |  |
| Inaccessible tributaries to Kootenai River            | 300/        | Coldwater | Rainbow trout                 | Wild         | Maintain limited consumptive fishery for small resident trout.   |
|   |             |           | Cutthroat trout               |              |  |
|   |             |           | Brook trout                   | General      | Maximize harvest for brook trout to provide a consumptive fishery and to reduce competition with cutthroat trout.  |
| Moyie River   | 25/         | Coldwater | Rainbow trout                 | Wild         | Maintain fishery for wild trout with restrictive regulations. Monitor fishery and evaluate the need for more restrictive regulations. Improve angler access.   |
|   |             |           | Cutthroat trout               |              |  |
|   |             |           | Brook trout                   | General      |  |
|   |             |           | Bull trout                    | Conservation | Maintain harvest closure in river and tributary streams. Determine critical habitat and improve conditions.  |

|                           |      |           |   |  |  |
|---------------------------|------|-----------|---|--|--|
| Moyie River tributaries   | 35/  | Coldwater | Rainbow trout<br>Cutthroat trout<br><br>Brook trout   | Wild<br><br>General                        | Maintain limited consumptive fishery for small resident trout. Seek ways to increase recruitment from tributary streams<br><br>Maximize harvest for brook trout to provide a consumptive fishery and to reduce competition with cutthroat trout.   |
| McArthur Reservoir        | /800 | Warmwater | Yellow perch<br>Largemouth bass<br>Pumpkinseed<br><br>Rainbow trout<br>Brook trout  | General<br><br>Wild                        | Evaluate the effect of water level management on perch abundance and size, and maximize perch size within the constraints of waterfowl management.<br><br>Investigate ways to improve wild rainbow trout production from tributary streams to enhance the Moyie River trout fishery.                             |
| Smith, Brush, Bloom lakes | /77  | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Yellow perch<br>Black crappie<br>Bluegill<br>Pumpkinseed<br>Bullhead<br>Channel catfish                 | Put-and-take<br><br>General                | Stock put-and-take rainbow trout to maintain the trout fishery. Manage Smith Lake as Family Fishing Water<br><br>Enhance the diversity of the warmwater fishery with maintenance stocking of channel catfish in Smith Lake.<br><br>Maintain access to Bloom Lake with an agreement with private landowners.      |
| Bonner Lake               | /23  | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Pumpkinseed<br>Northern pike  | Quality<br><br>General                     | Manage Bonner Lake as a quality trout fishery.<br><br>Periodically rotenone to remove warmwater species. Manage largemouth bass with no limit to encourage maximum harvest.  |
| Robinson Lake             | /60  | Mixed     | Rainbow trout<br>Brook trout<br><br>Largemouth bass<br><br>Bluegill<br>Pumpkinseed  | Put-and-take<br><br>Quality<br><br>General | Stock put-and-take rainbow trout to maintain the trout fishery.<br><br>Maintain restrictive regulations on largemouth bass to provide a quality bass fishery.  |
| Dawson, Perkins Lake      | /95  | Warmwater | Tiger muskie<br><br>Largemouth bass<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead<br>Channel catfish<br>Northern pike | Trophy<br><br>General                      | Maintain tiger muskie stocking to provide a specialized trophy fishery.<br>Channel catfish may persist in Dawson Lake during this planning period, but maintenance stocking was shifted to Smith Lake to provide a better fishery.<br><br>Northern pike were present in Perkins Lake, but not Dawson as of 2006. |

|  |      |           |   |              |   |
|--|------|-----------|---|--------------|---|
| Solomon, Sinclair lakes  | /13  | Coldwater | Rainbow trout   | Put-and-take | Stock put-and-take rainbow trout to maintain the trout fishery. Consider Sinclair Lake for burbot conservation culture.   |
| Alpine lakes (19 stocked lakes in the Kootenai River drainage) | /260 | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout | General      | Continue maintenance stocking of trout fry to provide fisheries that are consistent with lake productivity and angler pressure. Use westslope cutthroat trout for cutthroat trout stocking and disease-free sterile rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling) only. Do not stock lakes that are currently fishless in order to maintain some natural alpine lake ecosystems. |
|  |      |           | Grayling  |              |   |

# Pend Oreille River Drainage



## 2. PEND OREILLE RIVER DRAINAGE

### A. Overview

The Pend Oreille River drains about 24,200 square miles of land in western Montana and the Panhandle of northern Idaho. Most of the 2,133 square miles of the drainage within Idaho lies in Bonner County. Major tributaries of the Pend Oreille drainage include the Clark Fork, Flathead, Bitterroot, Blackfoot and St. Regis rivers in Montana and the Priest and Pack rivers and Lightning Creek in Idaho.

Lake Pend Oreille is the largest natural lake in Idaho covering 85,960 surface acres with a shoreline length of 111 miles. The glacial lake basin is deep and steep-sided with a maximum depth of 1,152 feet and mean depth of 538 feet. The combined surface area of Lake Pend Oreille and the backwaters of Albeni Falls Dam, located on the Pend Oreille River 26 miles downstream of the lake, is 94,720 acres.

Spirit Lake has a surface area of 1,477 acres and a maximum depth of about 90 feet. Mirror Lake, the only lowland lake in the entire Panhandle Region that has no warmwater species, is about 90 acres and is 60 feet deep. There are many other lowland lakes in the drainage range from 10 to 800 surface acres and numerous alpine lakes in the Selkirk and Cabinet mountains.

Westslope cutthroat trout, bull trout, pygmy whitefish and mountain whitefish are the only salmonids native to the Pend Oreille drainage in Idaho. Native cyprinids (minnows), cottids (sculpins), and catostomids (suckers) round out the mix of native species.

Prior to the 1940s, cutthroat trout were the most frequently caught fish in the Pend Oreille system. Accounts of good fishing, long stringers of 12 to 16 inch fish, and tributaries full of spawners were common in the late 1800s and into the early 1900s. Large adfluvial bull trout were often targeted for harvest in tributary streams. Spawning runs of mountain whitefish historically supported a significant commercial fishery on Lake Pend Oreille.

Adfluvial cutthroat trout spawning and rearing habitat was significantly reduced as a result of the construction of both Albeni Falls and Cabinet Gorge dams in 1952. Railroad and highway construction blocked access to many other streams, especially along the Pend Oreille River.

Lake Pend Oreille produced the world record bull trout in 1949 (32 lbs). However, bull trout in Lake Pend Oreille declined dramatically when hundreds of miles of spawning and rearing tributaries were blocked by the construction of Cabinet Gorge Dam on the Clark Fork River in 1952. Bull trout redd counts in Lake Pend Oreille tributaries since 1983 indicate a stable or increasing trend in the population. The relicensing of Avista's Cabinet Gorge and Noxon dams on the Clark Fork River in 1999 provided mitigation funding through the Clark Fork Settlement Agreement for habitat acquisition and enhancement in Idaho tributaries and fish passage over Cabinet Gorge and Noxon dams to reconnect

former bull trout spawning and rearing habitat in Montana. To enhance bull trout connectivity in the basin, consideration is being given to providing fish passage at both the Corp's Albeni Falls Dam and the Pend Oreille Utility District's Box Canyon Dam on the Pend Oreille River.

Introduction of non-native fishes has played both a positive and negative role in shaping the fisheries of Lake Pend Oreille. The U. S. Fish Commission introduced Lake Superior whitefish to Lake Pend Oreille in 1889 and eastern brook trout in the early 1900s. Brook trout have outcompeted and replaced native cutthroat in some watersheds.

During the winter flood of 1933, kokanee became established in Lake Pend Oreille by moving naturally into the system from Flathead Lake, Montana. Kokanee had been stocked in Flathead Lake in 1916 from Lake Whatcom, Washington. Historically, the adult population of around five million kokanee supported a sport and commercial fishery averaging one million fish through about 1965. Kokanee also provided forage for native and introduced fish predators that produced a world class trophy fishery for introduced rainbow trout.

The kokanee population of Lake Pend Oreille declined from historic levels primarily as a result of habitat related impacts. Cabinet Gorge Dam blocked a run of 100,000 tributary spawning kokanee, but the vast majority of kokanee in Lake Pend Oreille are lake shore spawners. Albeni Falls Dam, modified the natural annual hydrograph to tame spring floods and produce electricity, but in the process impacted virtually all the shoreline spawning areas for kokanee. When the lake was managed primarily for flood control prior to 1966, deep water spawning beds produced good numbers of kokanee even when the water was dropped after the kokanee had spawned. Starting in 1966, however, the lake was drawn down an additional five feet in most winters to generate additional hydropower. Deep winter drawdowns dewatered the most productive spawning beds. Changes in winter pool management have resulted in much improved kokanee fry survival.

High levels of total dissolved gases (TDG), primarily nitrogen, occur in the Clark Fork River below Cabinet Gorge Dam as a result of water spilling over the dam during spring runoff. Fish exposed to high TDG (in excess of 110% of saturation) can suffer gas bubble disease and high mortality. Lower kokanee survival is seen during high spill years. TDG levels in excess of 140% were measured in the Clark Fork River and through the north end of Lake Pend Oreille during the big spill year of 1997. Avista settled with the State of Idaho to mitigate for TDG by attempting to fix the problem at the dam and by funding mitigation measures that benefit the fishery resources that are potentially impacted in the Clark Fork River and Lake Pend Oreille.

Since 2000, the greatest threat to the kokanee population has been too many predators. Native bull trout, trophy rainbow trout and a rapidly expanding lake trout population threatened the total collapse of the kokanee population. The kokanee fishery was closed in 2000 and harvest regulations on rainbow and lake trout have become increasingly more liberal. By 2006, the adult kokanee

population had reached a new record low and survival rates between all age classes were also at record lows.

Construction of the Cabinet Gorge Hatchery in 1986 was an attempt to mitigate for dam related losses and the impact of Mysis shrimp, and was intended to replace the wild kokanee population of Lake Pend Oreille with hatchery fish. Hatchery kokanee have kept the population from collapsing, but it was unrealistic to expect up to nearly 18 million hatchery fry (maximum hatchery production) to replace over 200 million wild fry. Restoration of the fishery will depend on reestablishing the wild component of the kokanee population.

*Mysis relicta*, the opossum shrimp, was introduced into Lake Pend Oreille in 1966 in an effort to enhance food for kokanee and became established by 1974. The daily migration of Mysis to the depths of Lake Pend Oreille made them unavailable for kokanee forage, but Mysis provided an excellent food source for lake trout. Mysis shrimp also utilize the same food supply as kokanee and have caused a shift in the abundance and species composition of zooplankton. Although no direct competition for a limited food supply has been shown at the current level of kokanee abundance, the carrying capacity for kokanee has declined.

Lake trout were introduced into Lake Pend Oreille in 1925 by the U.S. Fish Commission, but provided little in the way of a sport fishery until the early 1990s. Lake trout have increased in abundance in Lake Pend Oreille during the past 15 years as evidenced by a significant increase in lake trout catch, harvest and increase in catch per unit effort (CPUE, expressed as the number of fish/hour), as well as population estimates. CPUE has increased from 1 fish per more than 1,000 hours of effort in 1991, to 1 fish per less than 100 hours of effort in 2000. The lake trout population has been increasing exponentially from an estimated 1,792 adult fish in 1999, to 6,376 fish in 2003, to 10,741 adult fish in 2005 with a total population of nearly 36,000. Harvest regulations on lake trout were liberalized in 1992 in an attempt to prevent lake trout from dominating the fishery. In 2000, a year round season and no limit were implemented. A rod-and-reel commercial fishery was opened in 2003 and trap and gill nets have been used to remove lake trout since 2006. In addition, an aggressive angler incentive program was initiated in 2006 to pay anglers to harvest lake trout. A combination of angler and net harvest in 2006 resulted in an estimated exploitation of 45% and total annual mortality of 60%. If this type of mortality can be sustained, the lake trout population can be collapsed.

Kamloops rainbow trout (Gerrard strain) from Kootenay Lake, British Columbia, were introduced in 1941 and 1942, producing a world record 37 pound rainbow trout in 1947. Lake Pend Oreille has been widely recognized as a major trophy fishery producing dozens of rainbow in the 20+ pound range annually. Concern over a collapsing kokanee population prompted liberalization of the rainbow trout regulations in the lake and tributary streams in 2006. The trophy Kamloops rainbow trout fishery in Lake Pend Oreille will be deferred until the kokanee population is capable of supporting additional predation. The rainbow fishery will be rebuilt primarily through changes in fishing regulations. Limited stocking with pure strain Gerrard rainbow from Kootenay Lake, British Columbia may be



utilized to infuse new genetic material into the Lake Pend Oreille rainbow trout population. About 50,000 pure strain Gerrard rainbow trout were stocked in the late 1980s and early 1990s to enhance the gene pool. Genetic analysis of a sample of rainbow trout in 1984 indicated that Pend Oreille rainbow trout had changed from the original Kamloops rainbow introduced in 1941. About 16% of the genetic material was from coastal rainbow and 4% from cutthroat trout, and a shift to earlier maturing fish was noted. Kootenay and Lake Pend Oreille rainbow achieve their trophy size from a combination of late maturity that is greatly influenced by genetics, and an abundant diet of kokanee.

The fate of the kokanee fishery and the trophy rainbow and bull trout fishery it supports will be determined during this planning period (by 2012). In 2006, only fry and age I kokanee were relatively abundant and survival of older age classes of kokanee were at record lows due to predation. An aggressive angler incentive program to harvest rainbow and lake trout, combined with trap and gill netting of lake trout was starting to achieve meaningful exploitation rates on lake trout. Exploitation of rainbow trout was still relatively low, however. Older age classes of kokanee had declined to critically low levels by years end. The challenge is achieving significant, sustained exploitation on predators to reduce predation losses before kokanee totally collapse.

If the kokanee population collapses, the likelihood of re-establishing a kokanee fishery with a predator population in place is very low. Hatchery sources of late spawning kokanee are not readily available. Although Avista mitigation funding is available to continue predator management efforts, public support for such efforts would be more difficult to obtain. The trophy rainbow trout fishery would collapse with the loss of kokanee. Without high sustained exploitation, lake trout would dominate the Lake Pend Oreille fishery similar to Priest and Flathead lakes. Angler exploitation without a funded incentive program is not high enough to suppress lake trout. By-catch of lake trout from a commercial fishery on Lake Whitefish may help push exploitation of lake trout to a meaningful level, but changes in commercial harvest rules would need to be approved. Native bull trout and cutthroat trout would also decline as lake trout take over and other non-native species like smallmouth bass and walleye become more common. If kokanee collapse, fundamental changes in the management direction for Lake Pend Oreille will need to occur.

Brook trout currently inhabit many tributary streams formally utilized for spawning and rearing by native cutthroat and bull trout. Brook trout/bull trout hybrids tend to be sterile, or at least less viable, causing the loss of valuable genetic material in depressed bull trout populations. Brook trout will be removed where their presence poses risks to native species, when long term suppression, or total elimination can be achieved and funding is available.

The 26 miles of the Pend Oreille River impounded by Albeni Falls Dam is also greatly influenced by up to an 11.5 foot annual winter drawdown. This reach is a warm slack water reservoir from June through September and a cold flowing river from October through May. Over 40 years of artificially high water have eliminated the natural vegetative cover along the shoreline, causing severe erosion and additional impacts to fish habitat. Habitat conditions have limited establishment of either a good trout or warmwater fishery. Salmonids use the

river seasonally, but brown trout are the only species found in very low abundance on a year round basis. Higher winter pool levels produced better overwinter survival of warmwater species such as largemouth bass and black crappie and an improved fishery. The recent colonization and rapid expansion of smallmouth bass in the Pend Oreille River had resulted in the loss of native minnow species. Largemouth bass may also be displaced by smallmouth bass.

Northern pike and more recently walleye have invaded the Pend Oreille system from introductions in Clark Fork River reservoirs in Montana. Smallmouth bass and walleye may become problematic predators on native salmonids, especially depressed populations of westslope cutthroat and bull trout. The introduction of channel catfish, tiger muskie and bluegill sunfish have diversified the warmwater fishery in several lowland lakes. Other warmwater game fish in the Pend Oreille drainage include largemouth bass, black crappie, yellow perch, pumpkinseed sunfish and bullhead.

Historical overharvest, the impact of land use practices such as logging, farming residential development, roading, the construction of hydroelectric dams, and introduced non-native species have taken a toll on the native fisheries as the Pend Oreille drainage has been settled and developed. Fortunately, there are significant efforts to correct habitat related problems. The relicensing of Avista owned Cabinet Gorge and Noxon dams on the Clark Fork River in 1999 set the stage for 45 years of mitigation funding to be spent on tributary acquisition and enhancement. Fish passage over Cabinet Gorge Dam for native species is also a major focus of the settlement agreement. Restrictive regulations can restore cutthroat populations if habitat is in good shape and competition and predation from introduced species is minimal. Despite restrictive regulations, the cumulative effects of land use development and introduced species have reduced native cutthroat populations to a remnant of their former abundance in the rivers and lakes of the Pend Oreille drainage.

Eurasian milfoil became established in the Pend Oreille River in 1998 and it had spread to Lake Pend Oreille, Spirit Lake and several other lowland lakes in the Pend Oreille basin by 2006. Bonner County Noxious Weed Control are making efforts to chemically treat problematic stands and alternative control methods (weevils and aerators) were being proposed by the Citizens for Sustainable Solutions.

The successful establishment of kokanee in Spirit Lake in 1937 created what once was the most productive kokanee fishery in Idaho, producing the most pounds of kokanee harvested per acre of lake. However, in the 1990s, weak age classes of mature kokanee were overharvested, primarily by ice anglers, resulting in the virtual elimination of a summer troll fishery and smaller, younger fish in the catch. Weak year classes of kokanee may also have been caused by loss of shoreline spawning habitat. Extended drought and "leaks" in an old mill pond area of this sealed bottom lake caused the lake to drop as much as 10 feet by fall. Fishing regulations were modified in 2000 to reduce kokanee harvest and kokanee fry were stocked between 2000 and 2004 to enhance recruitment. The kokanee population rebounded and a 15 fish limit is in place for long term maintenance of the fishery.

Mirror Lake is the only sizable lowland lake in the entire Panhandle Region that is trout only (Sinclair Lake, at 3 acres is the only other trout only lowland lake). Black crappie were illegally introduced in the 1980s, but they were successfully removed with a rotenone treatment in 1991. The lake has been stocked with both fingerling and catchable trout and managed for cutthroat, brook, brown, and rainbow trout and kokanee. Mirror Lake typically grows trout in excess of 14 inches with no special regulations and has produced brown trout to over 12 pounds.

The size and depth of Mirror Lake (90 acres and 60 feet deep) make it biologically and physically ideal for providing a quality trout fishery with more restrictive regulations. However, public opinion is mixed. From a statewide perspective, 79% of the 4,361 anglers responding to the 2006 statewide Angler Opinion Survey indicated that it was very or somewhat important to catch big fish when selecting a place to go fishing. These same anglers indicated that 68% considered it very or somewhat important for the Department to manage for quality/trophy trout in lakes or reservoirs. The Panhandle Region manages 58 lowland lakes. Currently, Bonner Lake near the Canadian border is managed as a quality trout fishery. While there is some demand for this type of fishery closer to the population centers of Coeur d'Alene and Sandpoint, opinion on quality trout management of Mirror Lake is mixed. Many anglers in the Panhandle Region also travel out-of-state to fish quality trout lakes. This planning period should be used to gain angler support to manage Mirror Lake as a quality trout fishery.

Thirteen alpine lakes in the lower Selkirk and Cabinet ranges are stocked with cutthroat trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Only cutthroat trout fry are used to stock mountain lakes to reduce potential impacts to native fish populations downstream. Sterile fish will be used when techniques are perfected for westslope cutthroat trout. Westslope cutthroat or brook trout are present in most of the stocked lakes. A few lakes contain remnant populations of brown trout used in an experiment to reduce stunted brook trout populations.

There are many alpine lakes located in the Pend Oreille drainage that currently do not support fish, either due to natural conditions or because they are no longer stocked. We will maintain these lakes in a fishless condition in order to maintain some natural alpine lake ecosystems for amphibians and invertebrates.

## **B. Objectives and Programs**

1. Objective: Restore a bull trout harvest fishery of at least 200 fish annually by 2008 while meeting Federal Recovery Plan criteria. The U.S. Fish and Wildlife Service Bull Trout Draft Recovery Plan calls for a minimum of six local populations of more than 100 adult bull trout, with at least 2,500 adult bull trout in the population and stable or increasing trends in the population.

Program: Maintain annual bull trout redd counts in 20 tributary streams to monitor the status and health of the bull trout population and ability to meet recovery plan criteria.

Program: Model different regulation scenarios (clipped fish only, slot limit, minimum size limit, punch card system, etc.) on harvest and by-catch mortality rates.

Program: Gather additional biological information on bull trout where stock specific differences in age or size at maturity may influence harvest regulations or meeting recovery plan goals.

Program: Implement and monitor the fishery to determine what level of harvest is sustainable while meeting recovery plan criteria.

2. Objective: Maintain or enhance existing westslope cutthroat trout population persistence.

Program: Complete Avista funded research on the Clark Fork River on adfluvial westslope cutthroat trout to identify options for fish passage above Cabinet Gorge Dam. Meet with Montana Fish Wildlife and Parks and Avista to discuss the benefits and risks of passing fish above Cabinet Gorge Dam prior to implementing a fish passage program for cutthroat trout.

Program: Conduct a basin wide inventory of status, distribution and genetic integrity of cutthroat trout in tributaries to Lake Pend Oreille (LPO) and the Pend Oreille River to evaluate where adfluvial and resident fish are still present, where non-native salmonids pose risks, and where habitat is limiting.

Program: Address habitat limitations where feasible.

Program: Preserve genetically pure populations of westslope cutthroat trout by removing non-native species or installing barriers where appropriate.

3. Objective: Develop a kokanee fishery that provides an annual harvest averaging 300,000 fish with catch rates of 1.5 fish/hr by 2015 (two kokanee generations).

Program: Continue the Bonneville Power Administration (BPA) research evaluation of lake level management to restore shoreline spawning habitat through 2007.

Program: Implement a long term lake level management program that provides kokanee spawning habitat needs in the LPO system by working with action agencies (USFWS, NOAA, BPA, COE) and others (Lakes

Commission, ODFW, WDFW, Tribes) to finalize a decision tree approach that gives equal weight to water management decisions on LPO and allows attainment of kokanee goals and objectives.

Program: Focus research on the effects of hatchery kokanee fry stocking on wild kokanee fry survival during the next five years to better determine what level of hatchery fry stocking is appropriate to meet kokanee fishery recovery plan goals.

Program: Investigate the hatchery kokanee stocking program to determine if it is increasing the predator population and resulting in decreased wild kokanee fry survival. If so, modify the kokanee stocking program.

Program: Monitor kokanee population abundance to evaluate response to predator management actions.

Program: Evaluate the benefits and risks of reopening a limited kokanee fishery to recruit kokanee anglers back to the system and restore harvest on small rainbow trout.

4. Objective: Manage for a long term trophy rainbow trout fishery that provides overall catch rates of 30 hr/fish, with an annual harvest potential averaging 3,000 fish greater than 24 inches and 3% (90 fish) over 20 pounds by 2015 once kokanee are recovered.

Program: Develop broad based angler support for including rainbow trout as part of a predator management program and implement a short-term reduction of the rainbow trout population such that age 1-2 kokanee survival is over 50% by 2010.

Program: Once kokanee are recovered, implement management strategies to restore the trophy rainbow trout fishery in Lake Pend Oreille. Management strategies may include special rules on harvest, re-stocking with pure strain Gerrard rainbow trout, or other means necessary to meet stated objectives.

Program: Conduct a population modeling exercise in 2006-2007 to better define what is realistic in terms of a trophy rainbow trout management program – estimated population goal, time to recovery, and fishing regulation options to achieve that goal.

Program: Conduct a rainbow trout population estimate to better define the starting and ending points for short term rainbow trout population control to improve kokanee survival.

Program: Maintain liberalized fishing regulations for rainbow trout on the lake and in the tributaries to prevent kokanee from collapsing.

Program: Work with Human Dimensions specialists to achieve angler support for rainbow trout harvest management goals.

Program: Conduct a creel census in 2007 and periodically to monitor catch and harvest to evaluate if harvest objectives are being met.

Program: Investigate and implement other means of population control (tributary weiring, redd removal) if a sport fishery is not successful at reducing rainbow trout abundance.

5. Objective: Reduce the lake trout population and ensure long term population control by 2010 to a level where lake trout are no longer threatening the kokanee population and priority native and sport fisheries.

Program: Maintain contact with key stakeholders (Department Commissioner, legislators, angler groups, Avista Management Committee members, etc.) to discuss the risk that lake trout pose to the LPO fishery and need for good population control measures.

Program: Conduct a broader public outreach program to explain risks of lake trout population expansion to the community and angling public and need for aggressive, comprehensive, and continued population control measures.

Program: Complete lake trout population dynamics modeling in 2007. Evaluate angler exploitation with tagged fish to determine if harvest goals are being met.

Program: If public and legislative support can be obtained, and long term funding found, begin a simultaneous, long-term program of lake trout removal utilizing anglers, trap nets, gill nets, or other methods including commercial fishing, to control lake trout numbers.

Program: Identify lake trout spawning sites around the lake and evaluate how lake level management and targeted gill netting may be effective at controlling spawning lake trout.

Program: If possible, add water level management criteria to the present drawdown criteria to maximize desiccation of lake trout eggs.

6. Objective: Evaluate the ecological role of Lake Whitefish in Lake Pend Oreille.

Program: Complete the University of Wisconsin-Stevens Point graduate student research project on Lake Whitefish to provide basic life history information.

Program: Model the biologic and economic feasibility of allowing a commercial fishery on Lake Whitefish. Determine if this fishery would provide an incentive to remove lake trout as by-catch and if that by-catch would be meaningful in terms of lake trout population control.

Program: Evaluate the ecological impacts to other species in LPO fishery of a harvested lake whitefish population prior to approving a commercial fishery for Lake Whitefish.

7. Objective: Evaluate the ecological role of smallmouth bass and walleye on the kokanee, rainbow, and bull trout fisheries.

Program: Complete the evaluation of lake level management impacts on the survival and growth of warmwater species in the Pend Oreille River system in 2007.

Program: Determine the impact of smallmouth bass (SMB) and walleye (WE) predation on adfluvial salmonids and kokanee in 2007-2009 if BPA funding becomes available.

Program: If negative impacts are occurring, propose regulation changes to reduce SMB and WE populations.

Program: Identify interspecific interactions between SMB and largemouth bass (LMB) in the LPO/POR system. Evaluate whether it is appropriate to manage the two species with different fishing regulations.

Program: Evaluate angler exploitation of LMB and SMB to determine if regulation reform is justified.

Program: Develop a trend monitoring protocol for WE to evaluate the status, distribution and potential impact of WE in the LPO/POR system.

8. Objective: Minimize impacts to lake fisheries due to lakeshore encroachment, pollution and nutrient loading.

Program: Work with county planners and Idaho Department of Lands to make protection of fish habitat and water quality a primary concern in land use decisions.

9. Objective: Improve the efficiency of hatchery put-and-take trout stocking programs.

Program: Evaluate rate of return, catch rate, and angler use on put-and-take trout fisheries through a routine data collection system.

Program: Adjust rate, timing or location of trout stocking to improve rate of return to the creel.

Program: Inform anglers of hatchery supported trout fishing opportunities through maps, brochures, media coverage and signing to improve return to the creel.

Program: Develop and utilize disease free, sterile stocks of rainbow and cutthroat trout to address concerns about potential impacts to wild trout.

10. Objective: Provide diverse angling opportunities in lowland lakes.

Program: Continue periodic surveys of fish populations to monitor population status and fish growth in relation to physical and biological conditions and fishing regulations. Manage some lakes for specific fish species in order to maximize angling opportunity.

Program: Maintain maximum harvest opportunity for warmwater species and stocked trout in most lakes.

Program: Establish a quality or trophy trout fishery in one lowland lake in the Panhandle Region where biological and physical conditions and public support provide the right set of conditions for special management.

Program: Continue maintenance stocking of tiger muskie and channel catfish to maintain popular fisheries. Evaluate channel catfish harvest to determine if harvest restrictions are needed to maintain this hatchery supported fishery.

11. Objective: Improve fishing and boating access.

Program: Develop or enhance fishing and boating access areas through easements, cooperative agreements or purchase. Utilize funds to build fishing docks for shoreline anglers. Mirror Lake is priority water.

12. Objective: Curtail illegal introductions of fish and aquatic nuisance species (ANS). Illegal introductions of exotic fishes and ANS threaten the stability of other established fisheries.

Program: Develop informational programs to educate anglers and the public to risks of random introductions of exotic species and ANS. Through planning, use enforcement efforts to curtail illegal introductions.

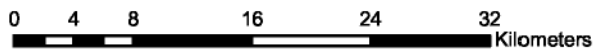
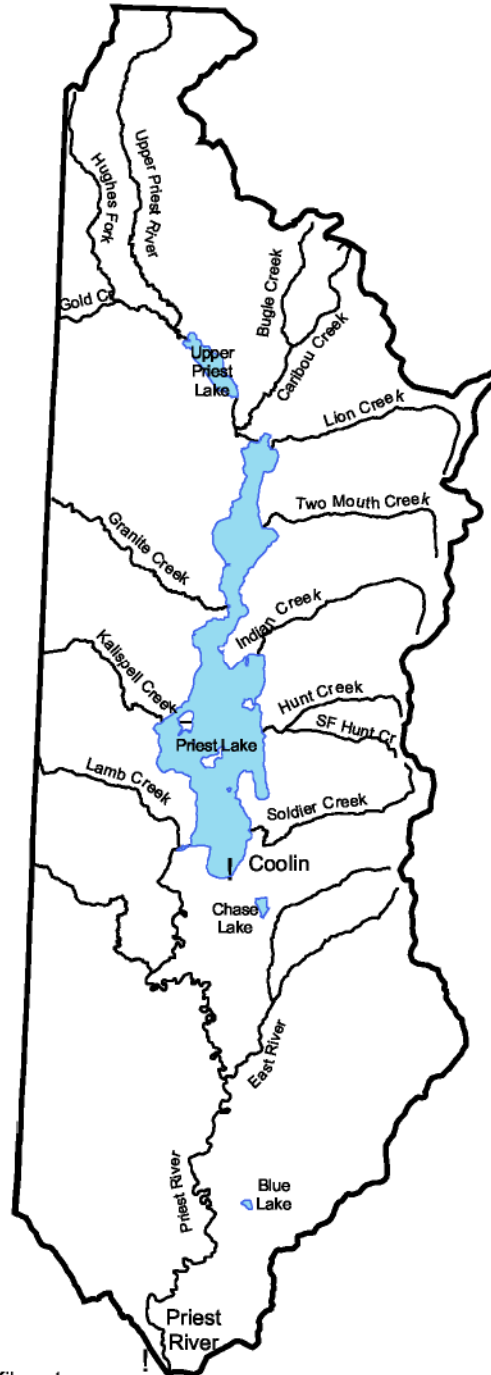
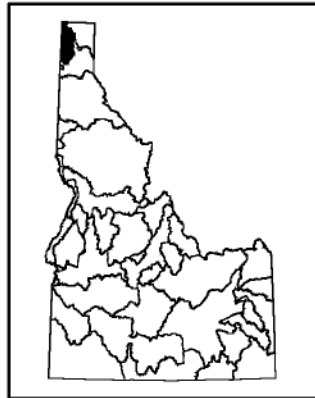


| DRAINAGE: Pend Oreille River      |             |         |  |                         |  |
|-----------------------------------|-------------|---------|--|-------------------------|--|
| Water                             | Miles/acres | Fishery |  | Management              | Management direction   |
|                                   |             | Type    | Species present  |                         |  |
| Lake Pend Oreille and tributaries | 200/85,960  | Mixed   | Bull trout   | Conservation/<br>Trophy | Maintain harvest closures in tributary streams and investigate a limited harvest fishery on strong stocks of bull trout in the lake. Acquire and protect critical habitat, educate anglers to reduce unintentional harvest of bull trout, increase enforcement to reduce poaching and remove non-native fishes that compete directly with bull trout. Improve fish passage over Cabinet Gorge Dam. |
|                                   |             |         | Cutthroat trout  | Quality/Wild            | Maintain restrictive regulations on the lake and tributary streams used by adfluvial fish to maximize production of wild fish for the lake. Maintain limited consumptive fishery for cutthroat trout in tributaries not used by adfluvial trout.   |
|                                   |             |         | Kokanee  | Conservation            | Maintain harvest closure until kokanee survival and recruitment increases from critically low levels. Continue spawning habitat restoration efforts to re-establish wild kokanee. Continue hatchery enhancement efforts for kokanee to reduce the risk of wild kokanee collapsing and restore a consumptive fishery  |
|                                   |             |         | Rainbow trout  | General/Trophy          | Maintain liberal harvest opportunity on rainbow trout to keep their population at a low level until kokanee are restored. Enhance the rainbow trout population by modifying regulations once kokanee survival recruitment recovers. Consider limited stocking of pure strain Gerrard rainbow from Kootenay Lake, B.C. to improve genetics.   |
|                                   |             |         | Lake trout<br>Brook trout  | General                 | Maintain maximum harvest opportunity in the lake and tributary streams to keep lake trout and brook trout at low levels. Utilize all means feasible to increase exploitation on lake trout.  |
|                                   |             |         | Lake Superior whitefish<br>Mountain whitefish<br>Brown trout                         | General                 | Investigate a commercial fishery on Lake Superior whitefish to achieve harvest goals for lake trout through by-catch and offset reduced limits on other species. Promote recreational fishery for lake whitefish   |
|                                   |             |         | Largemouth bass<br>Smallmouth bass<br>Northern pike<br>Black crappie<br>Yellow perch | General                 | Maintain existing warmwater fisheries where they will not interfere with salmonid management programs. Evaluate liberalizing smallmouth bass limits to reduce predation on native salmonids and competition with largemouth bass.  |

|                                     |          |           |   |  |  |
|-------------------------------------|----------|-----------|---|--|--|
| Clark Fork River and tributaries    | 11/      | Coldwater | Bull trout<br>Cutthroat trout<br>Rainbow trout<br>Kokanee<br><br>Brown trout<br>Mountain whitefish  | Conservation Quality/Wild General/Trophy Conservation<br><br>General | Same management direction for bull trout, cutthroat trout, rainbow trout and kokanee as in Lake Pend Oreille. Manage to achieve a 0.5 trout/h catch rate. Cooperate with Avista, U.S. Fish and Wildlife Service and Montana Fish Wildlife and Parks to re-establish fish passage at Cabinet Gorge Dam. Enhance fish habitat in the Clark Fork River.<br><br>Evaluate if brown trout are competing with bull trout for limited spawning and rearing habitat in Twin Creek. Prioritize bull trout. Evaluate kokanee returns to Twin Creek relative to the Cabinet Gorge Hatchery ladder to determine if Twin Creek will be a better egg collection site. |
| Pend Oreille River                  | 26/8,760 | Mixed     | Rainbow trout<br>Brown trout<br>Cutthroat trout<br>Largemouth bass<br>Smallmouth bass<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead | General  | Modify water level management of Albeni Falls Dam to reduce impacts on fish habitat. Investigate other habitat enhancement measures, such as sub impoundments in selected bays to reduce habitat related impacts during drawdown years. Evaluate liberalizing smallmouth bass limits to reduce predation on native salmonids and competition with largemouth bass. Work with Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Kalispell Tribe, U.S. Forest Service and Corps of Engineers to evaluate establishing fish passage at Albeni Falls Dam on the Pend Oreille River.  |
| Hoodoo Creek                        | 11/      | Coldwater | Brown trout<br>Brook trout<br>Rainbow trout   | General  | Work with riparian landowners and angling groups to restore instream and riparian habitat and allow fishing access through private property.   |
| Kelso, Little, Round, Granite lakes | /100     | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead  | Family Fishing Water<br><br>General                                  | Manage with simple regulations, to provide a consumptive fishery oriented towards family fishing. Provide a trout fishery in Kelso Lake by stocking put-and-take rainbow trout. Out-migrants from Kelso Lake provide limited trout fisheries in Little Round and Granite lakes, but water quality limitations preclude put-and-take trout stocking.  |

|   |          |           |  |                                   |  |
|---|----------|-----------|--|-----------------------------------|--|
| Cocolalla, Round, Blanchard (Stoneridge Reservoir), Jewel lakes | /990     | Mixed     | Rainbow trout<br><br>Cutthroat trout<br>Brook trout<br>Brown trout<br>Largemouth bass<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Channel catfish<br>Bullhead | Put-and take trout<br><br>General | Maintain trout fisheries in Round, Jewel and Blanchard lakes by stocking put-and-take rainbow trout. Maintain trout fisheries in Cocolalla Lake by stocking fingerling cutthroat and rainbow trout.<br><br>Monitor the bluegill and perch population in Jewel Lake to see if additional warmwater predators will be needed to improve the warmwater fishery.<br><br>Enhance the diversity of the warmwater fishery in Cocolalla Lake with maintenance stocking of channel catfish. |
| Spirit Lake and tributaries                                     | 10/1,477 | Mixed     | Kokanee<br>Rainbow trout<br>Cutthroat trout<br>Brook trout<br>Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead           | General                           | Maintain a yield kokanee fishery. Monitor kokanee population abundance to determine if kokanee management goals are being met.<br><br>Provide a trout fishery by stocking fingerling cutthroat trout.<br><br>Maintain the existing fishery for warmwater species.  |
| Shepherd and Gamble lakes                                       | /250     | Warmwater | Tiger muskie<br><br>Largemouth bass<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead  | Trophy<br><br>General             | Maintain tiger muskie stocking in Shepherd Lake to provide a specialized trophy fishery.   |
| Mirror Lake   | /90      | Coldwater | Rainbow trout<br>Kokanee   | General                           | Maintain a trout only fishery by stocking catchable rainbow trout and kokanee fry. Consider Mirror Lake for Quality Trout management. Seek ways to enhance angler access.  |
| Alpine Lakes (13 in the Pend Oreille River drainage)            | /150     | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout<br>Grayling  | General                           | Provide fisheries that are consistent with lake productivity and angler pressure. Use westslope cutthroat trout for cutthroat trout stocking and sterile disease-free rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling) only. Do not stock lakes that are currently fishless in order to maintain some natural alpine lakes.  |
|   |          |           |  |                                   |  |

# Priest River Drainage



### 3. PRIEST RIVER DRAINAGE

#### A. Overview

Priest Lake and Upper Priest Lake are glacial lakes located in the northwest corner of the Idaho Panhandle approximately 13 mi south of the Idaho-British Columbia border and 55 mi north of the city of Coeur d'Alene, Idaho. Upper Priest and Priest lakes are situated in the Selkirk Mountains amid a coniferous forest watershed of 600 mi<sup>2</sup>.

Priest Lake has about 62 miles of shoreline, a surface area of about 23,360 acres and a maximum depth of 369 ft. Upper Priest Lake has about 8 miles of shoreline, a surface area of about 1,400 acres and a maximum depth of 103 ft. Upper Priest Lake is bathtub-shaped, being long and narrow with steep walls and a flat bottom where Priest Lake is more irregular in shape. The elevation of both lakes is maintained at 2,438 ft in elevation from the end of spring runoff until mid October by a small dam at the outlet of Priest Lake. Summer surface temperatures of Upper Priest Lake are consistently lower than Priest Lake, with maximum temperatures of 70°F and 75°F, respectively.

Upper Priest Lake is connected to Priest Lake by a river channel known as the Thorofare. The Thorofare is about 2 miles long, about 230 ft wide and generally 5-10 ft deep. At its outlet into Priest Lake, the Thorofare is about 3 ft deep at summer pool level. When the lake levels reach low pool level, depth of the Thorofare at its outlet is <6 inches deep, impeding nearly all boat traffic. During summer months, the Thorofare receives heavy boat traffic.

Historically, Priest and Upper Priest lakes contained three main sport fishes, westslope cutthroat, bull trout and mountain whitefish, with cutthroat being the most sought after species. The westslope cutthroat trout fishery was very popular and twenty fish limits of 15 to 20 inch cutthroat were common. Most cutthroat trout in Upper Priest Lake and Priest Lake were adfluvial and matured at age-5. Spawning begins in April and generally ends by mid-June. Most juvenile cutthroat trout in the Priest drainage remain in the streams two or three years before migrating to a lake.

Anglers reported that cutthroat fishing began to deteriorate as early as the 1930s or 1940s when access to the lake was still poor. In 1956, harvest dropped to about 5,000 fish from Priest and Upper Priest lakes, and by 1983 just over 100 cutthroat trout were caught. Mean size of cutthroat in the catch had declined from 13-15 inch adults to mostly immature fish averaging 11 inches. Factors contributing to the decline included excessive harvest by anglers, mining of adult spawners for hatchery take, competition with introduced exotics such as kokanee and brook trout and degradation of spawning habitat. By the 1980s, lake trout predation was believed to be the major factor suppressing the cutthroat trout fishery. Even with hatchery supplementation and restrictive bag limits the cutthroat population never recovered. Cutthroat fishing on both lakes has been restricted to catch-and-release since 1992.

Priest Lake bull trout are adfluvial, with most fish maturing at age-5 or age-6, and entering spawning tributaries as early as May to spawn in September. Bull trout generally live in tributary streams for two or three years before migrating to lakes, and have a life expectancy of 10 or more years. During August and September, when surface temperatures reach 68°F, bull trout in Upper Priest Lake and Priest Lake occupy depths of >50 ft where temperatures range from 45-55°F. When surface temperatures are below or near 55°F in the spring and fall, bull trout can be found closer to the surface.

Historically, bull trout were common in the Priest Lake basin and most of the major tributaries supported spawning runs of over 100 adults with some exceeding 20 lbs in weight. Annual harvest of adult bull trout from streams exceeded 600 fish during the 1950s. In the lakes, annual harvests between 1,000 and 2,000 bull trout were the norm during the 1950s, 1960s and 1970s, and in 1978, the harvest of bull trout in Priest Lake peaked at over 2,300 fish. After 1978, harvest of bull trout dropped significantly and by 1983 less than 100 fish were harvested. Bull trout harvest was closed in 1984. By 1985, adfluvial bull trout runs into tributaries of Priest Lake were essentially gone, and the only strong number of bull trout occurred in the Upper Priest Lake basin. However, by the mid 1990s the spawning run of bull trout in the Upper Priest Lake basin was a fraction of what it was in the 1985 and in 2006 bull trout spawning escapement was estimated at 87 fish. The loss of bull trout in Priest Lake was initially blamed on over-fishing, but the population did not rebound after the fishery was closed, so something else likely limited the population. Continued research indicates that an expanding lake trout population in both Priest Lake and Upper Priest Lake contributed to the decline of bull trout through predation or competition for space and food.

Kokanee were introduced in the 1930s and 1940s and quickly became the most abundant game fish, replacing cutthroat and providing a new yield fishery. The ability of kokanee to efficiently utilize zooplankton may have significantly lowered the carrying capacity of cutthroat trout in both lakes. The presence of kokanee provided an abundant food source for bull trout, lake trout and fishermen. Through 1971, fishermen harvested on average 64,000 kokanee a year at an average rate of 1.2 fish per hour. During this period, kokanee supported most of the 15,000 angler days that occurred on both lakes.

Mysis shrimp were introduced into Priest Lake in 1965 to provide a supplemental food item for kokanee. A few kokanee fed on Mysis shrimp and reached trophy size, as evidenced by the State record fish (6 lb 9.5 oz) caught in 1975. However, Mysis shrimp negatively impacted kokanee in a more inconspicuous manner. Mysis shrimp provided an ideal food source for juvenile lake trout, thereby enhancing the rapidly expanding lake trout population. With more and more lake trout feeding on kokanee, and survival of young kokanee declining, the kokanee population collapsed, and in 1978, only 4,500 kokanee were harvested. In an effort to restore kokanee, 1–3 million kokanee fry were stocked annually into Priest Lake and several tributary streams between 1982 and 1989. Despite this stocking, few kokanee survived to adulthood. Angling effort in this system declined from 15,000 angler days to around 10,000 angler days after the collapse of kokanee (30% drop in fishing pressure).

Lake trout were introduced in 1925 by the U.S. Fish Commission as one of many early introductions of non-native species into western waters. Lake trout catch remained relatively low through the early 1970s with annual harvest being around 200 fish. The lightly harvested population resulted in lake trout averaging about 20 lbs in weight in the early 1970s and the 57½ lb. state-record lake trout was caught in 1971. By 1978, harvest increased to around 5,700 lake trout annually. Average size in 1983 declined to 22 in and 4 lbs due to the increased number of juvenile lake trout, loss of kokanee forage and increased fishing pressure on larger lake trout. Annual harvest increased to 14,000 lake trout by 1994 and 30,000 lake trout by 2003. The mean length and weight of angler-caught lake trout in 2003-2004 was 22 in and 2.1 lbs.

Lake trout were not known to be present in Upper Priest Lake until the mid-1980s. The high density population in Priest Lake resulted in colonization of Upper Priest Lake through the Thorofare. In 1998, the lake trout population in Upper Priest Lake was estimated at 859 fish.

As lake trout grew dominant in Priest and Upper Priest lakes, the fishery changed. Fishing effort declined 30-50% on Priest Lake as lake trout increased in abundance, despite a nearly tripling in the area's human population during the same period. Many anglers dropped out of the fishery because they considered lake trout difficult to catch, poorer eating than kokanee, or not sporting to catch. In 2003, 99% of fishing effort was for lake trout, but total effort was only about 48,000 hours, compared to 96,000 hours in 1956. A 6-fish limit with no size restrictions was placed on lake trout in Priest and Upper Priest Lake in 2002 (changed from a 2-fish limit in Priest Lake and catch-and-release in Upper Priest Lake) to determine if angler harvest could suppress the lake trout population. More and smaller lake trout were harvested in 2003, but exploitation remained too low (~8%) to reduce the lake trout population. A sustained exploitation rate of 30-40% was necessary to significantly reduce the lake trout population through over-harvest. Angling effort on Priest and Upper Priest Lake is currently too low to overexploit the lake trout population and thereby facilitate the kokanee and cutthroat fisheries to rebound.

Angler opinions about management direction for Priest Lake have been polarized since the collapse of kokanee in the late 1970s and domination of the fishery by lake trout. Many anglers would like to see restoration of a native cutthroat trout and bull trout fishery and a kokanee sport fishery. Other anglers prefer managing the fishery for lake trout. The most recent angler opinion survey conducted in 2006 on management direction for the Priest Lake fishery continues to show a divided public. When asked about potential management options for the Priest Lake system, 56% of the 385 anglers responding from the Panhandle Region strongly or somewhat agreed to "manage Upper Priest Lake for native cutthroat and bull trout, and manage Priest Lake for a lake trout fishery", while 48% strongly or somewhat agreed to "attempt to restore native cutthroat and bull trout and a kokanee fishery by aggressively suppressing lake trout in both lakes". Biological constraints, rather than social desires, will likely be more important in determining future management direction for the Priest Lake basin.

With the current high abundance of lake trout in Priest Lake and a growing population in Upper Priest Lake, we believe that native species such as cutthroat

trout and bull trout cannot be maintained at levels that will provide for a fishery. Rather, bull trout will likely disappear from these lakes if lake trout numbers are not substantially reduced. Harvest of lake trout will need to be substantially increased to a level where bull trout and cutthroat trout populations could expand and begin to provide a fishery again. This could include activities such as extensive gill netting, trap netting, or an angler incentive program to harvest lake trout similar to Lake Pend Oreille. Such activities could cost upwards of \$300,000 per year and would not guarantee success. Lake trout were illegally introduced into Yellowstone Lake and removal efforts since 1994 cost about \$300,000 each year. In the past 12 years, over 136,000 lake trout have been removed from Yellowstone Lake, yet the cutthroat trout population declined by 60% and continued to decline. Establishment of a commercial fishery for lake trout could offset suppression costs, but a market for lake trout does not exist and conflicts with the sport fishery could emerge. Unfortunately, mitigation funding is not available for Priest Lake like for Lake Pend Oreille.

Habitat loss and competition from brook trout in tributary streams pose additional obstacles to cutthroat and bull trout recovery in the Priest system. Long reaches of stream have been channelized on the west side of Priest Lake, including Granite Creek, which was historically one of the top spawning tributaries for cutthroat trout and bull trout. Historic logging activity reduced quantities of large woody debris and increased fine sediment, although logging practices have improved dramatically over the years. Brook trout, which are known to out-compete cutthroat trout and bull trout in lower gradient streams, or streams with high quantities of fine sediment, occur throughout the Priest Lake and Upper Priest Lake basins. Based on surveys of all major streams in the Priest Lake and Upper Priest Lake basins during 2003 and 2004, brook trout comprise 62% (by number) of all fish surveyed in tributaries on the west side of Priest Lake, 35% in tributaries on the east side of Priest Lake and 13% in tributaries in the Upper Priest Lake basin. Brook trout will likely reduce the carrying capacity for cutthroat trout and bull trout.

Smallmouth bass colonized Priest Lake in about 2003. Although their numbers were relatively low in 2006, smallmouth bass will likely expand their distribution and become numerous as in Hayden, Coeur d'Alene and Pend Oreille lakes. Smallmouth bass will likely be an additional predator on juvenile adfluvial westslope cutthroat and bull trout complicating recovery efforts.

The high cost of removing lake trout from Priest Lake, the lack of an identified funding source for that effort, the uncertainty of success, coupled with the reduced productive capacity of tributary streams for adfluvial fish production make native fish restoration problematic. However, a lake trout fishery will not likely attract as many anglers as kokanee, cutthroat trout, or bull trout fisheries. However, if we manage the lake trout fishery with limits that would attract harvest-oriented fishermen, but with potential to catch a trophy-sized fish (>15 lbs), we may be able to increase angler interest. Managing Priest Lake for lake trout would also give anglers from Lake Pend Oreille, where we are currently attempting to suppress lake trout, an alternative fishery where they could fish for lake trout.



With the changes that have taken place to the Priest Lake ecosystem, any fish species other than lake trout is unlikely to provide the same yield (pounds of fish harvested/acre). Cutthroat trout are not likely to ever provide a harvest fishery of any significance, even if lake trout were suppressed. Cutthroat trout have been providing a limited catch-and-release fishery in the presence of an abundant lake trout population.

A limited kokanee fishery may be possible, while managing for lake trout. Kokanee were making a small comeback in the presence of intense lake trout predation and without supplemental stocking by 2006. Shoreline spawner counts increased from 1,765 fish in 2001 to 6,117 fish in 2004. Counts dropped slightly in 2005 to 4,961 spawners. A fishery closure in 2002 and changes in lake level management appeared to be maintaining a remnant population. In 2001, the Idaho Water Resources Board and IDFG proposed several amendments to the 1996 State Water Plan to lower lake levels starting October 1 to reach the 0.0 feet goal at the outlet gauge by November 1. This drawdown strategy was implemented in 2002 and better ensured a higher spawning success rate for shallow spawning kokanee, because the water level would be at its lowest point before any eggs were laid. Kokanee spawning activity in Priest Lake peaks in mid-November. If the kokanee population continued to increase, a limited harvest fishery (1 or 2 fish) on kokanee may be possible while also managing for lake trout. However, to reestablish a yield fishery for kokanee (limit of 15 or more) would require a substantial reduction in lake trout population.

The Upper Priest Lake basin provides our last best chance to save native fish, although lake trout still pose the greatest risk to success. Lake trout removal efforts (gillnetting) have been ongoing in Upper Priest Lake since 1998. Through 2006, 6,000 lake trout have been removed by gillnetting from Upper Priest Lake. Despite these efforts, lake trout numbers continued to increase to the point they outnumbered bull trout 50 to 1 by 2006 and bull trout had disappeared from many spawning tributaries in Upper Priest Lake. Significant numbers of bull trout now spawn only in Upper Priest River, although they are a fraction of their historic numbers. Efforts to quantify cutthroat trout abundance in Upper Priest Lake have not occurred, although we also believe their numbers are seriously depressed. Lake trout migration into Upper Priest Lake through the Thorofare, and reproduction, was replacing lake trout as fast as they could be removed. For this reason, gillnet efforts in Upper Priest Lake have only held numbers of lake trout steady over the last few years. For gill netting efforts to be successful in Upper Priest Lake, lake trout migration through the Thorofare must be blocked.

Several alternatives to blocking lake trout migration through the Thorofare have been investigated, including, electric and floating weirs, strobe lights and large pound nets. However, heavy boat traffic during some times of year will not allow some structures to be considered for fish barriers. An evaluation of fish movement in the Thorofare indicated that lake trout did not migrate when temperatures exceeded 59°F, with radio-tagged fish moving primarily during spring and fall. In 2003, IDFG conducted a study using underwater strobe lights as a technique to minimize migration of lake trout from Priest Lake into Upper Priest Lake through the Thorofare. Our results showed that lake trout were repelled by strobe lights and appeared to be 75% effective in stopping the upstream movements of lake trout in the Thorofare. Estimated installation cost

for a strobe light weir would be around \$150,000, with \$5,000 annual operating costs. We are also in the process of evaluating the use of pound nets set at the outlet of Upper Priest Lake to catch lake trout migrating into the lake. The structure to hold these nets would be set up permanently, and the nets would be set when most lake trout migrate through the Thorofare (spring and fall). Pound net installation cost would be about \$50,000 with operating costs of around \$10,000-\$20,000 annually.

Tributaries in the Upper Priest Lake basin have the greatest potential to support large numbers of cutthroat trout and bull trout because they support the most miles of good stream habitat with the fewest number of brook trout. Due to the smaller size and shallower depths of Upper Priest Lake, lake trout removal efforts would cost significantly less than in Priest Lake and would have a greater chance of success if strategies are developed and implemented to block lake trout migration through the Thorofare. For this reason, we plan to continue removing lake trout in Upper Priest Lake through the end of this management period (2012). If, by this time, lake trout control efforts are not resulting in significant improvements in the number of juvenile bull trout and westslope cutthroat trout are not seen in the lake, we will recommend alternative management in Upper Priest Lake. If we are successful in removing lake trout, we would propose managing this lake for native fish only. Currently, no lowland lakes in the Panhandle Region are managed for only native species. We would not encourage the introduction or expansion of kokanee in this lake because kokanee can compete with cutthroat trout, especially in infertile lakes like Upper Priest Lake.

### **Objectives and Programs**

1. Objective: Restore native fish populations in Upper Priest Lake

Program: Continue yearly removal of lake trout with gill nets and other means to reduce lake trout numbers.

Program: Conduct annual population estimates on lake trout and bull trout in Upper Priest Lake to quantify how much of the population we are exploiting with gill net efforts and the benefit it is providing to bull trout and westslope cutthroat trout.

Program: Monitor bull trout population status by conducting redd counts in Upper Priest Lake tributary streams.

Program: Determine the effectiveness of trap nets and/or pound nets as a means of capturing and removing lake trout.

Program: Evaluate the most efficient and cost effective method of blocking lake trout movement through the Thorofare. Seek funding for permanent installation of whichever technique is most efficient and cost effective.

Program: Maintain catch-and-release fishing throughout the Upper Priest Lake basin to protect cutthroat trout and bull trout populations.

Program: Implement annual cutthroat trout monitoring in Upper Priest.

Program: Investigate implementation of a harvest fishery on kokanee to reduce competition with cutthroat trout.

2. Objective: Shift management emphasis in Priest Lake to lake trout, to provide both a yield and trophy fishery.

Program: Maintain liberal harvest limits for smaller lake trout and seek public input on techniques to develop a trophy fishery (i.e. slot limit).

Program: Conduct creel survey in this planning period (2007-2012) to evaluate effectiveness of the regulation changes.

3. Objective: Protect the cutthroat trout and bull trout fishery in Priest Lake.

Program: Preserve genetic integrity of wild, native cutthroat trout and bull trout by maintaining catch-and-release fisheries in the lake and limited harvest in the tributaries.

Program: Work with the Forest Service and Idaho Department of Lands to improve habitat conditions in tributary streams.

4. Objective: Provide a limited consumptive harvest of kokanee in Priest Lake.

Program: Continue monitoring historical kokanee spawning transects

Program: If spawning surveys indicate a kokanee fishery is possible, implement regulations that will allow limited harvest of kokanee.

5. Objective: Provide information and education of fisheries management objectives in the Priest River watershed.

Program: Continue to develop and distribute fisheries information and regulation signs to increase compliance and support.

Program: Work with county planners and Idaho Department of Lands to make protection of fish habitat and water quality a primary concern in land use decisions minimizing impacts to lake fisheries due to lakeshore encroachment, pollution and nutrient loading.

6. Objective: Reduce impacts of smallmouth bass on more desired game fishes.

Program: Determine habitat use, movements and feeding habits of smallmouth bass to assess impacts on other fish species.

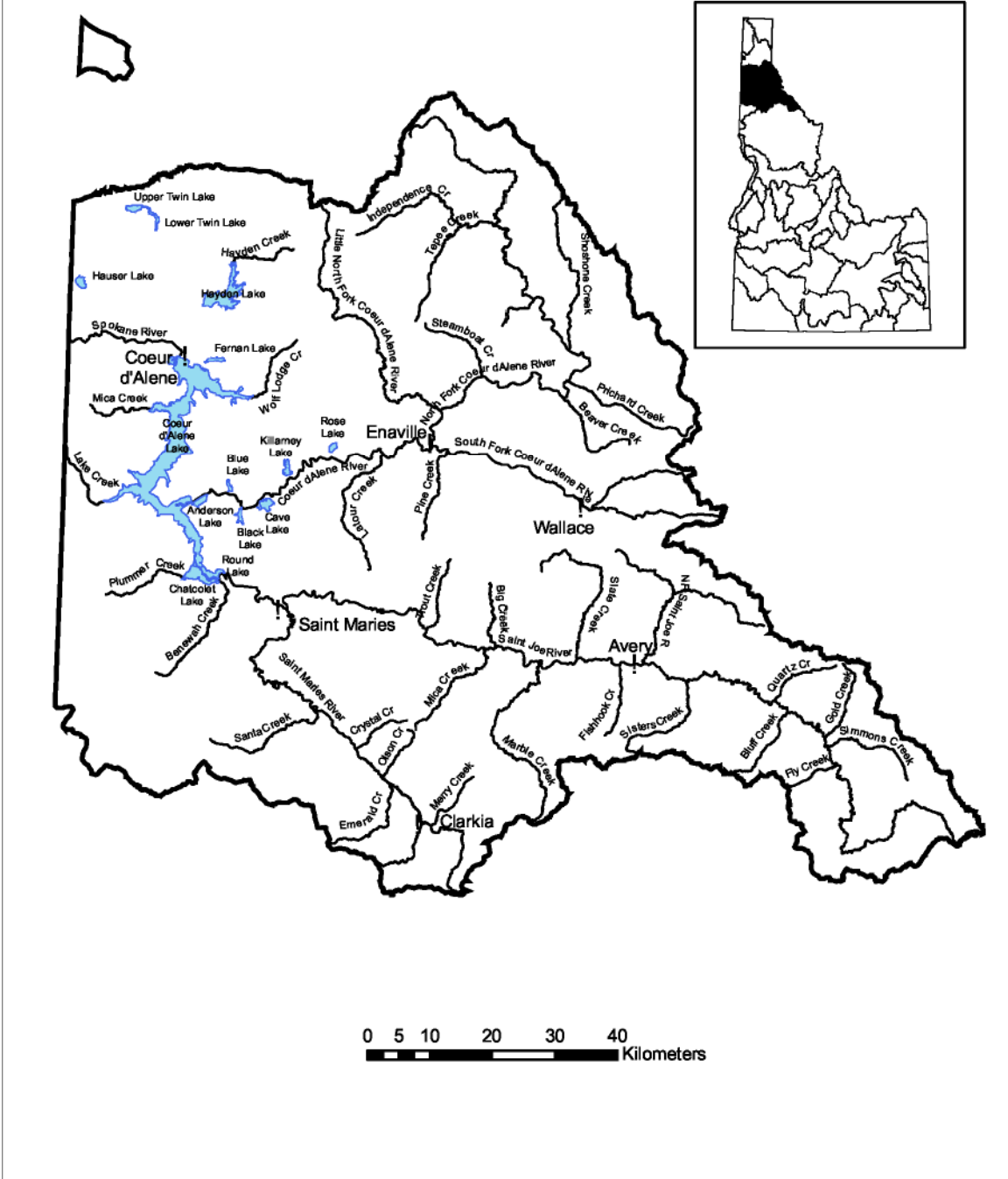
Program: If smallmouth bass are found to be impacting other desired game fish, solicit input from the public to determine which game species they have a preference for.

Program: Develop fishing regulations specific to smallmouth bass to reduce impacts on other game fishes.

| DRAINAGE: Priest River               |             |           |                 |              |  |
|--------------------------------------|-------------|-----------|-----------------|--------------|--|
| Water                                | Miles/acres | Type      | Fishery         | Management   | Management direction   |
|                                      |             |           | Species present |              |  |
| Priest Lake and tributaries          | 100/23,360  | Coldwater | Cutthroat trout | Conservation | <p>Manage Priest Lake and tributaries with catch-and-release regulations to preserve remaining populations of adfluvial cutthroat trout and bull trout.</p> <p>Conserve remnant kokanee population with harvest restrictions to provide stocks for rebuilding a kokanee fishery. If numbers increase, allow limited harvest. Continue to support Idaho Water Resources Board and IDFG proposed amendments to the 1996 State Water Plan to improve kokanee spawning success by lowering the lake level starting October 1 in order to reach the 0.0 feet goal at the outlet gauge by November 1.</p> <p>Change regulations to allow for liberal harvest of smaller lake trout, but will still allow for the development of a trophy fishery (lake trout &gt; 15 lbs).</p> <p>Maintain consumptive fishery in tributaries to reduce brook trout abundance and offset harvest restrictions on adfluvial cutthroat trout in streams.</p> <p>Increase harvest opportunity on smallmouth bass to offset predation losses on cutthroat trout, bull trout and kokanee.</p> |
|                                      |             |           | Bull trout      |              |  |
|                                      |             |           | Kokanee         | Conservation |  |
|                                      |             |           | Lake trout      | Quality      |  |
|                                      |             |           | Brook trout     | General      |  |
| Smallmouth bass                      | General     |           |                 |              |  |
| Upper Priest Lake and tributaries    | 50/1,400    | Coldwater | Cutthroat trout | Conservation | <p>Manage Upper Priest Lake and tributaries with catch-and-release regulations to preserve remaining populations of adfluvial cutthroat trout and bull trout.</p> <p>Allow liberal harvest of lake trout, brook trout and kokanee. Prevent lake trout from entering Upper Priest Lake by blocking their migration through the Thorofare. Suppress lake trout with periodic intensive gill netting if successful in blocking lake trout migration through the Thorofare. Remove brook trout from tributary streams where feasible.</p>  |
| Bull trout                           |             |           |                 |              |  |
| Lake trout<br>Brook trout<br>Kokanee | General     |           |                 |              |  |

|   |      |           |   |   |  |
|---|------|-----------|---|---|--|
| Priest River and tributaries                          | 120/ | Coldwater | Cutthroat trout<br><br>Bull trout<br><br>Brook trout<br>Brown trout<br>Mountain whitefish   | Conservation<br><br>Conservation<br><br>General | Provide harvest protection to cutthroat trout with a slot limit regulation and encourage appropriate agencies to evaluate changes in water level management of Priest Lake to enhance fishery flows in Priest River.<br><br>Maintain harvest closure in river and tributary streams. Determine critical habitat.<br><br>Direct anglers to Priest River tributaries to provide consumptive fishing opportunities for brook trout. |
| Freeman Lake  | /30  | Mixed     | Rainbow trout<br><br>Tiger muskie<br><br>Largemouth bass<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Bullhead<br>Channel catfish | Put-and-take<br><br>Trophy<br><br>General       | Stock put-and-take rainbow trout to provide a spring, fall and winter trout fishery.<br><br>Maintain tiger muskie stocking to provide a specialized trophy fishery.<br><br>Enhance the diversity of the warmwater fishery with maintenance stocking of channel catfish.  |
| Blue Lake   | /120 | Warmwater | Tiger muskie<br><br>Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Bullhead<br>Channel catfish     | Trophy<br><br>General                           | Maintain tiger muskie stocking to provide a specialized trophy fishery.<br><br>Work with private landowners to ensure continued public access.<br><br>Channel catfish will no longer be stocked due to limited public access and poor returns.   |
| Alpine Lakes (5 stocked in the Priest River drainage) | /41  | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout<br>Grayling   | General   | Provide fisheries that are consistent with lake productivity and angler pressure. Use westslope cutthroat trout for cutthroat trout stocking and sterile disease-free rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling) only. Do not stock lakes that are currently fishless in order to maintain some natural alpine lakes.  |

# Spokane River Drainage



## 4. SPOKANE RIVER DRAINAGE

### A. Overview

The Spokane River upstream of the Idaho, Washington border drains about 3,840 square miles in northern Idaho. The major tributaries of the drainage include the St. Joe, St. Maries and Coeur d'Alene rivers which all drain into Coeur d'Alene Lake. Diversity of habitat in the drainage is great. There are many lowland lakes ranging from a few acres to 31,487-acre Coeur d'Alene Lake. Several lakes are close to the major population center and support important urban fisheries. River systems range from small mountain streams to the much larger rivers such as the St. Joe, Coeur d'Alene and Spokane. Mountain lakes are found in the headwaters of the South Fork Coeur d'Alene and St. Joe rivers.

A July 28, 1998 decision from the Federal 9th District Court awarded the Coeur d'Alene Tribe management of the water and fishery resources within the 1873 reservation boundaries. This included the approximate southern one third of Coeur d'Alene Lake, the southern one half of Black Lake, the lower 20 miles of the St. Joe River, and several major tributaries including Lake, Plummer, Benewah and Evans creeks. The water of Coeur d'Alene Lake within the boundaries of Heyburn State Park, including Hidden, Chatcolet, Round and Benewah lakes was excluded from the court decision, but state versus tribal ownership and management remains unresolved. The Department is working cooperatively with the Coeur d'Alene Tribe to manage fish populations with similar regulations to meet management goals, while reducing angler confusion.

Native game fish in the drainage include westslope cutthroat trout, bull trout and mountain whitefish. The St. Joe, Coeur d'Alene and St. Maries rivers contain populations of resident, river run (fluvial) and lake run (adfluvial) cutthroat trout. Historically both the St. Joe and Coeur d'Alene rivers were regarded as among the finest cutthroat trout streams in America. The upper St. Joe River has regained that status and trends have shown marked improvements in recent years in the Coeur d'Alene River. Historically, both Coeur d'Alene and Hayden lakes were noted for great numbers of large cutthroat trout often weighing over 5 pounds.

Adfluvial cutthroat trout populations in Coeur d'Alene Lake are currently at remnant status due to impacts from historic angler harvest, competition and predation from exotic species, and habitat degradation. Drainage wide restrictive regulations had been in place since 1988 to provide comprehensive protection to cutthroat trout in the Spokane River drainage. Competition from kokanee and predation from smallmouth bass and northern pike are also playing a role in the decline of adfluvial stocks.

Mining, logging and forest development, highway construction and other land use impacts have taken a major toll on native fishes of the Spokane River drainage. Heavy metal pollution, stream channelization, sedimentation and migration blocks have had an especially severe impact on adfluvial cutthroat trout. Impoundment of Coeur d'Alene Lake by Post Falls Dam has flooded river



sections that were formerly free flowing. Restoration of, or mitigation for adfluvial cutthroat trout will be an important consideration during the FERC relicensing of Post Falls Dam.

The Spokane River watershed has over 800 miles of streams that are generally accessible to fish for spawning and rearing. This provides the opportunity to rely heavily on natural reproduction rather than hatchery facilities to provide stream and river fishing. However, harvest must be limited because the productivity of north Idaho waters is low and native westslope cutthroat trout are vulnerable to overharvest. In 1988, a comprehensive and complex set of regulations were developed to manage primarily for wild westslope cutthroat trout while still maintaining some limited harvest opportunity. The fishing regulations were modified in 2000 to significantly reduce complexity while still protecting and enhancing native cutthroat trout. These regulations were successful in reestablishing a world class fishery for cutthroat in the St. Joe River but not in the Coeur d'Alene River drainage where habitat degradation and non-compliance with the fishing regulations are limiting factors. Unique migration patterns of cutthroat trout in the Coeur d'Alene river drainage also help to explain lower densities in some reaches. The lower Coeur d'Alene River provides a quality trout fishery close to population centers.

Beginning in 2003, hatchery trout were no longer stocked into any flowing waters (rivers and streams) within the Panhandle Region. Concerns were raised about hatchery rainbow trout hybridizing with wild cutthroat trout by groups seeking to list westslope cutthroat under the Endangered Species Act. River stocking also did not meet the criteria of at least 40% of the stocked trout being caught by anglers even though stocking was concentrated in limited stretches of river that were advertised. Lost harvest opportunity has been partially replaced by constructing catch-out ponds in the basin. These ponds are managed as Family Fishing Waters with a 6 trout limit and no gear restrictions. Steamboat Pond, located 10 miles up the North Fork Coeur d'Alene River, is a good example of this type of fishery. The limited amount and cost of floodplain property combined with a lack of funding has limited the number of ponds that have been constructed.

Bull trout were never as numerous in Coeur d'Alene Lake as they were in Priest or Pend Oreille, but they are still being caught and released by Chinook anglers and spawning fish use the headwaters of the St. Joe River. Annual counts of 15 to 91 redds were made in three index streams of the St. Joe River between 1992 and 2005 with an increasing trend over those years.

Introduced game species include kokanee, rainbow trout, brook trout, brown trout, splake, Chinook salmon, largemouth bass, smallmouth bass, pumpkinseed, bluegill and green sunfish, yellow perch, black crappie, brown and black bullhead, channel catfish, tiger muskie and northern pike.

Kokanee have become the most sought after game species in Coeur d'Alene Lake and are also the most sought after game fish in the region. Kokanee were established by hatchery stocking from 1937 through the early 1960s until a self sustaining population established. In 1979, the lake provided a harvest of nearly 600,000 kokanee and supported over 250,000 angler hours of effort. By 1981,

however, kokanee numbers increased to the point where food was limited. Kokanee growth slowed and the fishery collapsed when fish became unacceptably small to anglers.

Fall Chinook salmon were introduced as a biological control in 1982 to manage the abundance of kokanee. Chinook salmon provided the desired effect on kokanee and created an additional and very popular sport fishery. Chinook stocking was geared towards achieving kokanee densities of about 125 age-3 fish/acre to produce a yield fishery for 10 to 11 inch kokanee as adults. This density of kokanee maximizes angler catch rates and yield (pounds of fish harvested/acre) and also leaves plenty of kokanee forage to support a good Chinook fishery. Chinook stocking was increased to provide higher catch rates for fish in the 3 to 18 pound size range, rather than fewer, but larger (25+ pound) fish. The Spokane River drainage is subject to significant natural variability in winter and spring floods that can influence kokanee and Chinook year classes, so managing for higher kokanee densities also provides more resiliency in the fishery. Chinook spawn in the lower Coeur d'Alene and St. Joe rivers and up to 100 redds are allowed producing about 40,000 wild smolts. Chinook redds in excess of 100 have been removed three times between 1982 and 2006. An additional 30,000 hatchery Chinook smolts are stocked to supplement wild production so more consistent fisheries can be produced in the north end of the lake where most anglers fish, while also maintaining the proper predator/prey balance.

A combination of natural and man caused factors resulted in age-2 and age-3 kokanee being at record lows by 2006. Back-to-back large floods in 1996 and 1997 caused significant reductions in the kokanee and Chinook populations by 1998. Fewer kokanee in the lake resulted in the size of mature fish (age-3) increasing from 10 to 11 inches at maturity to 14 to 16 inches. In addition, faster growing age-2 kokanee became vulnerable to angler harvest at about 8 inches. Coeur d'Alene Lake was the number one fishery in Idaho in 2003, mainly due to the kokanee fishery. Kokanee are particularly vulnerable to angler harvest in Coeur d'Alene Lake because all mature fish concentrate in the north end of the lake prior to spawning. Predation by Chinook also increased as more Chinook were stocked to make up for weak year classes from the floods and poor survival of Big Creek hatchery Chinook. The average number of wild and hatchery Chinook 'stocked' went from about 29,000 from 1997-2000, to 69,000 from 2001-2006. Adjustment in the 25 fish limit for kokanee and reductions in Chinook stocking will be necessary to recover this fishery. Fortunately younger age classes of kokanee are still fairly abundant in 2006.

Largemouth bass are well established throughout the lakes in the drainage. Historically, the area was noted for excellent bass fishing and more recently has seen a tremendous increase in bass fishing pressure due to their popularity. Largemouth bass up to 8 lbs are occasionally caught. The Coeur d'Alene Lake system has become the focus of numerous major bass fishing tournaments annually in recent years.

Smallmouth bass were intentionally introduced into Hayden Lake as 44 adult fish in 1983 and 5,000 fingerlings in 1985. By 2006, smallmouth bass less than 12 inches were abundant throughout the lake in all types of habitat. Smallmouth

bass do exceed 18 inches in length in Hayden Lake, but larger fish are difficult to catch due to their preference for deeper water during summer months. Smallmouth bass are aggressive predators and may be reducing the abundance of other desired game species such as adfluvial westslope cutthroat trout, black crappie, yellow perch and largemouth bass. Smallmouth bass can be observed gorging on crappie and perch fry as they move into open water to feed on zooplankton. Smallmouth bass were illegally moved to Coeur d'Alene Lake in about 1990 and they now have spread upstream to most of the chain lakes, the lower Coeur d'Alene, St. Joe and St. Maries rivers as well as downstream to the Spokane River. Consideration should be given to managing smallmouth bass differently than largemouth bass to increase harvest opportunity and reduce densities of small smallmouth bass.

Illegal introductions of northern pike have established populations throughout the Coeur d'Alene Lake system and in Fernan, Hauser, Hayden and Twin lakes. Densities appear to be very low and growth is rapid. Fishing pressure is contributing to low population densities. A statewide shift to no limit on northern pike in 2006 was intended to reinforce the negative aspects of illegal introductions. Hauser Lake is managed for tiger muskie to provide trophy pike anglers with a desirable fishery. Hauser Lake had produced all of the existing state record tiger muskie with the record at 38 lb, 7 oz in 2006.

A fishery for wild rainbow trout and a few brown trout is present in the lower Spokane River. This fishery has fluctuated greatly over the last 15 years depending on water temperatures and flows. Excessively warm water temperatures in 1994, 1998 and 2003 eliminated summer habitat in the Idaho reach of the Spokane River for this rainbow trout population. Declining flows during the spring spawning and incubation time period also influence age class survival. Improvements in spawning and incubation flows and increased summer minimum flows from 300 cfs to 600 cfs as a part of the FERC relicensing of Post Falls Dam should improve rainbow trout populations.

A limited rainbow trout fishery also exists in the Coeur d'Alene River and lower North Fork Coeur d'Alene River. Rainbow trout have persisted in recent years despite liberal fishing regulations and discontinued hatchery stocking. Brook trout occur in limited tributaries in this watershed and do not appear to be expanding or providing much of a fishery.

All of 20 lowland lakes in the Spokane River watershed are managed for mixed fisheries or warmwater fish with naturalized populations of largemouth bass, black crappie, brown bullhead, yellow perch and pumpkinseed sunfish. Bluegill have been established in several lakes and channel catfish are maintained by hatchery stocking in Fernan and Hauser lakes. Hayden Lake is the only lake in the Spokane River drainage managed for Quality Trout with a combination of some wild production, fingerling stocking of rainbow and cutthroat trout and restrictive regulations. Trout fisheries in other lowland lakes are maintained with catchable trout stocking. Hauser and Lower Twin lakes provide fisheries for quality size kokanee by stocking low densities of early spawning kokanee that reach 16 inches in 2 years.

The lakes of the Spokane drainage support the bulk of the angling effort in the Panhandle Region, and other than cutthroat trout stocks, fisheries have been maintained in the face of development. Habitat degradation will continue to take its toll, however, and many lakes are beginning to show habitat problems. Declining water quality and shoreline encroachment are serious problems. Continued rapid development of north Idaho will limit future fishery management options.

Eight alpine lakes in the Bitterroot range are stocked with trout fry on a rotating basis. Stocking densities have been adjusted to maximize fish growth at a given lake elevation. Only sterile rainbow trout fry are used to stock mountain lakes to reduce potential impacts to native fish populations downstream. Sterile cutthroat trout will be used when techniques are perfected for westslope cutthroat trout. Westslope cutthroat trout, rainbow trout, and brook trout are present in most of the stocked lakes, although four lakes are reserved for specialty species, such as grayling and golden trout.

**B. Objectives and Programs**

1. Objective: Manage the Spokane River drainage for wild westslope cutthroat trout upstream of Post Falls Dam.

Program: Monitor fishing regulations to determine if cutthroat management objectives are being met. Provide harvest opportunity for wild trout within the productive capability of the system.

Program: Evaluate expanding the catch-and-release area for cutthroat trout to the lower Coeur d'Alene River to protect fish where they congregate, to maximize catch rates for quality size trout, and to provide a quality fishery close to populated areas to meet public demand during the summer months.

Program: Develop catch-out ponds adjacent to the Coeur d'Alene, St. Joe and St. Maries rivers to provide lost harvest opportunity.

Program: Implement mitigation strategies developed during Post Falls Relicensing to rebuild the adfluvial cutthroat trout population in Coeur d'Alene Lake.

Program: Increase enforcement and education in areas where non-compliance with fishing regulations has been found to be limiting populations.

2. Objective: Minimize impacts of land use and development on fishery habitat in streams.

Program: Work with the Forest Service, other agencies, private developers and landowners and interested angling groups to make protection of fisheries habitat a primary concern in land use decisions.

Incorporate evaluations of existing habitat in survey projects whenever possible. Develop a data base to demonstrate the magnitude of habitat loss and more effectively influence land use decisions. Work with the Forest Service, Department of Transportation, Silver Valley Natural Resource Trustees, Environmental Protection Agency, Department of Lands, Department of Environmental Quality, Counties and others to insure mitigation of habitat loss or restoration of habitat whenever possible.

Program: Promote lessons learned from cutthroat trout research in the Coeur d'Alene River to improve habitat critical to cutthroat trout survival.

3. Objective: Manage for a kokanee yield fishery and limited Chinook trophy fishery in Coeur d'Alene Lake.

Program: Modify fishing regulations to reduce kokanee harvest and reduce Chinook stocking to restore weak year classes of kokanee.

Program: Evaluate whether a long term reduction in the 25 fish kokanee limit is needed to sustain a kokanee/Chinook fishery.

Program: Monitor kokanee abundance and size through trawling and evaluate kokanee spawner size by gill netting.

Program: Evaluate angler harvest of kokanee.

Program: Evaluate Chinook survival and recruitment to the fishery by monitoring Chinook derbies and conducting redd count surveys. Adjust stocking as necessary to meet goals.

4. Objective: Minimize impacts to lake fisheries due to lakeshore encroachment, pollution and nutrient loading.

Program: Work with county planners and Idaho Department of Lands to make protection of fish habitat and water quality a primary concern in land use decisions.

5. Objective: Reduce impacts of smallmouth bass on more desired game fishes.

Program: Determine habitat use, movements and feeding habits of smallmouth bass to assess impacts on other fish species.

Program: Use public input to determine the value of smallmouth bass versus other game fish in management decisions.

Program: Develop fishing regulations specific to smallmouth bass to reduce impacts on other fishes.

6. Objective: Improve the efficiency of hatchery put-and-take trout stocking programs.

Program: Evaluate rate of return, catch rate, and angler use on put-and-take trout fisheries through a routine data collection system.

Program: Adjust rate, timing, size of fish, or location of trout stocking to improve rate of return to the creel.

Program: Inform anglers of hatchery supported trout fishing opportunities through maps, brochures, media coverage and signing to improve return to the creel.

Program: Develop and utilize disease free, sterile stocks of rainbow and cutthroat trout to address concerns about potential impacts to wild trout.

7. Objective: Provide diverse angling opportunities in lowland lakes.

Program: Continue periodic surveys of fish populations to monitor population status and fish growth in relation to physical and biological conditions and fishing regulations. Manage some lakes for specific fish species in order to maximize angling opportunity.

Program: Maintain maximum harvest opportunity for warmwater species and stocked trout in most lakes while providing quality or trophy management fisheries in a few lakes where biological and physical conditions and public support provide the right set of conditions for special management.

Program: Continue maintenance stocking of tiger muskie and channel catfish to maintain popular fisheries. Evaluate channel catfish harvest to determine if harvest restrictions are needed to maintain this hatchery supported fishery. Establish bluegill sunfish in select waters to diversify panfish populations.

Program: Investigate whether kokanee introductions are influencing trout abundance in Hauser and Lower Twin lakes. If they are having an impact, discontinue stocking where trout provide the preferred fishery.

Program: Develop or enhance fishing and boating access areas through easements, cooperative agreements or purchase. Utilize the funds to build fishing docks for shoreline anglers.

8. Objective: Curtail illegal introductions of fish and aquatic nuisance species (ANS). Illegal introductions of exotic fishes and ANS threaten the stability of other established fisheries.

Program: Develop informational programs to educate anglers and the public to risks of random introductions of exotic species and ANS. Through planning, use enforcement efforts to curtail illegal introductions.

| DRAINAGE: Spokane River   |             |         |  |              |   |
|---|-------------|---------|--|--------------|---|
| Water   | Miles/acres | Fishery |  | Management   | Management direction  |
|   |             | Type    | Species present  |              |   |
| Coeur d'Alene Lake and minor tributaries (including Chatcolet, Hidden, Benewah and Round lakes) | 100/31,487  | Mixed   | Cutthroat trout  | Quality/Wild | Recognize Coeur d'Alene Tribal management of the southern third of Coeur d'Alene Lake. Work with the Tribe to achieve mutual fisheries management objectives in connecting waters. Continue to work with the Coeur d'Alene Tribe, private landowners and agencies to identify and correct habitat problems on private land, the Interstate 90 corridor, and Forest Service ownership. Evaluate applying catch-and-release regulations to adfluvial westslope cutthroat trout due to their depressed status. |
|   |             |         | Bull trout   | Conservation | Maintain harvest closure. Better define population status and survival at different stages of their life cycle to help focus future restoration efforts.  |
|   |             |         | Kokanee  | General      | Manage the kokanee population at a level that provides a yield fishery of a size agreeable to anglers and provides forage for Chinook salmon.   |
|   |             |         | Chinook salmon   | Quality      | Manage the Chinook salmon population at a level that provides greater catches of 3-18 pound fish as opposed to fewer, but larger (25+ pound) fish. Maintain desired population levels with hatchery supplementation and control of wild Chinook salmon recruitment.   |
|   |             |         | Rainbow trout<br>Brook trout   | General      | Maintain high harvest rates on rainbow trout and brook trout to reduce competition and hybridization with cutthroat trout.  |
|   |             |         | Largemouth bass<br>Smallmouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead<br>Channel catfish | General      | Maintain consumptive fisheries on warmwater species to provide yield fisheries while reducing potential predation and competition on adfluvial cutthroat trout. Consider separate regulations for smallmouth bass to reduce potential impacts on other desired species.<br><br>An occasional channel catfish may be caught in Coeur d'Alene Lake from fish leaving Fernan or Rose lakes. However, no natural reproduction of channel catfish is known to occur.   |



|                             |          |       |   |              |  |
|-----------------------------|----------|-------|---|--------------|--|
| Hayden Lake and tributaries | 20/3,756 | Mixed | Rainbow trout<br>Cutthroat trout  | Quality      | Maintain a quality trout fishery with hatchery supplementation of rainbow and cutthroat fingerlings. Evaluate size, timing and location of fingerling releases to maximize survival. Evaluate stock differences between rainbow trout to determine maximize trout growth and survival. Evaluate the value of tributary closures for providing wild trout production versus providing stream angling opportunity. |
|                             |          |       | Largemouth bass<br>Black crappie  | Quality      | Provide high catch rates for better than average size fish with regulations that reduce, but do not eliminate harvest. Evaluate bass and crappie population structure and fishery to determine if the regulations are meeting management goals.  |
|                             |          |       | Smallmouth bass   | General      | Consider separate regulations for smallmouth bass that will help reduce impacts on other desired game species but will still maintain some larger smallmouth bass in the catch.  |
|                             |          |       | Northern pike<br>Yellow perch<br>Pumpkinseed<br>Bullhead  | General      | Encourage maximum harvest of northern pike to reduce impacts to other fish populations.  |
| Upper and Lower Twin lakes  | /850     | Mixed | Rainbow trout<br>Cutthroat trout  | Put-and-take | Stock put-and-take rainbow trout and fingerling cutthroat trout to provide a consumptive trout fishery. Limit rainbow trout stocking in Upper Twin Lake to early spring only while water temperature is suitable. Stock cutthroat fingerlings in Lower Twin Lake. Evaluate return to the creel for fingerling cutthroat trout.   |
|                             |          |       | Kokanee   | Quality      | Stock limited numbers of early spawning kokanee fry to produce a fishery for 14 to 16 inch kokanee at maturity.  |
|                             |          |       | Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Green sunfish<br>Bullhead | General      | Maintain harvest-oriented fisheries for warmwater species.   |

|  |        |           |  |   |  |
|--|--------|-----------|--|---|--|
| Fernan Lake  | /300   | Mixed     | Rainbow trout<br><br>Cutthroat trout<br><br>Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Bullhead<br><br>Channel catfish                                  | Family Fishing Water<br><br>General<br><br>General<br><br><br><br>General   | Manage the lake with simple regulations, to provide a consumptive fishery oriented towards family fishing.<br><br>Evaluate return to the creel for fingerling cutthroat trout.<br><br>Maintain harvest-oriented fisheries for warmwater species.<br><br><br><br>Continue stocking channel catfish to maintain diversity of the warmwater fishery in Fernan Lake.   |
| Hauser Lake  | /550   | Mixed     | Rainbow trout<br>Cutthroat trout<br><br>Tiger muskie<br><br>Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Green sunfish<br>Bullhead<br><br>Channel catfish | Put-and-take<br>General<br><br>Trophy<br><br>General<br><br><br><br>General | Stock put-and-take rainbow trout and fingerling cutthroat trout to provide consumptive trout fishery. Evaluate return to the creel for fingerling cutthroat trout.<br><br>Maintain tiger muskie stocking to provide a specialized trophy fishery.<br><br>Maintain harvest-oriented fisheries for warmwater species.<br><br><br><br>Continue stocking channel catfish to maintain diversity of the warmwater fishery in Hauser Lake.  |
| Lateral Lakes (Anderson, Thompson, Blue, Swan, Medicine, Cave, Black, Bull Run, and Rose lakes) and slackwater portions of the Coeur d'Alene River | /2,960 | Warmwater | Largemouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Bluegill<br>Pumpkinseed<br>Bullhead<br><br>Channel catfish  | Trophy/Quality/General<br>General<br><br><br><br><br><br>General            | Manage Blue Lake for trophy bass, Anderson Lake for quality bass, and maintain general bass regulations on the other lakes.<br>Manage the majority of lakes for year-round consumptive fisheries on warmwater species. Maintain northern pike population densities at low levels to maintain rapid growth while reducing predation on bass and cutthroat trout.<br><br><br><br>Evaluate channel catfish stocking in Rose Lake and determine if the program should be eliminated or replace in water. |

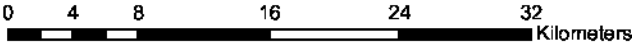
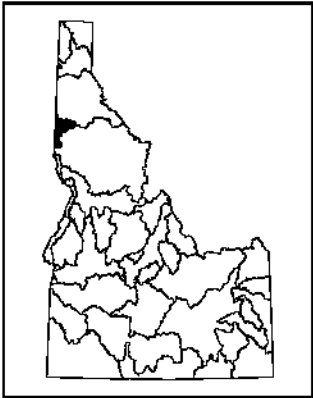
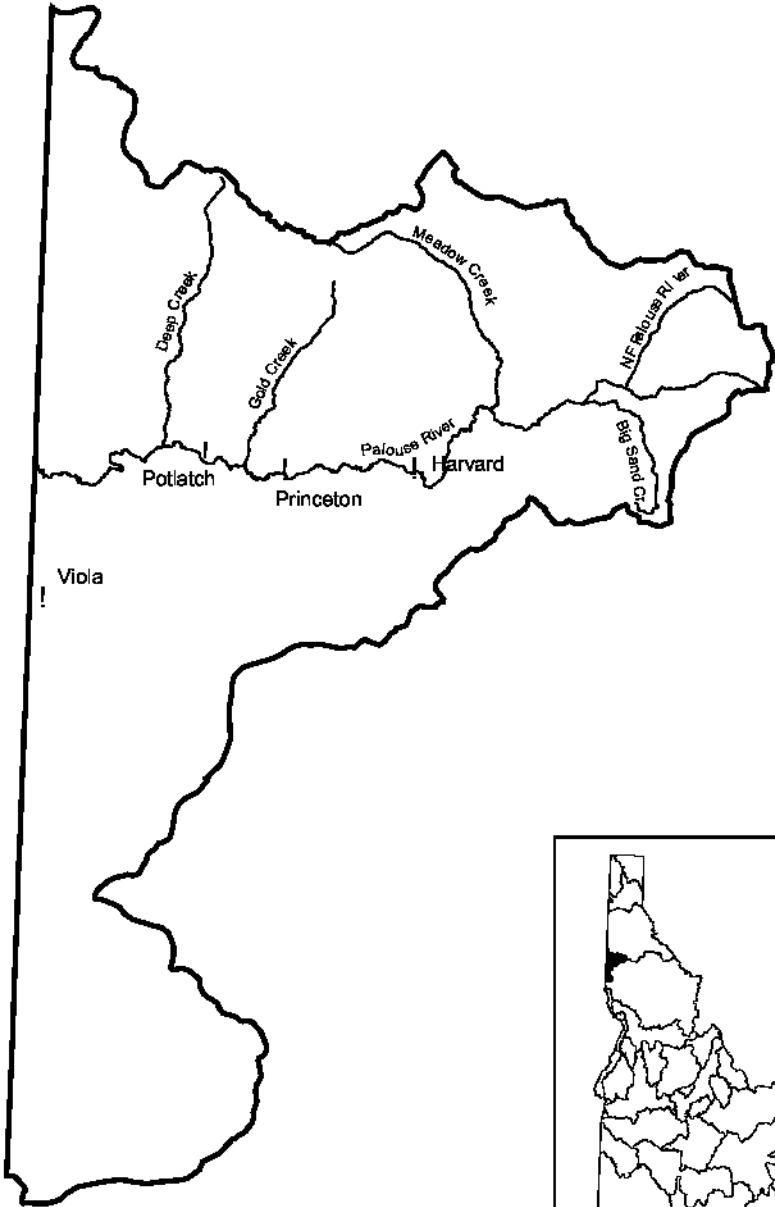
|   |           |           |   |              |   |
|---|-----------|-----------|---|--------------|---|
| North Fork Coeur d'Alene River and tributaries above and including Yellow Dog Creek and Little North Fork Coeur d'Alene River and tributaries above and including Laverne Creek | 200/      | Coldwater | Cutthroat trout                                 | Quality      | Maintain catch-and-release regulations to maximize catch rates and fish size and provide fish for harvest downstream from catch-and-release waters.   |
| North Fork Coeur d'Alene River below Yellow Dog Creek, Little North Fork Coeur d'Alene River below Laverne Creek and South Fork Coeur d'Alene River                             | 105/      | Coldwater | Cutthroat trout                                 | Quality      | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Evaluate regulation effectiveness at enhancing cutthroat trout populations and providing desired angling opportunities during this planning period. Consider additional areas for catch-and-release rules. |
|   |           |           | Bull trout                                      | Conservation | Investigate distribution, status and critical habitat needs to better guide conservation efforts.   |
|   |           |           | Rainbow trout<br>Brook trout                    | General      | Maximize harvest opportunities for rainbow trout and brook trout to reduce competition and hybridization with cutthroat trout. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.   |
|   |           |           | Mountain whitefish<br>Kokanee<br>Chinook salmon | General      | Maintain existing harvest fisheries for mountain whitefish. Allow harvest of Chinook salmon in the lower river with similar regulations as the lake.  |
| Tributaries of the mainstem North Fork and South Fork Coeur d'Alene rivers that are outside catch-and-release boundaries  | 300+/<br> | Coldwater | Cutthroat trout                                 | Quality      | Utilize a slot limit for westslope cutthroat trout that allows populations to increase while providing limited harvest opportunity.   |
|   |           |           | Rainbow trout<br>Brook trout                    | General      | Maximize harvest opportunities for rainbow trout and brook trout to reduce competition and hybridization with cutthroat trout   |
| Free flowing section of the Coeur d'Alene River (from the South Fork to the Cataldo Mission boat ramp)  | 10/<br>   | Coldwater | Cutthroat trout                                 | Quality      | Consider a year round catch-and-release regulations that would maximize catch rates and fish size close to the town of Coeur d'Alene.   |
|   |           |           | Rainbow trout<br>Brook trout                    | General      | Maximize harvest opportunities for rainbow trout and brook trout to reduce competition and hybridization with cutthroat trout.  |
|   |           |           | Mountain whitefish<br>Kokanee<br>Chinook salmon | General      | Maintain existing harvest fisheries for mountain whitefish. Allow harvest of Chinook salmon with similar regulations as the lake.   |

|  |           |           |  |   |  |
|--|-----------|-----------|--|---|--|
| Slackwater area of the Coeur d'Alene River   | 35/       | Mixed     | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Mountain whitefish<br>Chinook salmon<br>Largemouth bass<br>Smallmouth bass<br>Yellow perch<br>Northern pike<br>Bullhead | Quality<br>General  | Work with Avista during relicensing of Post Falls Dam to enhance fish habitat that has been negatively impacted by dam operations. Work with EPA, DEQ, other state and local agencies, the Coeur d'Alene Tribe, mining companies and individuals to reduce impacts to the aquatic community and resource users from mining related activities.   |
| St. Joe River and tributaries above Avery    | 200+/<br> | Coldwater | Cutthroat trout<br><br>Bull trout  | Quality<br><br>Conservation                               | Maintain catch-and-release regulations to maximize catch rates and fish size and recruit fish for harvest downstream from catch-and-release waters.<br><br>Investigate distribution, status, critical habitat needs and survival during different stages of their life cycle to better guide conservation efforts.   |
| St. Joe River below Avery                    | 90/       | Coldwater | Cutthroat trout<br><br>Bull trout<br><br>Rainbow trout<br><br>Mountain whitefish<br>Chinook salmon   | Quality<br><br>Conservation<br><br>General<br><br>General | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Evaluate regulation effectiveness at enhancing cutthroat trout populations and providing desired angling opportunities during this planning period.<br><br>Investigate distribution, status, critical habitat needs and survival during different stages of their life cycle to better guide conservation efforts<br><br>Maximize harvest to reduce competition and hybridization with cutthroat trout. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.<br><br>Maintain existing liberal harvest fisheries for mountain whitefish. Allow harvest of Chinook salmon with similar regulations as the lake. |
| Tributaries of the St. Joe River below Avery | 300+/<br> | Coldwater | Cutthroat trout<br><br>Rainbow trout<br>Brook trout  | Quality<br><br>General                                    | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity.<br><br>Maximize harvest opportunities for rainbow trout and brook trout to reduce competition and hybridization with cutthroat trout.   |

|   |             |           |  |   |   |
|---|-------------|-----------|--|---|---|
| Slackwater area of St. Joe River        | 14/         | Mixed     | Cutthroat trout<br>Largemouth bass<br>Smallmouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Bullhead                      | Quality<br>General  | Recognize Coeur d'Alene Tribal management of the slackwater portion of the St. Joe River. Work with the Tribe to meet Tribal and state management objectives in connecting waters. Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Work with the Tribe and Avista during relicensing of Post Falls Dam to enhance fish habitat that has been negatively impacted by dam operations.  |
| St. Maries River above slackwater       | 150/        | Coldwater | Cutthroat trout<br><br>Bull trout<br><br>Rainbow trout<br>Brook trout<br><br>Mountain whitefish  | Quality<br><br>Conservation<br><br>General<br><br>General | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Consider managing a section of river with catch-and-release regulations.<br><br>Investigate distribution, status, critical habitat needs and survival during different stages of their life cycle to better guide conservation efforts<br><br>Maximize harvest to reduce competition and hybridization with cutthroat trout. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.<br><br>Maintain existing harvest fisheries for mountain whitefish. |
| Tributaries of the St. Maries River     | 200+/<br>9/ | Coldwater | Cutthroat trout<br><br>Brook trout   | Quality<br><br>General                                    | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity.<br><br>Allow continued liberal harvest of brook trout.   |
| Slackwater area of the St. Maries River | 9/          | Mixed     | Cutthroat trout<br><br>Largemouth bass<br>Smallmouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Northern Pike<br>Bullhead | Quality<br><br>General                                    | Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity.<br><br>Maintain consumptive harvest fishing opportunity for warmwater species. Work with Avista during relicensing of Post Falls Dam to enhance fish habitat that has been negatively impacted by dam operations.  |

|  |      |           |  |                        |   |
|--|------|-----------|--|------------------------|---|
| Spokane River (Coeur d'Alene Lake to Post Falls Dam)   | 15/  | Mixed     | Cutthroat trout<br><br>Largemouth bass<br>Smallmouth bass<br>Northern pike<br>Black crappie<br>Yellow perch<br>Pumpkinseed<br>Bullhead | Quality<br><br>General | Consider catch-and-release regulations to help improve the adfluvial cutthroat trout population<br><br>Maintain consumptive harvest fishing opportunity for warmwater species.  |
| Spokane River (Post Falls Dam downstream to stateline) | 6/   | Coldwater | Rainbow trout<br>Brown trout<br><br>Smallmouth bass  | Wild                   | Determine what opportunities exist to enhance both size and catch rates for rainbow trout through habitat enhancement and regulations. Evaluate population dynamics and limitations. Work with Avista during relicensing of Post Falls Dam to enhance fish habitat that has been negatively impacted by dam operations.<br>Liberalize harvest of smallmouth bass  |
| Alpine Lakes (8 in the Spokane River drainage)         | /140 | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout<br>Grayling  | General                | Continue maintenance stocking of trout fry to provide fisheries that are consistent with lake productivity and angler pressure. Use westslope cutthroat trout for cutthroat trout stocking and sterile disease-free rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling) only. Do not stock lakes that are currently fishless in order to maintain some natural alpine lakes. |

# Palouse River Drainage



## 5. PALOUSE RIVER DRAINAGE

### A. Overview

The Palouse River drains from a timbered, mountainous area with elevations ranging to 5,000 feet through rolling hills developed as agricultural land at an elevation of 2,500 feet near the Idaho-Washington border. The upper reaches of the Palouse drainage have been extensively roaded, logged and dredge mined, while the lower areas have been intensively farmed. The only remaining trout habitat in the drainage is located near the headwaters. Substantial improvements in fish populations in the drainage will necessitate rebuilding riparian habitat that will increase flow and reduce water temperature during the summer.

### B. Objectives and Programs

1. Objective: Improve fish habitat.

Program: Work with U.S. Forest Service, Department of Lands, University of Idaho, and private landowners to protect and improve habitat.

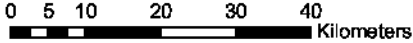
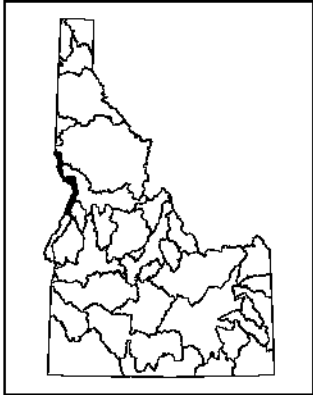
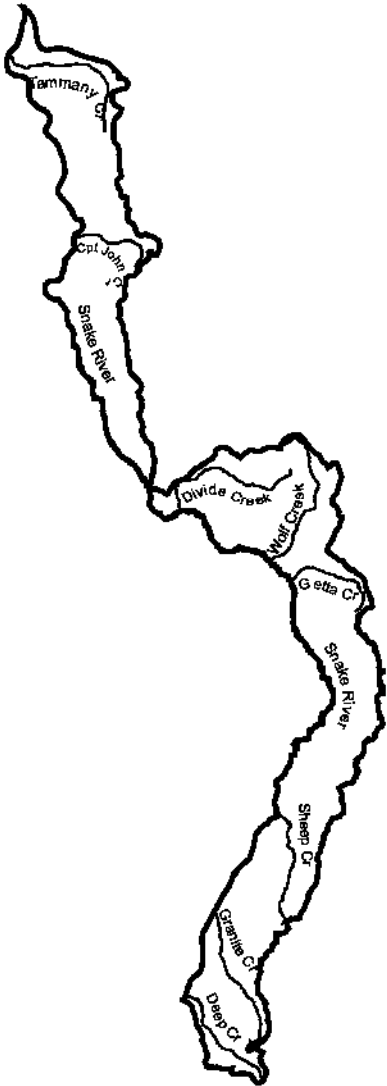
2. Objective: Increase fishing opportunities by developing small reservoirs.

Program: Work with public and private landowners to identify potential new small reservoir sites and initiate process for construction.



| Drainage: PALOUSE RIVER   |            |         |                                  |              |  |
|---|------------|---------|----------------------------------|--------------|--|
| Water   | Miles/acre | Fishery |                                  |              | Management Direction   |
|   |            | Type    | Species Present                  | Management   |  |
| Palouse River from Washington border to headwaters, including tributaries | 70/        | Mixed   | Rainbow trout<br><br>Brook trout | Put-and-take | Stock with catchable rainbow trout where returns to the creel can be maximized. Assess need for further warmwater fish enhancement in the drainage.<br><br>Develop catchable trout ponds in reclaimed mining areas in cooperation with Forest Service. |

# Snake River Drainage ID/WA Border to Hells Canyon Dam



## **6. SNAKE RIVER AND MINOR TRIBUTARIES IDAHO/WASHINGTON BORDER TO HELLS CANYON DAM**

### **A. Overview**

The portion of the Snake River from the Idaho-Washington border at Lewiston upstream to Hells Canyon Dam is 108 miles in length. The section from the Washington-Oregon border to Hells Canyon Dam flows through the deepest gorge in the United States in the Hells Canyon National Recreation Area. Forty miles of the river from the Washington-Oregon border to Big Canyon Creek is designated a "scenic" river under the Wild and Scenic Rivers System, and the remaining upper 32 miles is classified as "wild." Both the Idaho and Oregon sides of the river in the upper portions of the recreation area are bounded by wilderness. Legislation passed by Congress in 1989 prohibits the Federal Energy Regulatory Commission from issuing any licenses to develop new mainstem hydropower projects in the Snake River. Congressional intent also includes federally authorized projects.

River flows are controlled by Hells Canyon Dam and upstream storage. Daily water levels can fluctuate vertically by several feet daily below Hells Canyon Dam during mid-May to mid-October due to load-following operations. Quality of water passing through the canyon has changed substantially since the creation of the upriver impoundments. The reservoirs act as settling basins for fine sediments that enhance water quality but impact gravel transport; however, the upriver reservoir complex and dam operations affect total dissolved gases, dissolved oxygen, and the temperature regime in the free-flowing river. Recreational use of the river from Hells Canyon Dam to Lewiston is very high.

The lower portion of the river near Lewiston is impounded by Lower Granite Dam, which lies 40 miles west of Lewiston. The reservoir extends above the towns of Lewiston and Clarkston, making the area an inland seaport.

The Snake River from Lewiston upstream is the migration corridor for adult and juvenile anadromous fish moving to and from the Salmon, Imnaha, and Grande Ronde subbasins. Spring, summer, and fall Chinook salmon, sockeye salmon, Pacific lamprey, and steelhead trout pass through this reach of the river. Fall Chinook also spawn in the mainstem of the Snake River. Most of the minor Snake River tributaries, which are accessible to anadromous fish, such as Granite, Sheep, and Captain John creeks, are suitable for steelhead spawning and rearing. This reach of the Snake River also provides over-winter habitat for bull trout and redband trout whose populations use the tributaries as production areas.

The mainstem Snake River will continue to be managed for exploitation of hatchery steelhead and spring/summer Chinook salmon but consumptive harvest of naturally produced steelhead or Chinook is not expected during the next five years. Major resident game fish species found in the river include smallmouth bass, white sturgeon and rainbow trout. The rainbow trout fishery is primarily supported by residualized hatchery steelhead smolts. The sturgeon sport fishery is managed with non-consumptive catch and release regulations because of high angler demand and the population dynamics of slow growing, long lived fish. The sturgeon population is self-supporting, with young fish well represented in the population. Numbers of older individuals are still recovering from depressed populations resulting from consumptive fishing over 30 years ago. In recent years, white

sturgeon up to 11 feet long have been caught. Tribal treaty harvest and illegal non-treaty poaching are not well documented and may currently be limiting the rate of population recovery.

The small tributaries in this reach of the Snake River drain from high forested areas through break lands to arid bottoms before entering the river. Many streams have a very steep gradient and are accessible to steelhead trout only in the lower reaches. The upper reaches of some of the larger streams, such as Granite and Sheep creeks, support populations of resident rainbow trout, cutthroat trout and bull trout.

Mountain lakes are found in the headwaters of Bernard, Sheep, and Granite creeks within the boundary of the Hells Canyon Wilderness.

## **B. Objectives and Programs**

1. Objective: Improve juvenile anadromous fish migration survival to lower Granite Dam.

Program: Develop and work to obtain flow regimes in the Snake River that maximize survival of migrating juvenile and adult anadromous fish. Coordinate with Idaho Power Company, Oregon Department of Fish and Wildlife, and other parties in mitigating stranding of anadromous outmigrants in river margins during load following operations. Continue to develop smolt timing and relative abundance indices to aid control of flow augmentation and water storage management.

Program: Maintain involvement with FERC relicensing process for Hells Canyon Complex.

2. Objective: Enhance resident game fish production below Hells Canyon Dam.

Program: Maintain involvement with FERC relicensing process for Hells Canyon Complex.

Program: Explore sources of *Ceratomyxa shasta* resistant rainbow trout to re-establish resident trout put and grow fishery from Hells Canyon Dam to Pittsburg landing.

3. Objective: Manage fisheries in mountain lakes within productivity and user preference constraints of individual lakes.

Program: Manage mountain lakes as per specific direction in Clearwater regional Plan. Monitor and evaluate by continuing mountain lakes investigations in cooperation with USFS to collect biological, physical and chemical characteristics of each lake.

4. Objective: Manage sub-alpine ecosystems to perpetuate native amphibian species.

Program: Maintain suitable levels of fishless alpine lake habitat as described in the Clearwater Region Mountain Lake Management Plan.

5. Objective: Optimize harvest of excess hatchery steelhead and salmon adults.

Program: Coordinate hatchery smolt releases to provide optimum adult distribution relative to angler distribution and effort.

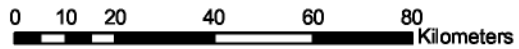
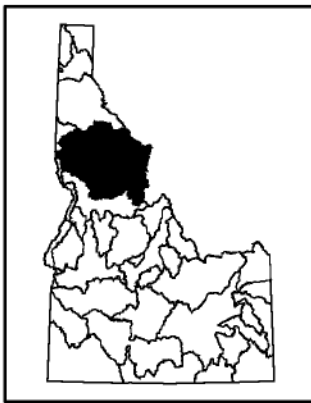
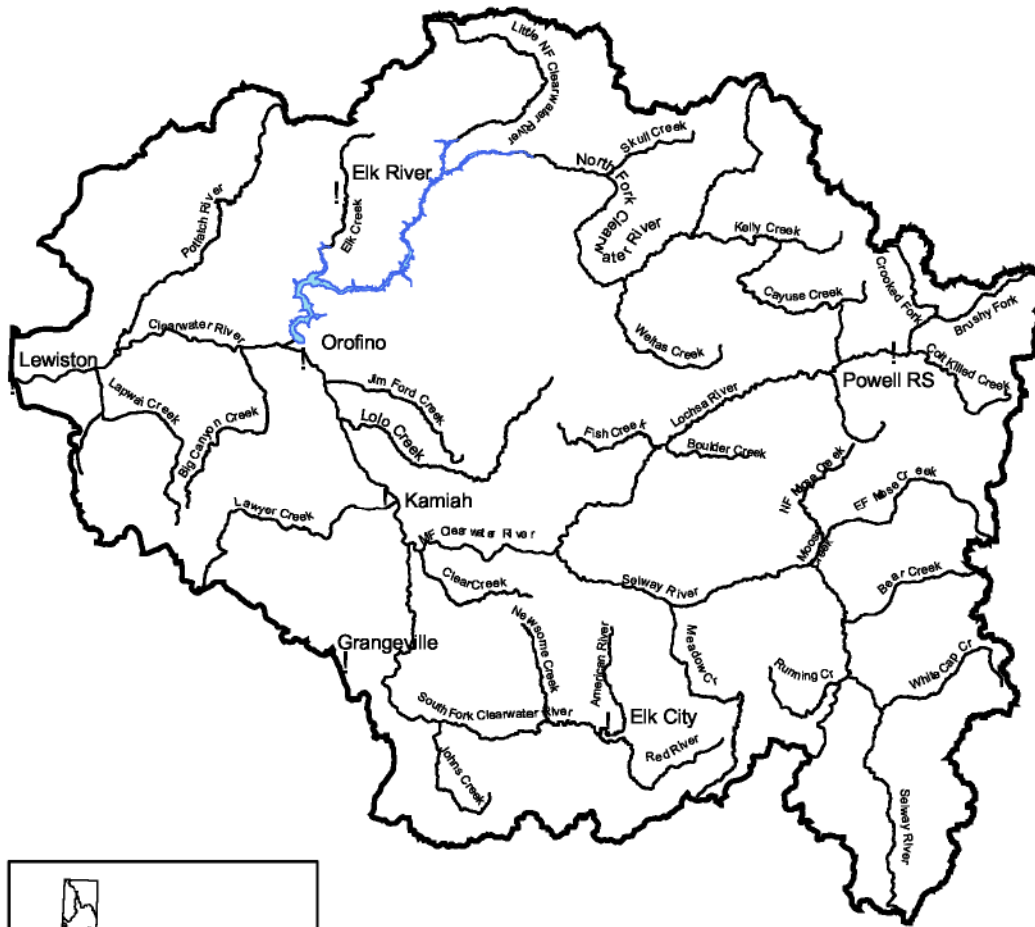
Program: Evaluate relationship of run timing, bag limit harvest and catch rates by river section throughout the steelhead season.

Program: Measure the role, impact, and contribution of commercial guiding relative to anadromous fishery management objectives.

Program: Maintain involvement with FERC relicensing process for Hells Canyon Complex.

| Drainage: SNAKE RIVER AND MINOR TRIBUTARIES - IDAHO/WASHINGTON BORDER TO HELLS CANYON DAM |            |                      |   |              |   |
|---|------------|----------------------|---|--------------|---|
| Water   | Miles/acre | Fishery              |   |              | Management Direction  |
|   |            | Type                 | Species Present   | Management   |   |
| Snake River from the Idaho/<br>Washington border to Hells<br>Canyon Dam                   | 183/       | Mixed/<br>Anadromous | Steelhead<br>Chinook salmon   | Anadromous   | <p>Manage minor tributaries for natural production of steelhead. Minimize impacts to naturally produced steelhead and spring Chinook salmon. Optimize harvest of surplus hatchery steelhead. Provide sport-fishing opportunity where appropriate for excess hatchery spring Chinook salmon. Coordinate fall Chinook salmon management with lower Snake River managers.</p> <p>Coordinate all management and regulations with adjoining states, USFS, and Nez Perce Tribe. Continue evaluation of all species. Evaluate impacts of resident fish on juvenile fall Chinook. Investigate source and rearing facility for C.shasta resistant rainbow trout stock.</p> <p>Closed to harvest.</p> <p>Closed to harvest. Continue population monitoring of white sturgeon. Evaluate effects of tribal harvest and poaching on population structure. No hatchery supplementation.</p> |
|   |            |                      | Rainbow trout<br>Smallmouth bass<br>Channel catfish<br>Mountain whitefish | General      |   |
|   |            |                      | Bull trout  | Conservation |   |
|   |            |                      | White sturgeon  | Conservation |   |
| Sheep and Granite Creeks  |            | Mixed/<br>Anadromous | Steelhead<br>Chinook salmon   | Anadromous   | <p>Manage for natural production of steelhead.</p> <p>Restrict harvest to minimize impacts to naturally-produced juvenile steelhead</p> <p>Closed to harvest</p>  |
|   |            |                      | Rainbow trout   | Wild         |   |
|   |            |                      | Bull trout  | Conservation |   |
| Alpine lakes  | /82        | Coldwater            | Rainbow trout<br>Cutthroat trout<br>Brook Trout                           | General      | Provide 1.0-fish/hour catch rates. Follow individual lake management prescriptions as defined in Clearwater Region Mountain Lakes Management Plan. Stock only those lakes that do not support natural Reproduction. Stock sterile rainbow trout to reduce threat of genetic Impacts on native fish. Discontinue stocking of cutthroat.  |

# Clearwater River Drainage



## 7. CLEARWATER RIVER DRAINAGE

### A. Overview

The Clearwater River originates in the Bitterroot mountain range on the Idaho-Montana border and flows westerly across the state to Lewiston where it joins the Snake River. The river drains approximately 9,570 square miles and ranges in elevation from nearly 9,000' msl to 725' msl. There are three major tributaries to the Clearwater River including the North Fork, the Middle Fork, which originates at the confluence of the Lochsa and Selway rivers, and the South Fork. Mean annual discharge for the drainage between 1960 and 1980 measured 15,000 cfs with a range of 500 to 177,000 cfs.

The eastern half of the drainage is mainly national forest land, while the western half is largely private land including corporate timber holdings. There is also a scattering of state land in this area. The Nez Perce Indian Reservation makes up 13% of the drainage from approximately the South Fork Clearwater River to near Lewiston. Sixty-three miles of the main Clearwater and 11 miles of the South Fork are included within the boundary of the Reservation. The entire drainage is part of the Native American ceded lands.

Approximately 24% of the drainage in the Selway and portions of the Lochsa and South Fork Clearwater drainages are classified wilderness. The Middle Fork Clearwater, including the Lochsa and Selway rivers, is part of the National Wild and Scenic Rivers System. There is some remaining roadless area left in the Clearwater drainage that is not wilderness. Much of this unaltered area is found in the upper North Fork Clearwater River near Kelly and Weitas creeks and in the lower Selway and upper Lochsa drainages.

Fishery habitat ranges from pristine streams and rivers found in roadless areas and wilderness to heavily-silted and dredged waters found in logged, mined and farmed areas. Road construction, agriculture and silviculture are major sources of siltation. The South Fork Clearwater drainage has been heavily impacted by dredge and placer mining. Overgrazing has also contributed to loss of important riparian habitat. Fishery potential has been severely reduced in much of the impacted areas.

One of the most productive salmon and steelhead streams in the state was impounded and eliminated from natural production of anadromous fish by the construction of Dworshak Dam. Since construction of the dam, the lower end of the North Fork of the Clearwater has been exclusively devoted to artificial production of anadromous fish with both Dworshak National Fish Hatchery and Clearwater Fish Hatchery located near the mouth of the North Fork. In addition, Kooskia National Fish Hatchery, located at the mouth of Clear Creek, on the Middle Fork of the Clearwater, raises spring Chinook and steelhead in conjunction with Dworshak. The Clearwater Fish Hatchery rears steelhead trout and Chinook salmon. This program includes three satellite ponds located at Crooked River, Red River, and at Powell on the Lochsa, which rear Chinook. Production of spring and fall Chinook is also occurring at the Nez Perce Tribal Hatchery. The Department is also cooperating with the Nez Perce Tribe and U.S. Fish and Wildlife Service on a tribal-led initiative to reintroduce Coho salmon into the Clearwater River. Monitoring and evaluation during this planning period, conducted primarily by the Nez Perce Tribe, will provide future guidance for this program and determine its sustainability.

Anadromous management action in the Clearwater will emphasize maintaining existing natural spawning populations of Chinook and steelhead and preserving good habitat quality. The



mainstems of the Clearwater, South Fork, North Fork, and lower Middle Fork will continue to be managed for exploitation of hatchery steelhead. Development of strategies to provide fishing opportunity on surplus hatchery Chinook will also be emphasized.

The drainage supports a myriad of fish and fishing opportunity. Major trout species include inland redband trout, westslope cutthroat trout, bull trout, mountain whitefish, kokanee, Chinook salmon and steelhead trout. There are 557 documented mountain lakes in the Clearwater River drainage. Approximately 64% (358) of these lakes remain fishless. Fish populations are documented in 199 lakes. Eleven of these lakes contain native fish populations, 126 lakes contain naturally reproducing populations of introduced trout and 62 lakes contain populations that are dependent on routine hatchery stocking. Kokanee are the most abundant species found in 16,970-acre Dworshak Reservoir, the largest impoundment in the drainage. Smallmouth bass are found in Dworshak Reservoir and the main Clearwater River.

Fishing opportunity ranges from quality fisheries with gear and harvest restrictions on cutthroat trout to high-yield, consumptive fisheries for kokanee. The area also provides extensive angling opportunity for hatchery steelhead trout and for hatchery spring Chinook salmon in some years.

There are ten lowland lakes and ponds in the area that are managed mostly for put-and-take fisheries utilizing catchable rainbow trout. Some of the waters support put-and-grow trout and kokanee fisheries resulting from fingerling releases. Warmwater species including largemouth bass, smallmouth bass, crappie, bluegill sunfish and bullheads are also important fisheries in these lakes. Within the drainage are a multitude of private farm ponds for which Department personnel provide consultation on a regular basis.

## **B. Objectives and Programs**

1. Objective: Maintain and improve fish habitat and water quality within the Clearwater drainage.

Program: Continue working with land management agencies (Forest Service, Bureau of Land Management, State Department of Lands) and private land owners to inform, educate and assist with land management planning for protecting fish habitat and water quality. Emphasize the need for riparian habitat protection and enhancement. Encourage containment of sediment production areas, including old mining sites. Oppose land use activities that degrade quality of natural production areas.

Program: Evaluate selective application of aquatic herbicides to control nuisance aquatic macrophyte growth in regional lowland lakes where it interferes with recreational fishing.

Program: Evaluate effectiveness of hypolimnetic aeration projects in Winchester and Waha lakes.

Program: Continue to provide monitoring and evaluation of wild steelhead response to habitat improvement in the Potlatch River Basin.

2. Objective: Maintain a diversity of fishing opportunity in the Clearwater River drainage to meet angler demand.

Program: Within the biological constraints of the fish resource, provide an array of lake and stream fishing opportunities including:

- a. High yield fisheries for kokanee and crappie.
- b. Yield fisheries on catchable and fingerling released trout.
- c. Fishing (catch-and-release) for trophy-sized rainbow trout, redband trout, cutthroat trout, white sturgeon, and steelhead trout.
- d. Yield and quality fisheries for smallmouth and largemouth bass.
- e. Yield and quality fisheries for trout species in mountain lakes.
- f. Opportunities to harvest hatchery steelhead trout, and hatchery Chinook salmon when run size permits.

3. Objective: Develop strategies including a funding source to construct a new recreational fishing reservoir in the Clearwater drainage.

Program: Construct Deyo Reservoir near Weippe, Idaho during this planning period.

4. Objective: Improve and increase fishing access. Program: As

opportunities allow, acquire additional fishing access sites.

Program: Provide routine maintenance to existing fishing access sites. Implement a schedule of dock replacement throughout the Region's lowland lakes.

5. Objective: Maintain existing natural spawning populations of Chinook salmon and steel head trout.

Program: Continue Idaho Supplementation studies to evaluate supplementation strategies.

Program: Work with the U.S. Fish and Wildlife Service and Nez Perce Tribe to develop hatchery fish release programs that preserve and protect genetic resources of naturally spawning Chinook salmon and steelhead trout populations. Mark hatchery smolts released for harvest opportunities.

Program: Maintain Lochsa, Selway and Potlatch rivers as wild steelhead refuge areas with no hatchery releases or supplementation experiments.

6. Objective: Support anadromous fish passage objectives with flood control releases and other available storage from Dworshak Reservoir.

Program: Work with Corps of Engineers and other action agencies to utilize flood control releases and the existing federal storage allocation to enhance juvenile fish passage during the spring migration period when migrants are present premised

on shifts in flood control operations. Continue to support managing existing flow augmentation volumes for summer migrants subordinate to flow augmentation operations during the spring migration period. Continue to support use of Dworshak Reservoir flow later in the summer season to enhance juvenile fall Chinook migration with emphasis on using coldwater augmentation to moderate temperature in the lower Snake River and Lower Granite Reservoir. Continue to support use of Dworshak Reservoir flow into September to enhance late juvenile fall Chinook migration and to facilitate adult steelhead return, when possible, consistent with federal and tribal agreement for reservoir operation. Support flow management and or modification to facilitate salmon and steelhead fishing in the North Fork and lower Clearwater when feasible. Evaluate effects of reservoir operation modifications on resident fisheries.

7. Objective: Work with private landowners to enhance fishing opportunities in private farm ponds.

Program: Continue consultation with private fish pond permittees to provide fisheries in farm ponds. Provide warm water fish for give-a-ways as lowland lake populations allow.

8. Objective: Manage alpine lakes within productivity and user preference constraints of individual lakes.

Program: Manage alpine lakes as per specific direction in Clearwater Region Mountain Lake Management Plan. Monitor and evaluate by continuing alpine lakes investigations in cooperation with Forest Service to collect biological, physical, and chemical characteristics of each lake.

9. Objective: Manage sub-alpine ecosystems to perpetuate native amphibian species.

Program: Maintain suitable levels of fishless alpine lake habitat as described in the Clearwater Region Mountain Lake Management Plan.

10. Objective: Maintain or improve resident fisheries in Dworshak Reservoir.

Program: Work cooperatively with U.S. Army Corps of Engineers to supplement and balance annual levels of base nutrients (nitrogen and phosphorus) to improve water quality and increase zooplankton production.

Program: Monitor recent improvements to smallmouth bass size and age structure. Evaluate potential changes to annual angler mortality rates that may require regulation change.

Program: Assess potential impacts of smallmouth bass on native gamefish species.

Program: Investigate diversification of the fishery with addition of low density, sterile, trophy sized species.

11. Objective: Optimize sport fishing opportunity for excess hatchery spring/summer Chinook.

Program: Coordinate hatchery smolt releases to provide optimum adult return distribution throughout drainage.

Program: Evaluate introduction of summer Chinook into Clearwater River drainage to provide additional fishing opportunity.

Program: Measure the role, impact and contribution of commercial guiding relative to anadromous fishery management objectives.

| Drainage: CLEARWATER RIVER |            |       |  |   |  |
|----------------------------|------------|-------|--|---|--|
| Water                      | Miles/acre | Type  | Fishery  | Management                                  | Management Direction   |
|                            |            |       | Species Present  |   |  |
| Winchester Lake            | /100       | Mixed | Rainbow trout<br>Largemouth bass<br>Yellow perch<br>Crappie<br>Bullhead<br>Channel catfish<br>Tiger muskie | Put-and-take<br><br>Family Fishing<br>Water | Electric motors only water. Stock sterile catchable and fingerling Rainbow trout to maintain catch rate of 0.5 trout/hour. Implement and evaluate the hypolimnetic aeration project. Evaluate angler response to selective control of nuisance aquatic macrophytes. Evaluate fish populations every three years.<br><br>Yield fishery for perch, crappie and bullhead. |
| Spring Valley Reservoir    | /53        | Mixed | Rainbow trout<br><br>Largemouth bass<br>Bluegill<br>Tiger muskie   | Put-and-take<br><br>Family Fishing<br>Water | Electric motors only water. Stock sterile catchable and fingerling rainbow trout to maintain catch rate of 0.5 trout/hour. Evaluate angler response to selective control of nuisance aquatic macrophytes. Evaluate fish populations every three years.   |
| Mann Lake                  | /145       | Mixed | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Channel catfish<br>Black crappie                           | Put-and-take                                | Electric motors only water. Stock sterile catchable and fingerling rainbow trout to maintain catch rate of 0.5 trout/hour. Evaluate fish populations every three years.<br><br>Yield fishery for crappie.  |
| Waha                       | /94        | Mixed | Kokanee<br>Smallmouth bass<br>Rainbow trout<br>Splake<br>Yellow perch<br>Crappie                           | General                                     | Stock sterile rainbow trout catchables and/or fingerlings as needed to maintain catch rate of 0.5 trout/hour. Implement and evaluate the hypolimnetic aeration project. Evaluate fish populations every three years.<br><br>Evaluate splake to develop a quality component to fishery.   |
| Soldiers Meadow Reservoir  | /101       | Mixed | Rainbow trout<br>Crappie<br>Bullhead   | Put-and-take                                | Stock sterile rainbow trout catchables and/or fingerlings as needed to maintain catch rate of 0.5 trout/hour. Evaluate fish populations every three years.   |
| Moose Creek Reservoir      | /50        | Mixed | Largemouth bass<br>Rainbow trout<br>Bluegill<br>Black crappie<br>Pumpkinseed                               | Put-and-take<br><br>Family Fishing<br>Water | Electric motors only water. Stock sterile catchable rainbow trout to maintain catch rate of 0.5 trout/hour. Evaluate fish populations every three years.   |
| Elk Creek Reservoir        | /81        | Mixed | Rainbow trout<br>Brook trout<br>Smallmouth bass<br>Largemouth bass   | Put-and-take                                | Electric motors only water. Stock sterile catchable rainbow trout to maintain catch rate of 0.5 trout/hour. Limit harvest of brook trout in tributary and reservoir to enhance fishery. Develop plan to manage algae problem. Evaluate fish populations every three years.   |

|  |        |                      |  |   |  |
|--|--------|----------------------|--|---|--|
| Deer Creek Reservoir                                       | /84    | Coldwater            | Rainbow trout<br>Cutthroat trout   | Put-and-take<br>Family Fishing<br>Water | Stock sterile rainbow trout catchables and westslope cutthroat fingerlings to maintain catch rate of 0.5 trout/hour.   |
| Campbell's Pond  | /7     | Coldwater            | Rainbow trout  | Put-and-take<br>Family Fishing<br>Water | Stock catchable rainbow trout to maintain catch rate of 0.5 trout/hour.  |
| Robinson's Pond  | /2     | Mixed                | Rainbow trout<br>Bullhead<br>Pumpkinseed   | Put-and-take                            | Stock sterile catchable rainbow trout to maintain catch rate of 0.5 trout/hour. Consider chemical renovation to remove stunted bullheads and nongame species. Work with local recreation groups to stabilize inflow and pool elevation. Consider installing an impervious liner.   |
| Lewiston Levee ponds                                       | /12    | Coldwater            | Rainbow trout  | Put-and-take                            | Stock catchable rainbow trout as needed. Manage as juvenile and handicapped fishing.   |
| Fish Lake (Cedars)   | /117   | Coldwater            | Cutthroat trout<br>Bull trout  | General<br>Conservation                 | Season opens August 1 to protect outlet spawning cutthroat trout. Maintain as no motors water. Maintain or improve spawning habitat in the outlet stream.<br>Closed to harvest. Evaluate potential for limited bull trout harvest.   |
| Other alpine lakes   | /4,300 | Coldwater            | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout<br>Arctic grayling<br><br>Bull trout<br>Conservation | General<br><br>Conservation             | Manage as per lake specific guidelines in Clearwater Region Mountain Lake Management Plan. Maintain catch rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale. Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat.<br>Closed to harvest. |
| White Sands Pond   | /3     | Coldwater            | Rainbow Trout  | Put-and-take                            | Stock catchable rainbow trout to provide additional fishing opportunity in the Powell area.  |
| Clearwater River from mouth to South Fork Clearwater River | 75/    | Mixed/<br>Anadromous | Steelhead<br>Chinook salmon  | Anadromous                              | Optimize harvest of surplus hatchery steelhead and Chinook salmon to reduce excess hatchery brood and maximize sport fishing opportunity. Maintain diversity of steelhead angling opportunity with catch-and-release regulations and no motors waters. Coordinate spring/summer hatchery run size estimates and computation of 50/50 harvest share with Nez Perce tribe. Work with Nez Perce Tribe to ensure fall Chinook enhancements is compatible with existing fishery programs.   |

|  |      |                          |  |   |  |
|--|------|--------------------------|--|---|--|
|  |      |                          | Redband trout<br>Cutthroat trout<br>Mountain whitefish<br>Kokanee<br>Smallmouth bass<br><br>Bull trout   | General<br><br>Conservation                                   | Evaluate trout strains suited for large river habitat. Allow salvage Fishery for Kokanee lost through Dworshak Dam when abundance warrants. Maintain warmwater fishery as conditions will allow. Promote winter mountain whitefish fishery.<br><br>Closed to harvest.  |
| Potlatch River                               | 55/  | Mixed/<br>Anadromous     | Steelhead<br><br>Redband trout<br>Rainbow trout<br>Brook trout<br>Smallmouth bass                        | Anadromous<br>Conservation<br><br>General                     | Work with implementing agencies, organizations and land owners to improve habitat quality. Monitor wild steelhead production and productivity related to habitat quality and or improvement. Closed to steelhead.<br><br>Stock sterile catchable rainbow trout where returns are adequate. Maintain warmwater fishery. |
| East Fork Potlatch River                     |      | Coldwater/<br>Anadromous | Steelhead<br><br><br>Brooktrout  | Wild Conservation   | Conserve juvenile steelhead through harvest restriction. Work with private land owners to Improve habitat quality. Closed to adult harvest. Maintain native/wild gene pool. No releases of hatchery steelhead<br><br>Promote reduction of brook trout population through liberal harvest regulations.                  |
| Other Potlatch Rive tributaries              |      | Coldwaer/<br>Anadromous  | Steelhead<br><br>Brook trout   | Anadromous<br>Conservation<br><br>General                     | Improve habitat quality. Closed to adult harvest. Maintain native/wild gene pool. No releases of hatchery steelhead. Promote reduction of brook trout population through liberal harvest regulations.  |
| Lolo Creek and tributaries                   | 86/  | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Redband trout<br>Cutthroat trout<br>Mountain whitefish<br>Brook trout | Anadromous<br><br>General                                     | Work with Nez Perce Tribe in restoring anadromous fish populations. Closed to adult harvest.<br><br>Promote reduction of brook trout population through liberal harvest regulations. Improve habitat quality.  |
| Other mainstream Clearwaer River tributaries | 283/ | Coldwaer/<br>Anadromous  | Steelhead<br><br>Redband trout<br>Mountain whitefish<br>Brook trout<br>Rainbow trout<br><br>Bull trout   | Anadromous<br><br>General<br>Put-and-take<br><br>Conservation | Improve habitat quality. Closed to adult harvest.<br><br>Maintain or improve present habitat. Stock catchable rainbow trout in a few select tributaries to maintain catch rate of 0.5 trout/hour and adequate returns to the creel.<br><br>Closed to harvest.  |

|  |     |                          |  |              |   |
|--|-----|--------------------------|--|--------------|---|
| Middle Fork Clearwater River (from South Fork to Selway-Lochsa confluence) | 23/ | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon                            | Anadromous   | Continue harvest opportunity for hatchery steelhead up to mouth of Clear Creek. Provide harvest opportunity for surplus hatchery spring Chinook salmon. |
|  |     |                          | Redband trout<br>Cutthroat trout<br>Mountain whitefish | General      | Promote mountain whitefish fishery.<br>Winter Stream Season   |
|  |     |                          | Bull trout   | Conservation | Closed to harvest.  |
| Clear Creek and tributaries  | 65/ | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead                            | Anadromous   | Develop guidelines to start releasing Chinook salmon and steelhead adults above the Clear Creek weir for natural production. Closed to adult harvest.   |
|  |     |                          | Redband trout<br>Cutthroat trout                       | General      | Maintain or improve habitat. Reestablish riparian vegetation to reduce water temperatures.  |
|  |     |                          | Bull trout   | Conservation | Closed to harvest.  |
| Other Middle Fork tributaries  | 32/ | Coldwater/<br>Anadromous | Steelhead  | Anadromous   | Maintain or improve present habitat for providing wild production at optimum potential. Closed to adult harvest.  |
|  |     |                          | Redband trout<br>Cutthroat trout<br>Brook trout        | General      | Reduce brook trout populations through liberal harvest regulations.   |
|  |     |                          | Bull trout   | Conservation | Closed to harvest.  |



| Drainage: NORTH FORK CLEARWATER RIVER  |            |                          |   |              |  |
|--|------------|--------------------------|---|--------------|--|
| Water  | Miles/acre | Type                     | Fishery   | Management   | Management Direction   |
|  |            |                          | Species Present   |              |  |
| North Fork from mouth to Dworshak Dam  | 1.4/       | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon                                     | Anadromous   | Maximize harvest of excess hatchery steelhead and spring Chinook.  |
|  |            |                          | Redband trout<br>Rainbow trout<br>Mountain whitefish<br>Kokanee | General      | Allow salvage fishery for kokanee that are lost through the dam when abundance warrants.   |
|  |            |                          | Bull trout  | Conservation | Closed to harvest.   |
| Dworshak Reservoir (Dam to Grandad Bridge)   | 41/1 5,440 | Mixed                    | Kokanee<br>Rainbow trout<br>Cutthroat trout<br>Smallmouth bass  | General      | Implement a pilot nutrient enhancement project in the reservoir Cooperatively with the U.S. Army Corps of Engineers. Monitor the Effects of nutrient enhancement on water quality, primary productivity, Quality and quantity of zooplankton, fish response and fishery Response. Maintain a kokanee population that will provide a minimum 10-inch average size fish at a catch rate of 0.7 fish/hour. Evaluate phasing out stocking of sterile catchable rainbow trout at boat ramps in lower end of reservoir. Monitor smallmouth bass population and fishery to determine if regulations are adequate. Investigate diversification of the fishery with a trophy sized, pelagic fish. |
|  |            |                          | Bull trout  | Conservation | Closed to harvest.   |
| Dworshak Reservoir (Grandad Bridge to end of slack water)                          | 12/1,650   | Mixed                    | Kokanee<br>Cutthroat trout<br>Rainbow trout<br>Smallmouth bass  | General      | Maintain a kokanee population that will provide a minimum 10-inch average size fish at a catch rate of 0.7 fish/hour. Fishing season and trout limit restricted to protect cutthroat trout population. Monitor smallmouth bass population and fishery to determine if regulations are adequate.  |
|  |            |                          | Bull trout  | Conservation | Closed to harvest.   |
| Little North Fork Clearwater River and tributaries from mouth to Foehl Creek       | 61/        | Coldwater                | Redband trout<br>Cutthroat trout                                | Wild         | Maintain limited consumptive fishery supported by wild trout.  |
|  |            |                          | Mountain whitefish<br>Smallmouth bass                           | General      | Winter Stream Season   |
|  |            |                          | Bull trout  | Conservation | Closed to harvest.   |
| Little North Fork Clearwater River and tributaries above and including Foehl Creek | 56/        | Coldwater                | Redband trout<br>Cutthroat trout                                | Wild         | Maintain limited consumptive fishery supported by wild trout. Evaluate Impacts of land management activities on habitat and fish populations. Strive to protect critical habitat and maintain low access fishing opportunity.  |
|  |            |                          | Mountain whitefish  | General      |  |
|  |            |                          | Bull trout  | Conservation | Closed to harvest.   |

|  |      |           |  |              |  |
|--|------|-----------|--|--------------|--|
| Alpine lakes (15 in Little North Fork Clearwater River drainage)           | /150 | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Golden trout<br>Arctic grayling           | General      | Continue maintenance stocking of trout fry where necessary to provide fisheries that are consistent with lake productivity and angling pressure. Emphasize use of westslope cutthroat trout for stocking lakes. Continue to survey lakes to improve management.  |
| North Fork Clearwater River from slackwater in Dworshak Reservoir upstream | 387/ | Coldwater | Cutthroat trout<br>Rainbow trout<br>Redband trout<br><br>Mountain whitefish<br>Bull trout    | Quality      | Restrict number and size of cutthroat trout harvested. Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. Allow reduced harvest of any size rainbow. No trout stocking in flowing water. Use only sterile rainbow trout for stocking in Dworshak Reservoir. Conduct intensive population survey and angler census every 5 years.  |
|  |      |           |  | General      | Encourage winter mountain whitefish fishery.   |
|  |      |           |  | Conservation | Closed to harvest. Monitor population with established trend counts. Explore opportunity for limited sport fishery.  |
| Tributaries EXCEPT Kelly Creek   |      | Coldwater | Cutthroat trout<br><br>Redband trout?<br>Mountain whitefish<br>Brook trout<br><br>Bull trout | Wild         | Restrict harvest of cutthroat trout. No trout stocking in running water.   |
|  |      |           |  | General      | Encourage mountain whitefish fishery.<br>Encourage harvest of brook trout in the selected tributaries where they occur.  |
|  |      |           |  | Conservation | Closed to harvest. Monitor population with established trend counts.   |
| Kelly Creek and tributaries  | 119/ | Coldwater | Cutthroat trout<br>Redband trout<br><br>Mountain whitefish<br>Bull trout                     | Quality      | Quality wild trout water managed as catch-and-release. Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. Maintain or improve present habitat. No trout stocking in flowing water.  |
|  |      |           |  | General      | No winter stream fishery   |
|  |      |           |  | Conservation | Closed to harvest. Monitor population with established trend counts.   |
| Alpine lakes   |      | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout  | General      | Manage fisheries in 30 lakes as per lake specific guidelines in Clearwater Region Mountain Lake Management Plan. Maintain catch rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale. Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat. |

| Drainage: SOUTH FORK CLEARWATER RIVER |            |                          |  |              |   |
|---------------------------------------|------------|--------------------------|--|--------------|---|
| Water                                 | Miles/acre | Type                     | Fishery  | Management   | Management Direction  |
|                                       |            |                          | Species Present  |              |   |
| South Fork Clearwater River           | 65/        | Mixed/<br>Anadromous     | Steelhead<br>Chinook salmon                            | Anadromous   | Continue harvest opportunity for excess hatchery steelhead and spring Chinook. Work with private land owners to develop a plan or approach to manage private access to popular fishing locations on the lower South Fork. Encourage consumptive fishery on residual hatchery steelhead smolts.<br><br>Closed to harvest. Develop population-monitoring techniques.<br><br>Winter fishery to harvest mountain whitefish population. Work with USFS to improve habitat. Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. Monitor effects of restrictive cutthroat harvest. Creel census and population survey every 5 years. |
|                                       |            |                          | Bull trout   | Conservation |   |
|                                       |            |                          | Mountain whitefish<br>Redband trout<br>Cutthroat trout | General      |   |
| Ten Mile Creek and tributaries        | 20/        | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon                            | Anadromous   | Maintain or improve present habitat. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Manage for wild trout. Restrict harvest.   |
|                                       |            |                          | Bull trout   | Conservation |   |
|                                       |            |                          | Redband trout<br>Cutthroat trout                       | Wild         |   |
|                                       |            |                          | Mountain whitefish                                     | General      |   |
| Johns Creek                           |            | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon                            | Anadromous   | Work with USFS to maintain habitat. Closed to adult harvest.<br><br>Manage for wild trout. Restrict harvest.<br><br>Closed to harvest.  |
|                                       |            |                          | Cutthroat trout<br>Redband trout                       | Wild         |   |
|                                       |            |                          | Mountain whitefish                                     | General      |   |
|                                       |            |                          | Bull trout   | Conservation |   |

|   |      |                          |   |   |  |
|---|------|--------------------------|---|---|--|
| Newsome Creek and tributaries                 | 164/ | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Redband trout<br>Cutthroat trout<br>Mountain whitefish | Anadromous<br><br>Conservation<br><br>General | Work with Nez Perce Tribe in restoring anadromous fish populations. Maintain or improve habitat. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Maintain or improve habitat.  |
| Red River and tributaries                     |      | Coldwater/<br>Anadromous | Steel head<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout<br>Brook trout       | Anadromous<br><br>Conservation<br><br>General | Work with USFS to improve habitat. Complete steelhead supplementation evaluation. Closed to adult harvest.<br><br>Closed to harvest. Develop population-monitoring techniques.<br><br>Work with USFS to improve habitat.<br><br>Encourage brook trout harvest. |
| American River and tributaries                |      | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout                       | Anadromous<br><br>Conservation<br><br>General | Work with USFS and BLM to improve habitat. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Work with USFS to improve habitat.  |
| Crooked River and tributaries                 |      | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout                       | Anadromous<br><br>Conservation<br><br>Wild    | Work with USFS to improve habitat. Closed to adult harvest.<br><br>Closed to harvest. Develop population-monitoring techniques.<br><br>Restrict trout harvest.   |
| Karolyn's Pond                                | /1   | Coldwater                | Rainbow trout   | Put-and-take                                  | Rainbow trout fishery.   |
| Other South Fork Clearwater River tributaries | 114/ | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout                       | Anadromous<br><br>Conservation<br><br>General | Work with USFS to improve habitat. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Work with USFS to improve habitat. Maintain or improve present habitat.   |

|  |  |                              |   |   |  |
|--|--|------------------------------|---|---|--|
| Alpine lakes   |  | Coldwater                    | Cutthroat trout<br>Rainbow trout<br>Brook Trout   | General   | Manage fisheries in 17 lakes as per lake specific guidelines in Clearwater Region Mountain Lake Management Plan. Maintain catch Rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale. Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat. |
| Lochsa River tributaries above Wilderness Gateway Bridge, including Crooked Fork Creek above Brushy Fork Creek |  | Coldwater/<br><br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout<br><br>Mountain whitefish | Conservation<br><br>Conservation<br><br>Wild<br><br>General | Protect, maintain, and restore habitat.<br><br>Closed to harvest. Develop population-monitoring techniques.<br><br>Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. Maintain or improve present habitat.<br><br>No trout stocking in flowing water.   |

| Fishery   |              |                          |                                  |              | Management Direction   |
|---|--------------|--------------------------|----------------------------------|--------------|--|
| Water   | Miles/ Acres | Type                     | Species Present                  | Management   |  |
| Mainstem<br>Loschsa River<br>from mouth to<br>Wilderness<br>Gateway Bridge<br>(MP 123)  | 217/         | Coldwater/<br>Anadromous | Steelhead                        | Conservation | Maintenance of native/natural gene pool. Closed to adult harvest.<br>Protect juvenile anadromous fish with minimum size regulation.<br><br>Provide Opportunity to harvest surplus hatchery spring Chinook.<br><br>Closed to harvest. develop population-monitoring techniques.<br><br>Manage cutthroat opulation at stable or increasing numbers<br>using a combination of restrictive regulations. No trout stocking in<br>flowing water.<br><br>Winter mountain whitefish fishery.         |
|   |              |                          | Chinook Salmon                   | Anadromous   |  |
|   |              |                          | Bull trout                       | Conservation |  |
|   |              |                          | Cutthroat trout<br>Redband trout | Quality      |  |
|   |              |                          | Mountain whitefish               | General      |  |
| Lochsa River<br>tributaries below<br>Wilderness<br>Gateway Bridge,<br>including Fish<br>Creek   | 261/         | Coldwater/<br>Anadromous | Steelhead<br>Chinook Salmon      | Conservation | Maintain or improve present habitat. Protect critical steelhead<br>habitat in Fish Creek watershed. Protect juvenile anadromous<br>fish with delayed opening date and reduced bag limits.<br><br>Closed to harvest. Delvelo population-monitoring techniques.<br><br>Manage cutthroat population at stable or increasing numbers<br>using a combination of restrictive regulations. No trout stocking in<br>flowing water.   |
|   |              |                          | Bull trout                       | Conservation |  |
|   |              |                          | Cutthroat trout<br>Redband trout | Wild         |  |
|   |              |                          | Mountain whitefish               |              |  |
|   |              |                          |                                  |              |  |
| Wilderness<br>Gateway Bridge<br>to Crooked Fork<br>Creek/ White<br>Sand Creek<br>confluences and<br>Crooked Fork<br>Creek from mouth<br>to Brushy Fork<br>Creek | 44/          | Coldwater/<br>Anadromous | Steelhead                        | Conservation | Maintenance of native/natural gene pool. Closed to adult harvest.<br>ProtectDevelop harvest strategy to utilizw surplus Powell Pind<br>hatchery Chinook slamon.<br><br>Quality wild trout water managed as catch-and-release. Manage<br>cutthroat population at stable or increasing numbers using a<br>combination of restictive regulations. Maintain or improve present<br>habitat. No trout stocking allowed in flowing water.<br><br>No winter stream season.<br><br>Closed to harvest. |
|   |              |                          | Chinook Salmon                   | Anadromous   |  |
|   |              |                          | Cutthroat trout<br>Redband trout | Quality      |  |
|   |              |                          | Mountain whitefish               | General      |  |
|   |              |                          | Bull trout                       | Conservation |  |

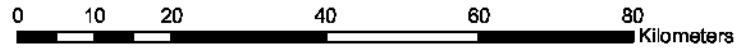
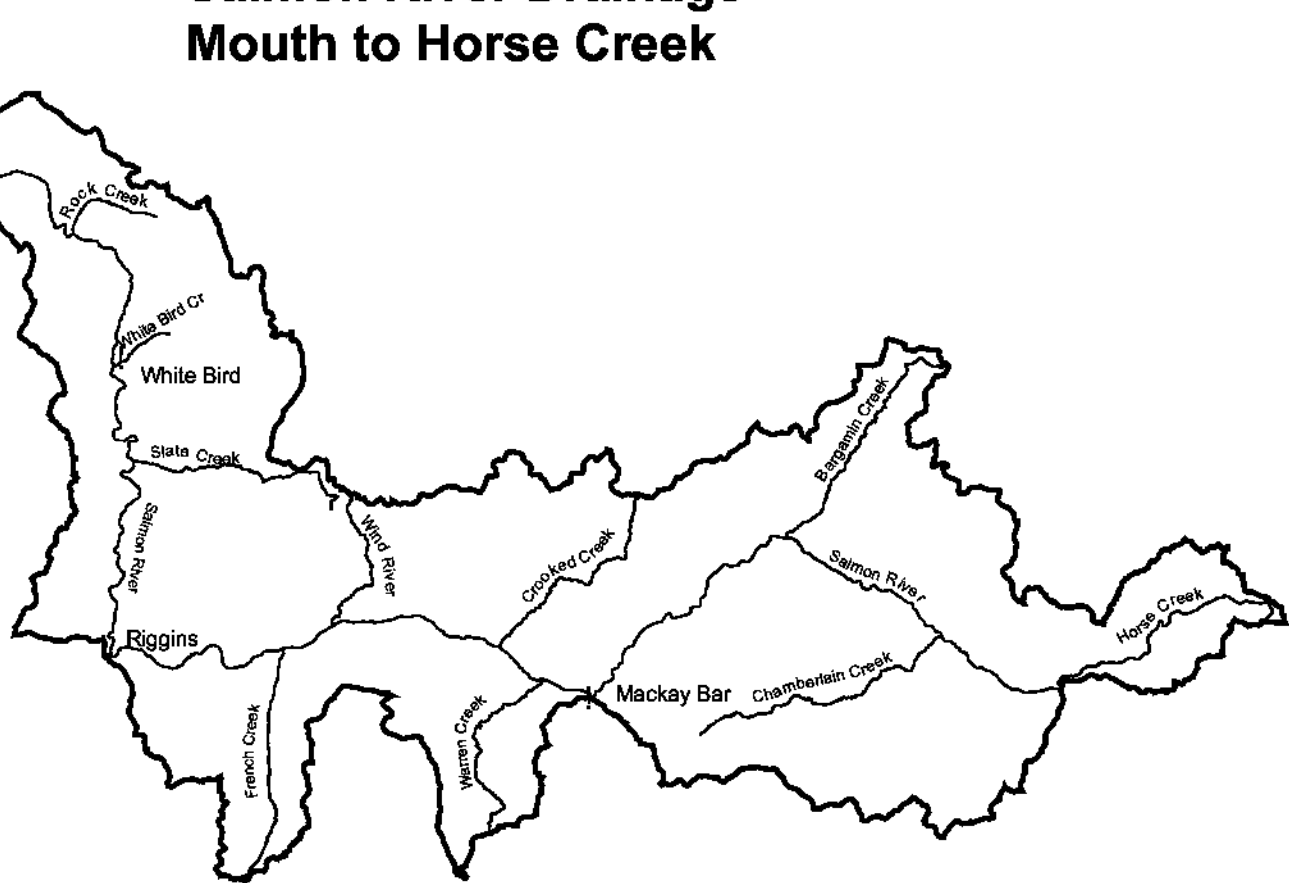
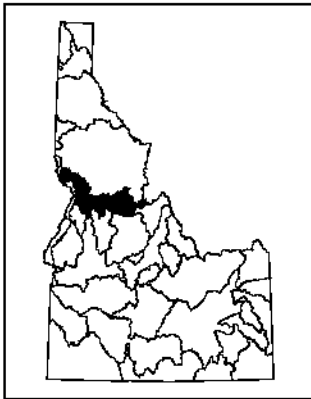
|             |  |           |  |                                 |   |
|-------------|--|-----------|--|---------------------------------|---|
| Alpine Lake |  | Coldwater | Cutthroat trout<br>Rainbow trout<br><br>Bull trout | General<br><br><br>Conservation | <p>Manage fisheries in 60 lakes as per lake specific guidelines in Clearwater region Mountain Lake Management Plan. Maintain catch rates of 0.5 to 1.0 fish/ hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale.</p> <p>Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat.</p> <p>Closed to harvest.</p> |
|-------------|--|-----------|--|---------------------------------|---|

| Drainage: SELWAY RIVER   |            |                          |                                  |              |  |
|--|------------|--------------------------|----------------------------------|--------------|--|
| Water  | Miles/acre | Type                     | Fishery                          |              | Management Direction   |
|  |            |                          | Species Present                  | Management   |  |
| Selway River and tributaries from mouth to Meadow Creek Bridge | 20/        | Coldwater/<br>Anadromous | Steelhead                        | Conservation | Maintain native wild steelhead gene pool and do not release hatchery steelhead.<br><br>Work with Nez Perce Tribe to evaluate sustainability of existing naturally produced Chinook salmon population and need for artificial production actions. Maintain or improve present habitat. Protect juvenile anadromous fish with minimum size regulation. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. No trout stocking in flowing water.<br><br>Winter stream season |
|  |            |                          | Chinook salmon                   | Anadromous   |  |
|  |            |                          | Bull trout                       | Conservation |  |
|  |            |                          | Redband trout<br>Cutthroat trout | Quality      |  |
|  |            |                          | Mountain whitefish               | General      |  |
| Tributaries below Selway Falls                                 |            | Coldwater/<br>Anadromous | Steelhead                        | Conservation | Protect and improve habitat. Closed to adult harvest. Protect juvenile anadromous fish with delayed opening date and reduced bag limits.<br><br>Closed to harvest.<br><br>Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. No trout stocking in flowing water.  |
|  |            |                          | Chinook salmon                   |              |  |
|  |            |                          | Bull trout                       | Conservation |  |
|  |            |                          | Cutthroat trout<br>Redband trout | Wild         |  |
| Selway River from Selway Falls Bridge upstream                 | 71/        | Coldwater/<br>Anadromous | Steelhead                        | Conservation | Maintain native steelhead gene pool. No hatchery stocking. Protect juvenile anadromous fish with catch-and-release regulation.<br>Work with Nez Perce Tribe to evaluate sustainability of existing naturally produced Chinook salmon population and need for artificial production actions. Closed to adult harvest.<br><br>Closed to harvest.<br><br>Manage as catch-and-release trout fishery. Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. No trout stocking in flowing water.<br><br>No winter stream season            |
|  |            |                          | Chinook salmon                   | Anadromous   |  |
|  |            |                          | Bull trout                       | Conservation |  |
|  |            |                          | Cutthroat trout<br>Redband trout | Quality      |  |
|  |            |                          | Mountain whitefish               | General      |  |



|  |  |                          |  |              |  |
|--|--|--------------------------|--|--------------|--|
| Selway River tributaries above Meadow Creek Bridge |  | Coldwater/<br>Anadromous | Steelhead  | Conservation | Maintain native wild steelhead gene pool and do not release hatchery steelhead. Protect juvenile anadromous fish with delayed opening date and reduced bag limits.   |
|  |  | Coldwater                | Chinook salmon   | Anadromous   | Work with Nez Perce Tribe to evaluate sustainability of existing naturally produced Chinook salmon population and need for artificial production actions. Closed to adult harvest.   |
|  |  |                          | Cutthroat trout<br>Redband trout                                   | Wild         | Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations. No trout stocking in flowing water.  |
|  |  |                          | Bull trout   | Conservation | Closed to harvest. Develop population-monitoring techniques.   |
| Fenn Pond  |  | Coldwater                | Rainbow trout  | General      | Rainbow trout put-and-take fishery.  |
| Alpine lakes                                       |  | Coldwater                | Cutthroat trout<br>Rainbow trout<br>Arctic Grayling<br>Brook trout | General      | Manage fisheries in 92 lakes as per lake specific guidelines in Clearwater Region Mountain Lake Management Plan. Maintain catch rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale. Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat. |

# Salmon River Drainage Mouth to Horse Creek



## 8. SALMON RIVER DRAINAGE - MOUTH TO HORSE CREEK

### A. Overview

Horse Creek enters the Salmon River from the north side of the river 187 miles upstream from the confluence of the Salmon and Snake rivers. This reach of river is a migration corridor for spring and summer Chinook, sockeye, and steelhead, as well as an overwintering area for adult steelhead and juvenile Chinook and steelhead. It supports a myriad of recreational opportunities including rafting, jet boating, steelhead fishing and salmon fishing. There is also fishing opportunity for inland redband trout, cutthroat trout, bull trout and smallmouth bass. Sturgeon are present in this reach of the river. Portions of the Salmon River between the mouth and Horse Creek are protected by wilderness and wild river status. The upper segment drains parts of the Frank Church River of No Return and Gospel Hump Wilderness areas.

The 53-mile section of river from the mouth to Hammer Creek is under consideration for classification in the Wild and Scenic Rivers System. This reach of river has limited access and provides for a quality steelhead fishing opportunity. White water boating is increasing in popularity. The Central Idaho Wilderness Act of 1980 prohibits mining activity in this river stretch.

The section of river from Hammer Creek to Long Tom Bar is heavily accessed. Highway 95 parallels 30 miles of the river from Whitebird upstream to Riggins. Opportunity for spring/summer Chinook fishing has offered in this reach from 2001-2006. The river from Riggins upstream to Long Tom Bar is bounded by a secondary road. Fall Chinook salmon spawning was documented in this river section in 1993 and 1994.

There are 74 miles of unroaded river between Long Tom Bar and Horse Creek. This section of Salmon River is commonly referred to as the Salmon River canyon. This reach of river has limited access and is classified "wild" under the Wild and Scenic Rivers System. It supports an expanding use of jet boat traffic directed toward fall and spring steelhead fishing. Most of the commercial steelhead fishing outfitter services occurs in this area.

Downstream from Long Tom Bar, naturally reproducing populations of Chinook salmon exist primarily in Slate and Whitebird creeks. No Chinook salmon have been stocked in the lower Salmon tributaries, except the Little Salmon. (The Little Salmon River is discussed separately.) Spring Chinook production in Slate and Whitebird creeks results from wild fish and perhaps strays from the Rapid River program.

Many of the tributary streams in the Salmon River canyon are important producers of wild steelhead trout. These tributaries represent the largest and the only contiguous production area for wild A-run steelhead trout in the Salmon River. Resident fisheries in these tributaries are supported primarily by wild juvenile steelhead trout. Chamberlain Creek also supports wild Chinook salmon production. Most of these tributaries have good to excellent habitat.

Anadromous management action in this river section will emphasize maintaining existing natural spawning populations of Chinook salmon and steelhead trout and preserving good habitat quality. Tributaries in the Salmon River canyon will continue to be managed for wild Chinook salmon and steelhead trout production. Maintenance of the genetic resources contained in the wild populations in this river section will be a top priority. The mainstem Salmon River will continue to be managed for exploitation of hatchery steelhead trout but consumptive harvest is not expected on naturally produced steelhead trout or Chinook salmon during the next five years. Sport fisheries on excess hatchery spring/summer Chinook will be managed in sections of the mainstem Salmon River where fishery monitoring is feasible and incidental take of listed stocks can be managed at an acceptable level. Wild adult steelhead trout will continue to provide opportunity for catch-and-release fishing.

There are no significant impoundments within the Salmon River drainage. The integrity of the drainage, including the diversity of fishing and recreational opportunity, is dependent on a free-flowing river. Legislation passed by Congress in 1989 prohibits the Federal Energy Regulatory Commission from issuing any licenses to develop new mainstem hydropower projects in the unprotected portions of the Salmon River. Congressional intent also includes federally authorized projects.

## **B. Objectives and Programs**

1. Objective: Maintain maximum potential for fishery and recreational values in the Salmon River from mouth to Horse Creek.

Program: Work with land managers to ensure adequate riparian and water quality protection along the Salmon River corridor between Hammer and Vinegar creeks. Oppose land use activities that degrade quality of natural production and migration areas.

2. Objective: Maintain existing natural spawning populations of Chinook salmon and steelhead trout.

Program: Allow natural production to sustain existing natural populations. Do not outplant hatchery steelhead trout and Chinook salmon into the mainstem or tributaries, from French Creek upstream to the Middle Fork Salmon River, to preserve wild fish genetic resources. Limit hatchery outplanting in the rest of this section to support supplementation research and areas devoid of naturally produced anadromous fish.

3. Objective: Minimize harvest impacts to naturally produced Chinook salmon and steel head trout populations.

Program: Maintain fishing regulations implemented to avoid harvest impacts to juvenile steelhead trout populations.

4. Objective: Maintain and improve habitat quality of tributary production areas.

Program: Oppose land use activities that further degrade the quality of natural production areas. Encourage implementation of grazing management plans, which eliminate negative grazing impacts to fishery productivity and survival.

5. Objective: Increase fishing access.

Program: Develop small outboard and float boat launch facilities where possible.

6. Objective: Manage mountain lakes within productivity and user preference constraints of individual lakes.

Program: Continue mountain lakes investigations in cooperation with USFS to collect biological, physical and chemical characteristics of each lake. Use acquired information to develop management plans.

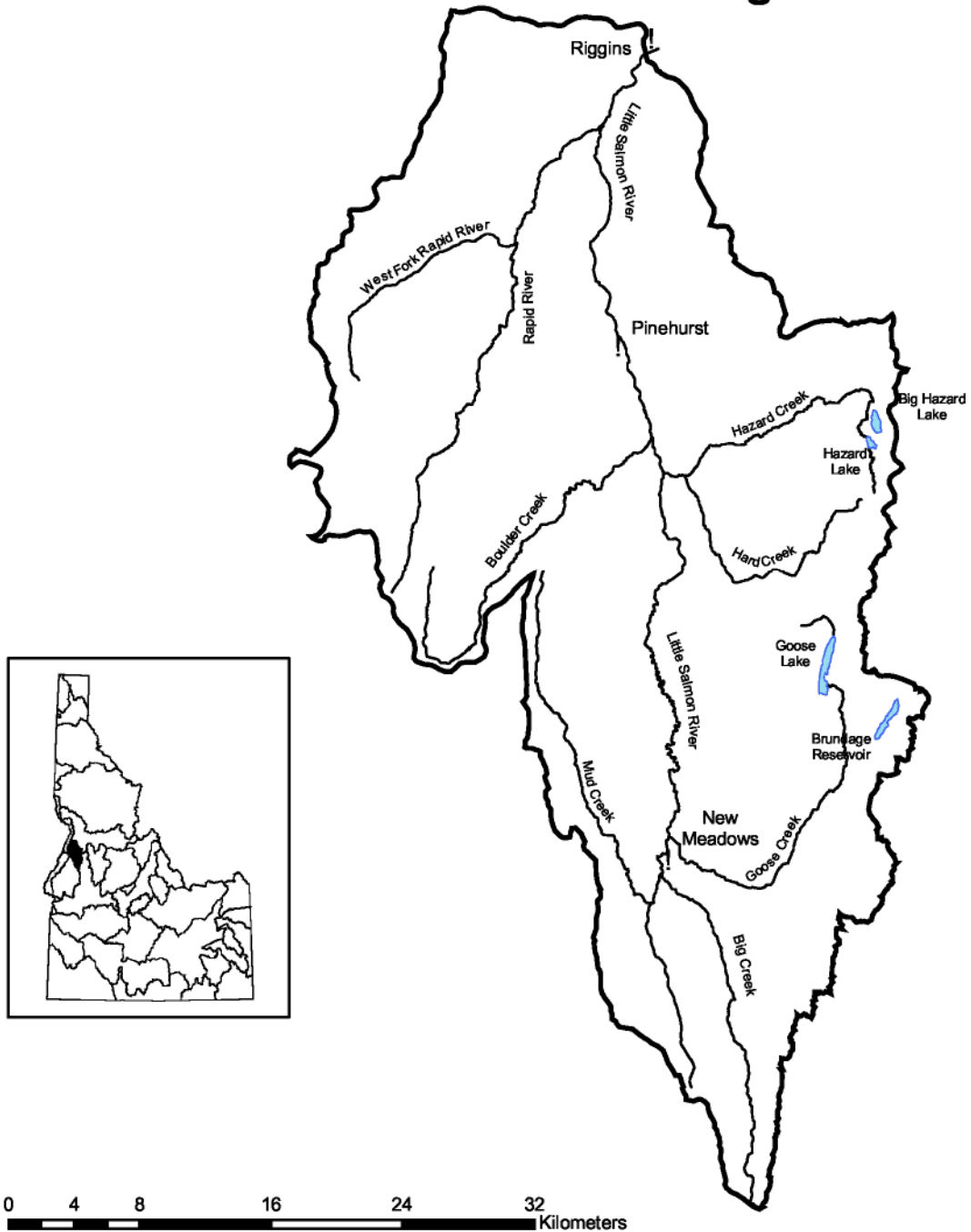
- 7 Objective: Manage sub-alpine ecosystems to perpetuate native amphibian species.

Program: Maintain suitable levels of fishless mountain lake habitat as described in the Clearwater and McCall regional mountain lake management plans.

| Drainage: SALMON RIVER - MOUTH TO HORSE CREEK |            |                          |   |              |   |
|---|------------|--------------------------|---|--------------|---|
| Water   | Miles/acre | Fishery                  |   | Management   | Management Direction  |
|   |            | Type                     | Species Present   |              |   |
| From mouth to Little Salmon River             | 365/       | Mixed/<br>Anadromous     | Steelhead   | Anadromous   | Enhance steelhead fishing opportunity with A and B strain smolt releases into Salmon River and selected tributaries. Maximize harvest of surplus hatchery steelhead in the Salmon River.  |
|   |            |                          | Chinook salmon  | Anadromous   | Manage selected tributaries for natural production of spring Chinook salmon. Provide salmon sport fishing and opportunity to harvest surplus hatchery Chinook salmon in the Salmon River. |
|   |            |                          | Bull trout  | Conservation | Closed to harvest.  |
|   |            |                          | Cutthroat trout   | Conservation | Closed to harvest   |
|   |            |                          | Rainbow trout<br>Redband trout<br>Mountain whitefish<br>Smallmouth bass | General      | Stock the mainstem with hatchery rainbow trout of an appropriate stock. Evaluate growth, condition, and return to the creel.  |
|   |            |                          | White sturgeon  | Conservation | Maintain sturgeon fishery as nonconsumptive. Evaluate need for further fishing restrictions to reduce hooking mortality. Evaluate effects of Tribal harvest on population structure.      |
| Tributaries (except Little Salmon)            |            | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon   | Anadromous   | Closed to adult harvest<br>Work with USFS to protect and improve habitat.<br>Manage for natural production of steelhead and Chinook salmon.   |
|   |            |                          | Redband trout<br>Cutthroat trout  | Wild         | Restrict trout harvest.   |
|   |            |                          | Bull trout  | Conservation | Closed to harvest.  |
| Tolo Lake                                     | /20        | Warmwater                | Largemouth bass<br>Crappie  | General      | Electric motors water.  |

|   |      |                          |   |   |   |
|---|------|--------------------------|---|---|---|
| From Little Salmon River to Horse Creek             | 366/ | Mixed/<br>Anadromous     | Chinook salmon<br>Steelhead<br><br>Bull trout<br>Cutthroat trout<br><br>Sturgeon<br>Redband trout<br>Brook trout<br>Mountain whitefish<br>Smallmouth bass | Anadromous<br><br>Conservation<br><br>Conservation<br>General | Closed to non-hatchery adult harvest. Maximize production of wild Chinook salmon. Improve angler access to the river. Work with land managers to protect critical steelhead spawning and rearing habitat in the Bargamin Creek watershed.<br><br>Closed to harvest. Evaluate population status of cutthroat trout.<br><br>Maintain sturgeon fishery as non-consumptive.<br>Maintain or improve present habitat quality. Develop regulations to enhance fishery in the long term.  |
| Tributaries from Little Salmon River to Horse Creek |      | Coldwater/<br>Anadromous | Steelhead<br>Chinook salmon<br><br>Bull trout<br><br>Cutthroat trout<br>Redband trout<br><br>Brook trout<br>Mountain whitefish                            | Conservation<br><br>Conservation<br>Wild<br><br>General       | Closed to adult harvest.<br><br>Closed to harvest.<br><br>Restrict harvest of trout. Manage cutthroat population at stable or increasing numbers using a combination of restrictive regulations.  |
| Alpine lakes  | /500 | Coldwater                | Rainbow trout<br>Cutthroat trout<br>Brook trout<br>Arctic grayling<br>Golden trout<br>Rainbow trout x cutthroat<br>Trout hybrids<br><br>Bull trout        | General<br><br><br><br><br><br>Conservation                   | Manage fisheries in lakes as per lake specific guidelines in Clearwater and McCall Regional Mountain Lake Management Plans. Maintain catch rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking in lakes where natural reproduction is sufficient to maintain a fishable population. Continue routine stocking of previously stocked lakes with trout fry where necessary to perpetuate a fishable population. Emphasize use of westslope cutthroat trout or sterile rainbow trout for stocking lakes in the Clearwater River drainage. Monitor management changes. Manage for suitable fishless habitat at the HUC5 watershed scale. Use tiger muskie as experimental tool to remove brook trout populations from selected lakes. Replace brook trout with westslope cutthroat.<br><br>Closed to harvest. |

# Little Salmon River Drainage





## 9. LITTLE SALMON RIVER DRAINAGE

### A. Overview

The Little Salmon River begins in the Meadows Valley in Adams County and flows northward to its confluence with the Salmon River at Riggins. Major tributaries include Goose Creek, Hazard Creek, Boulder Creek, and Rapid River. Major lakes and reservoirs include Fish (Mud) Lake, Goose Lake, Brundage Reservoir, and Hazard Lake. The drainage area is 516 square miles and includes elevations from 1,760 feet msl at the mouth to 9,000 feet in the Seven Devils Mountains and Hazard Creek drainages. Discharge at Riggins averages 854 cfs with extremes of 98 cfs to 12,600 cfs recorded in the past ten years.

Most of the drainage is forest lands, including wilderness and unroaded areas. There are 15,300 acres of irrigated agricultural lands, primarily hay meadows and pastures, in the drainage.

The Little Salmon River drainage from its mouth to and including Hazard Creek supports spring Chinook salmon, steelhead trout, inland redband trout, westslope cutthroat trout, bull trout, brook trout, mountain whitefish, and nongame species. High gradient cascades prevent anadromous fish species from upstream migration beyond Round Valley Creek. Above Round Valley Creek, the Little Salmon River is a low gradient, meandering stream with high gradient tributaries.

The Rapid River drainage is extremely important to Idaho's anadromous fish program. Upper Rapid River is classified as wilderness, and this drainage provides essential, good quality spawning and rearing habitat for salmon and steelhead to maintain natural production. It also supplies high-quality water for Idaho Power Company's Rapid River Hatchery which spawns and rears spring Chinook.

A harvestable surplus of hatchery adult spring Chinook salmon return to Rapid River in most years. These fish are utilized for treaty and nontreaty fisheries. Anadromous management in the Little Salmon River drainage emphasizes hatchery production to provide spring Chinook for harvest as the first priority. Rapid River Hatchery has also supplied excess eggs for a number of programs outside of the drainage, such as the Clearwater River.

Little Salmon River steelhead stocking is designed to provide harvest opportunity on hatchery steelhead in the mainstem Salmon near Riggins and in the Little Salmon. It is the only Salmon River tributary open during steelhead season.

Current habitat improvement efforts are focused on water quality and the riparian corridor in the upper Little Salmon River. We will continue to participate with agencies and landowners to implement and monitor various projects prescribed through recently completed Total Maximum Daily Load and water management plans.

Brundage Reservoir and Lake Serene are managed for trophy fishing opportunities. Goose and Hazard lakes are very popular recreation areas and provide general fishing opportunity in high elevation settings for many anglers.

**B. Objectives and Programs**

1. Objective: Maximize harvest and harvest opportunity on hatchery-produced salmon and steelhead contingent upon achieving hatchery escapement needs.

Program: Continue to evaluate adult salmon and steelhead harvest to develop seasons that ensure hatchery escapement needs are met, minimize surplus fish into the hatchery, and maximize the catch. Structure Chinook seasons to ensure all anglers an opportunity to harvest fair shares of the run surplus.

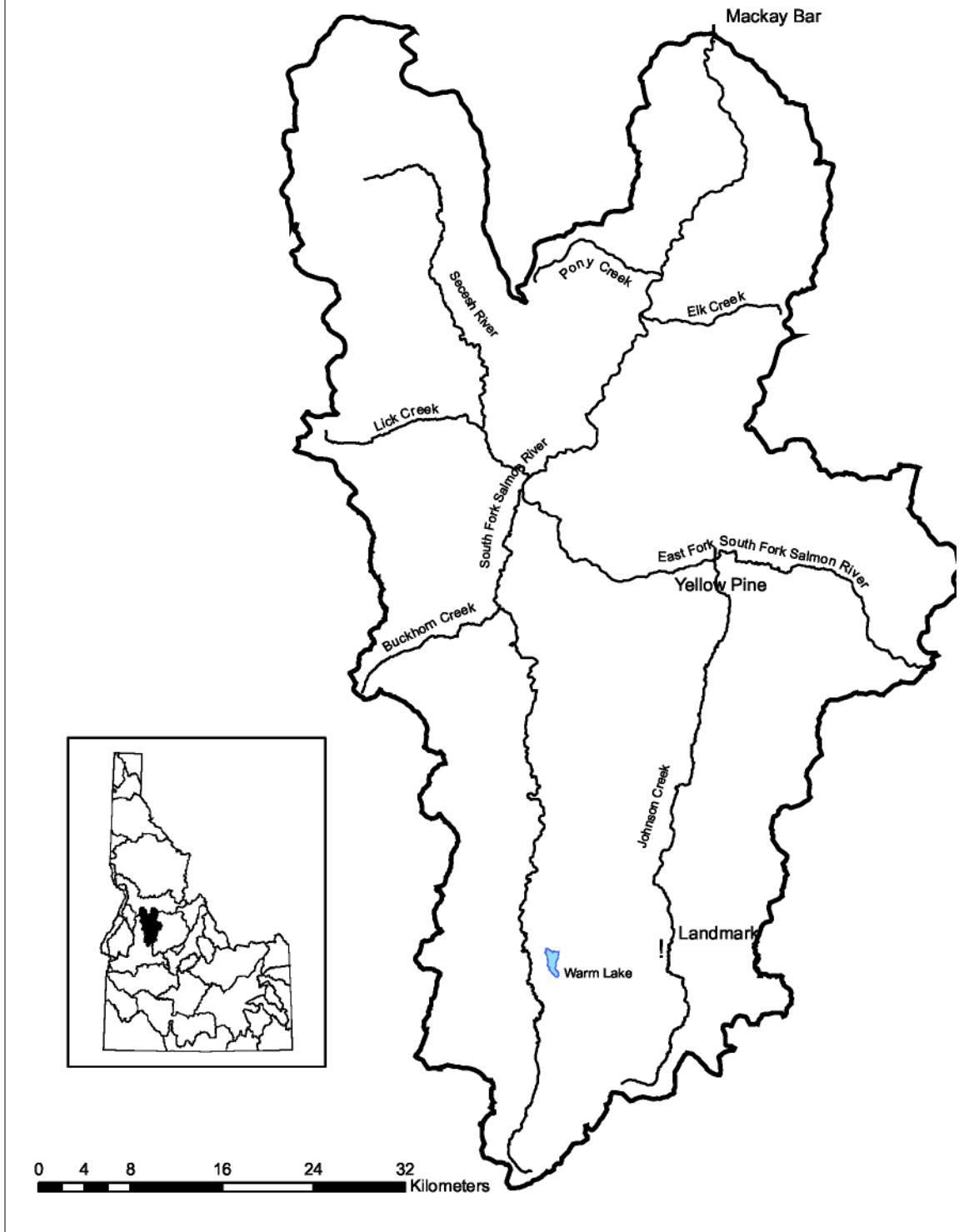
Objective: Improve water quality and fish habitat upstream of the barriers near Round Valley Creek.

Program: Work with the landowners and sister agencies to participate in state and federal programs to improve grazing, irrigation, and farming practices to improve riparian condition and water quality.

| Drainage: LITTLE SALMON RIVER   |            |                          |   |                                 |   |
|---|------------|--------------------------|---|---------------------------------|---|
| Water   | Miles/acre | Fishery                  |   |                                 | Management Direction  |
|   |            | Type                     | Species Present   | Management                      |   |
| Little Salmon River and tributaries, mouth to Round Valley Creek (except Rapid River) | 104/       | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead   | Anadromous                      | Manage primarily for sport fishing opportunity on hatchery produced salmon and steelhead. Allow for required escapement of spring Chinook salmon to Rapid River Hatchery. Allow harvest of excess hatchery Chinook salmon should predictors so indicate. Monitor any harvest fishery closely through creel survey. Continue development and enhancement of terminal steelhead fishery through smolt releases. Release both A and B type smolts to allow return of larger fish for anglers and to base the fishery on 2 different year-classes of steelhead.<br>Closed to harvest. |
|   |            |                          | Bull trout<br>Redband trout<br>Brook trout<br>Cutthroat trout<br>Mountain whitefish | Conservation<br>General         |   |
| Rapid River and tributaries from mouth to headwaters                                  | 35/        | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead   | Conservation                    | Closed to adult harvest. Enhance spring Chinook salmon and steelhead trout returns to Rapid River trap and allow natural escapement to maximize seeding of spawning and rearing habitat. Cooperate with USFS to monitor bull trout population and life history.<br>Closed to harvest.   |
|   |            |                          | Bull trout<br>Redband trout<br>Mountain whitefish                                   | Conservation<br>Wild<br>General |   |
| Little Salmon River and tributaries From Round Valley Creek to headwaters             | 89/        | Coldwater                | Redband trout<br>Cutthroat trout  | Wild                            | Pursue aggressive program of habitat rehabilitation with landowners and federal/state agencies. Improve water quality and riparian vegetation throughout this river section.<br>Closed to harvest.  |
|   |            |                          | Brook trout<br>Bull trout   | General<br>Conservation         |   |
| Fish (Mud) Lake   | /30        | Coldwater                | Rainbow trout   | <b>General</b>                  | Put and take fishery.   |
| Brundage Reservoir  | /270       | Coldwater                | Rainbow trout<br>Cutthroat trout  | Trophy                          | Maintain trophy trout fishery through annual supplementation with rainbow trout or cutthroat trout strains. Maintain catch rate of 1.0 fish/hour. Restrict harvest of fish less than 20 inches.   |

|                         |        |           |   |              |  |
|-------------------------|--------|-----------|---|--------------|--|
| Goose Lake              | /520   | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout   | General      | Experiment with specific rainbow trout and cutthroat trout strains to improve fishery. Supplement with catchable trout.  |
| Hazard Lakes            | /90    | Coldwater | Brook trout<br>Rainbow trout<br>Cutthroat trout<br>Rainbow trout x cutthroat<br>Trout hybrids | General      | Collect baseline fishery data to assess status of system. Develop improved trout fishery to enhance catch rates and sizes of fish. Augment Main Hazard Lake with catchable rainbow trout.  |
|                         |        |           | Bull trout  | Conservation | Closed to harvest.   |
| Lake Serene             | /10    | Coldwater | Brook Trout<br>Rainbow trout  | Trophy       | Maintain trophy fishing opportunity.   |
| Other alpine lakes (42) | /1,000 | Coldwater | Rainbow trout<br>Cutthroat trout<br>Golden trout<br>Brook trout<br>Arctic grayling            | General      | Maintenance stocking on a three-year rotational basis with salmonid fingerlings to provide species diversity. Collect baseline data on lakes to improve fishing. Seek ways to rehabilitate or improve stunted brook trout lakes. |
|                         |        |           | Bull trout  | Conservation | Closed to harvest.   |

# South Fork Salmon River Drainage



## 10. SOUTH FORK SALMON RIVER DRAINAGE

### A. Overview

The South Fork Salmon River (SFSR) drainage lies in central Idaho in Valley and Idaho counties. The drainage flows northerly through the Idaho batholith and enters the Salmon River at Mackay Bar. Elevations vary from 9,280 feet msl at North Loon Mountain to 2,166 feet msl at the mouth.

The land is characterized by extreme changes in elevation and aspect within short distances. Topography varies from steep canyon lands to meadows. The Idaho batholith soils consist largely of weathered granitic sands and fines and are sensitive to disturbance. Precipitation averages 32 inches annually, with major storm events occurring about every ten years.

Resident fish species, including inland redband trout, westslope cutthroat trout, bull trout, mountain whitefish, brook trout, and numerous nongame fish species occupy 515 miles of streams and 37 lakes. They provide popular fisheries for many anglers.

Principal tributaries to the SFSR are the Secesh River, the East Fork South Fork Salmon River and its tributary, Johnson Creek. Warm Lake is the largest lake, measuring 640 surface acres; all others are alpine lakes and range in size from 1 to 160 acres.

Anadromous fish species (Chinook salmon, steelhead trout) have access to most of the drainage. Historically, the steelhead spawning run exceeded 3,000 fish. The South Fork Salmon River historically supported the largest summer Chinook run in the state of Idaho. Salmon fishing was a major economic resource in the SFSR prior to 1965, when anglers harvested 1,700-4,000 salmon annually. Steelhead anglers harvested 750-800 fish per year. These runs have dwindled considerably since then, and run sizes are about one-tenth of their former abundance. The seasons were closed in 1965 for Chinook and in 1968 for steelhead. The decrease in numbers of SFSR Chinook and steelhead were caused by two major problems: 1) logging and road construction activities created unstable soil conditions in the SFSR that have damaged the aquatic habitat, and 2) serious fish passage problems and increased mortality caused by construction of hydroelectric dams on the lower Snake and Columbia rivers.

The SFSR is one of only four drainages in the Columbia Basin that supports populations of wild, native steelhead classified as B-run. These fish are predominantly large steelhead, which spend two or three years in the ocean, compared to the smaller A-run steelhead which inhabit much of the rest of the Salmon River drainage. Preservation of this native gene pool is a high priority. Following harvest closures on cutthroat trout (1985) and bull trout (1994), and cessation of hatchery trout stocking (1993), steelhead parr became the targeted fish harvested under general bag limits. This instigated the change to a drainage-wide catch-and-release regulation, implemented in 1998.

Hatchery production of summer Chinook began at McCall Fish Hatchery in 1980 as part of the mitigation for lost natural escapement by operation of the lower Snake River dams. The hatchery has the capacity to produce one million smolts when adequate numbers of adult salmon return to the trapping facility, located in the upper river. Sport fishing seasons were opened in 1997, then consecutively from 2000 through 2006 to harvest surplus hatchery-origin adult summer Chinook salmon returning to the SFSR. These recent fisheries have resulted in harvests ranging from a low of 364 Chinook in 2006 to a high of 6,843 Chinook in 2002.

Chinook supplementation research in the upper river (Stolle Meadows) has been ongoing since 1992 to evaluate supplementation activities. The goal of this research is to increase the number of fish available for natural spawning without reducing the genetic diversity or productivity of the natural population. In 2000 and 2001, surplus hatchery salmon were outplanted into headwater reaches of the East Fork South Fork Salmon River within the reclaimed Stibnite Mine area to spawn naturally.

The Nez Perce Tribe began hatchery production of summer Chinook in Johnson Creek in 1998, relying on shared use of the McCall hatchery. Since 1997 the Shoshone-Bannock Tribes have used fertilized eggs from surplus hatchery production to supplement with instream egg incubation boxes placed in several small tributaries to the main SFSR. No hatchery-origin anadromous juvenile or adult fish have been planted in the Secesh River in order to preserve the native gene pool.

Resident salmonids were seriously impacted by aquatic habitat degradation, as well as excessive harvest. Catch-and-release regulations, implemented in 1998, have increased protection of these populations.

## **B. Objectives and Programs**

1. Objective: Preserve genetic integrity of wild, native steelhead and summer Chinook.

Program: Do not outplant any hatchery steelhead into the South Fork Salmon River or hatchery summer Chinook into the Secesh River. Manage hatchery-supplemented Salmon River steelhead and spring Chinook stocks to minimize straying into the South Fork Salmon River. Minimize straying of South Fork Salmon River hatchery summer Chinook into the Secesh River.

Program: Work with the Nez Perce and Shoshone-Bannock Tribes to develop hatchery fish release programs that preserve and protect genetic resources of naturally-spawning salmon and steelhead populations.

2. Objective: Maintain existing natural spawning populations of salmon and steelhead.

Program: Allow natural production to sustain existing naturally produced populations. Limit outplanting of hatchery summer Chinook, other than direct hatchery releases, to support supplementation research.

3. Objective: Maintain and improve habitat quality of mainstem and tributary production areas.

Program: Oppose land use activities that further degrade the quality of natural production areas. Participate in timber management proposals. Encourage implementation of grazing management plans, to eliminate negative grazing impacts to fishery productivity and survival. Participate in interagency mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to land management activities, if needed. Continue to monitor and evaluate benefits from habitat improvement projects.

4. Objective: Preserve genetic integrity of native cutthroat trout and bull trout. Maintain conservation management to increase population sizes.

Program: Maintain catch-and-release fisheries throughout the drainage.

5. Objective: Provide information and education of fisheries management objectives for the drainage.

Program: Continue to develop and distribute fisheries information and regulation signs to increase compliance and support.

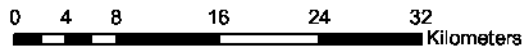


| Drainage: SOUTH FORK SALMON RIVER                            |            |                          |                                   |                             |  |
|--|------------|--------------------------|-----------------------------------|-----------------------------|--|
| Water  | Miles/acre | Fishery                  |                                   | Management                  | Management Direction   |
|  |            | Type                     | Species Present                   |                             |  |
| South Fork, entire drainage                                  |            | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead       | Conservation                | Increase anadromous fish runs to historic spawning areas. Improve aquatic habitat by discouraging land management activities, which may degrade the environment further. Increase steelhead runs to historic spawning areas. No harvest of naturally produced salmon and steelhead.<br><br>Enhance populations of wild trout through continued catch-and-release regulations. Increase conservation of wild trout by restricting whitefish harvest to stream season, and by promoting harvest of brook trout. Participate in land management plans to promote maintenance of instream and riparian habitats to support and enhance fish populations.<br><br>Closed to harvest. |
|  |            |                          | Redband trout<br>Cutthroat trout  | Conservation                |  |
|  |            |                          | Mountain whitefish<br>Brook trout | General                     |  |
|  |            |                          | Bull trout                        | Conservation                |  |
| South Fork from mouth to Secesh River, including tributaries | 162/       | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead       | Conservation                | Promote enhancement and maintenance of overwinter habitat migration corridor, and access to tributaries for spawning and rearing. Catch and release.<br><br>Closed to harvest.   |
|  |            |                          | Redband trout<br>Cutthroat trout  | Conservation                |  |
|  |            |                          | Mountain whitefish<br>Brook trout | General                     |  |
|  |            |                          | Bull trout                        | Conservation                |  |
| South Fork from Secesh River to Goat Creek                   |            | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead       | Conservation                | Preserve genetic integrity of wild Chinook salmon population downstream of Goat Creek.<br><br>Catch and release.<br><br>Closed to harvest.   |
|  |            |                          | Redband trout<br>Cutthroat trout  | Conservation                |  |
|  |            |                          | Mountain whitefish<br>Brook trout | General                     |  |
|  |            |                          | Bull trout                        | Conservation                |  |
| South Fork from Goat Creek to Chinook weir                   |            | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead       | Conservation/<br>Anadromous | Manage Chinook salmon as hatchery influenced. Promote harvest of hatchery salmon when escapement to weir is adequate for continued production of one million smolts. Promote production of naturally spawning Chinook.<br><br>Catch and release.<br><br>Closed to harvest.   |
|  |            |                          | Redband trout<br>Cutthroat trout  | Conservation                |  |
|  |            |                          | Mountain whitefish<br>Brook trout | General                     |  |
|  |            |                          | Bull trout                        | Conservation                |  |

| Drainage: SOUTH FORK SALMON RIVER   |                 |                          |                                   |              |  |              |
|---|-----------------|--------------------------|-----------------------------------|--------------|--|--------------|
| Water   | Miles/<br>Acres | Fishery                  |                                   |              | Management direction   |              |
|   |                 | Type                     | Species present                   | Management   |  |              |
| South Fork from Chinok Weir to headwaters   |                 | Coldwater/<br>Anadromous | Chinook salmon                    | Conservation | Continue Idaho Supplementation studies to evaluate hatchery and natural Chinook.<br><br>Catch and Release.<br><br>Closed to harvest.   |              |
|   |                 |                          | Steelhead                         | Conservation |  |              |
|   |                 |                          | Redband Trout<br>Cutthroat trout  | General      |  |              |
|   |                 |                          | Mountain Whitefish<br>Brook trout | Conservation |  |              |
| Secesh River and tributaries  | 93/             | Coldwater/<br>Anadromous | Chinook salmon                    | Conservation | Maintain as a genetic refuge to preserve wild characteristics of anadromous populations. Develop management plan for conservation easement in Burgdorf Meadow. Obtain additional conservation easements to restore/preserve critical spawning reaches.<br><br>Catch and Release.<br><br>Closed to harvest. |              |
|   |                 |                          | Steelhead                         |              |  |              |
|   |                 |                          | Cutthroat trout<br>Redband trout  |              |  | Conservation |
|   |                 |                          | Brook trout<br>Mountain whitefish |              |  | General      |
|   |                 |                          | Bull trout                        |              |  | Conservation |
| East Fork South Fork Salmon River and tributaries, mouth to Sugar Creek (excluding Johnson Creek and tributaries) | 86/             | Coldwater/<br>Anadromous | Chinook salmon                    | Conservation | Increase wild salmon and steelhead runs to historic spawning areas.<br><br>Catch and release.<br><br>Closed to harvest.  |              |
|   |                 |                          | Steelhead                         |              |  |              |
|   |                 |                          | Cutthroat trout                   |              |  | Conservation |
|   |                 |                          | Rainbow trout                     |              |  | General      |
|   |                 |                          | Mountain Whitefish<br>Brook trout |              |  | Conservation |

|  |      |                          |  |                |   |
|--|------|--------------------------|--|----------------|---|
| East Fork South Fork and tributaries,<br>Sugar Creek to headwaters |      | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead  | Conservation   | Participate in mining reclamation projects and monitoring fish population Responses.  |
|  |      |                          | Cutthroat trout<br>Redband trout   | Conservation   | Catch and release.  |
|  |      |                          | Brook trout<br>Mountain whitefish  | General        |   |
|  |      |                          | Bull trout   | Conservation   | Closed to harvest.  |
| Johnson Creek and tributaries                                      | 54/  | Coldwater/<br>Anadromous | Chinook salmon<br>Steelhead  | Conservation   | Work with the Nez Perce Tribe to develop hatchery supplementation program that preserves genetic resources and fitness of naturally spawning Chinook. Utilize McCall Hatchery as feasible.  |
|  |      |                          | Cutthroat trout<br>Redband trout   | Conservation   | Catch and release.  |
|  |      |                          | Brook trout<br>Mountain whitefish  | General        |   |
|  |      |                          | Bull trout   | Conservation   | Closed to harvest.  |
| Warm Lake  | /640 | Coldwater                | Rainbow trout<br>Lake trout<br>Brook trout<br>Kokanee                              | General        | Maintain current catchable rainbow trout stocking.  |
|  |      |                          | Bull trout   | Conservation   | Closed to harvest.  |
| Alpine lakes (36 in South Fork<br>Salmon River drainage)           | /890 | Coldwater                | Rainbow trout<br>Brook trout<br>Cutthroat trout<br>Arctic grayling<br>Golden trout | General/Trophy | Maintenance stocking with salmonid fry on a three-year rotation. Plant only westslope cutthroat trout strain or sterile rainbow trout to reduce competition/ hybridization with native cutthroat trout. Develop trophy lakes that have shown exceptional growth potential. Provide diverse opportunity for species and sizes. Collect baseline information on stocking success. |

# Salmon River Drainage Horse Creek to North Fork Salmon River



## 11. SALMON RIVER DRAINAGE – HORSE CREEK TO NORTH FORK

### A. Overview

The Salmon River drainage includes 14,100 square miles and flows 410 miles from its headwaters in Blaine County in south central Idaho to its confluence with the Snake River in Idaho County in northwestern Idaho. Upstream from the confluence of the Middle Fork, the Salmon River is lower gradient and it flows through open canyon and broad valleys. The portion from Horse Creek to North Fork is 50 miles long and is located entirely within Lemhi County. There is only a trail along the river from Horse Creek upstream to Corn Creek, and a road along the river for 46 miles from Corn Creek to the North Fork. There is a boat ramp at Corn Creek that receives heavy use from floaters during the summer months and jet boaters during the fall and spring steelhead seasons. Boats are the primary mode of access below Corn Creek. Annual discharge, as measured periodically at the USGS gage at Shoup between 1945 and 2005, ranged from 1,700 to 4,513 cfs and averaged 2,950 cfs.

The Salmon River is a Wild and Scenic River. From Vinegar Creek (near Riggins) to Corn Creek, the river is federally classified as "wild," and from Corn Creek to the North Fork, it is federally classified as "recreational."

From Horse Creek to the North Fork, the Salmon River has a history of mining activity. Gold was discovered near Shoup in 1881 and a mining town quickly developed. Cobalt is a mining community on Panther Creek that once had a population of more than 500 people when the Blackbird Mine was operational.

Fishing is an important recreational activity in this area, particularly steelhead fishing in the fall and early spring. Wild and natural summer steelhead migrate to this area and begin to arrive in the early fall. Many fish overwinter in this river stretch prior to resuming their spawning migration in the spring. Since wild and hatchery stocks intermingle and wild stocks are consistently underescaped, harvest occurs on hatchery fish only (identified by adipose fin clips). The mainstem Salmon River will continue to be managed for exploitation of hatchery steelhead, but consumptive harvest is unlikely on naturally produced steelhead or Chinook during the next five years. Naturally produced steelhead will continue to provide incidental catch-and-release fishing in the Salmon River.

The Panther Creek drainage contains nearly 100 miles of streams. Historically, it reportedly supported Chinook runs of 2,000 spawners in addition to substantial runs of steelhead. Although habitat is in generally good condition, by the late 1960s, anadromous fish runs had dramatically declined due to poor water quality as a result of mine effluents. Since the mid-1980s, only a small number of juvenile salmon and steelhead were observed in rearing in Panther Creek and only in the lowermost portions of the drainage. However in the last five years adult Chinook salmon, of both natural and hatchery origin are beginning to regularly appear in the watershed. Additionally juvenile Chinook salmon are being observed at mainstem sample locations throughout the drainage. In the last decade substantial mine-site cleanup efforts have been implemented to improve the water quality in this drainage.

The North Fork drainage contains about 60 miles of stream, some of which have been negatively impacted by mining, logging, and channelization. It currently supports limited Chinook and steelhead spawning and rearing. Other smaller tributaries to the main Salmon, such as Indian, Colson, and Pine creeks, primarily support steelhead spawning and rearing. Resident populations of bull trout and westslope cutthroat trout are also present in these mainstem tributaries.

Small numbers of white sturgeon utilize the mainstem river reach however their abundance is likely controlled by limited habitat and extreme icing conditions during the winter. In 2005, white sturgeon were documented in the Salmon River upstream as far as McKim Creek.

Westslope cutthroat trout emigrate from the Middle Fork Salmon River to overwinter in this portion of the mainstem Salmon River.

Despite the presence of secondary roads in many of the tributary drainages, low to moderate fishing effort is expended for resident trout species in these areas. Also, resident trout populations are reduced in the main river during the summer months due to warm temperatures and, consequently, low to moderate fishing effort is expended during this period. Tributary environments in this river reach provide critical thermal refuge for anadromous and resident species during the summer months. The continued connectivity and reconnection of these environments is vital to develop sustainable fisheries in this area.

## **B. Objectives and Programs**

1. Objective: Maintain existing natural spawning populations of Chinook salmon and steelhead.

Program: Allow natural production to sustain existing naturally produced populations. Maintain enforcement efforts to ensure compliance with differential harvest regulations to protect wild steelhead. Do not outplant hatchery steelhead and salmon into the mainstem or tributaries, from Horse Creek upstream to the North Fork Salmon River, to preserve wild fish genetic resources. An exception to this program may include out planting stocks into the Panther Creek drainage to encourage restoration of natural anadromous fish populations. The Shoshone Bannock Tribes presently incubate steelhead fry in the lower reaches of Panther Creek in an attempt to increase the numbers of returning adults.

2. Objective: Maintain and improve habitat quality of tributary production areas.

Program: Oppose land and water use activities that further degrade the quality of natural production areas. Participate in allotment management plan review. Encourage implementation of grazing management plans that eliminate negative grazing impacts to fishery productivity and survival. Participate in interagency mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop

monitoring programs for fish populations and fish habitat relative to mining activities, if needed. Support and encourage continued rehabilitation measures for Panther Creek drainage.

3. Objective: Correct fish passage impediments such as irrigation diversions, road culverts, and dewatered stream segments that delay or restrict anadromous and resident fish access to spawning and rearing tributaries.

Program: Cooperate with Lemhi County and the USFS in identifying, prioritizing, and constructing fish passage improvement structures for culverts. Identify and screen or repair irrigation diversions where needed. Assist the Upper Salmon Basin Watershed Project and others to reconnect tributary streams.

4. Objective: Improve the quality of cutthroat trout fishing in the mainstem Salmon River during the summer months.

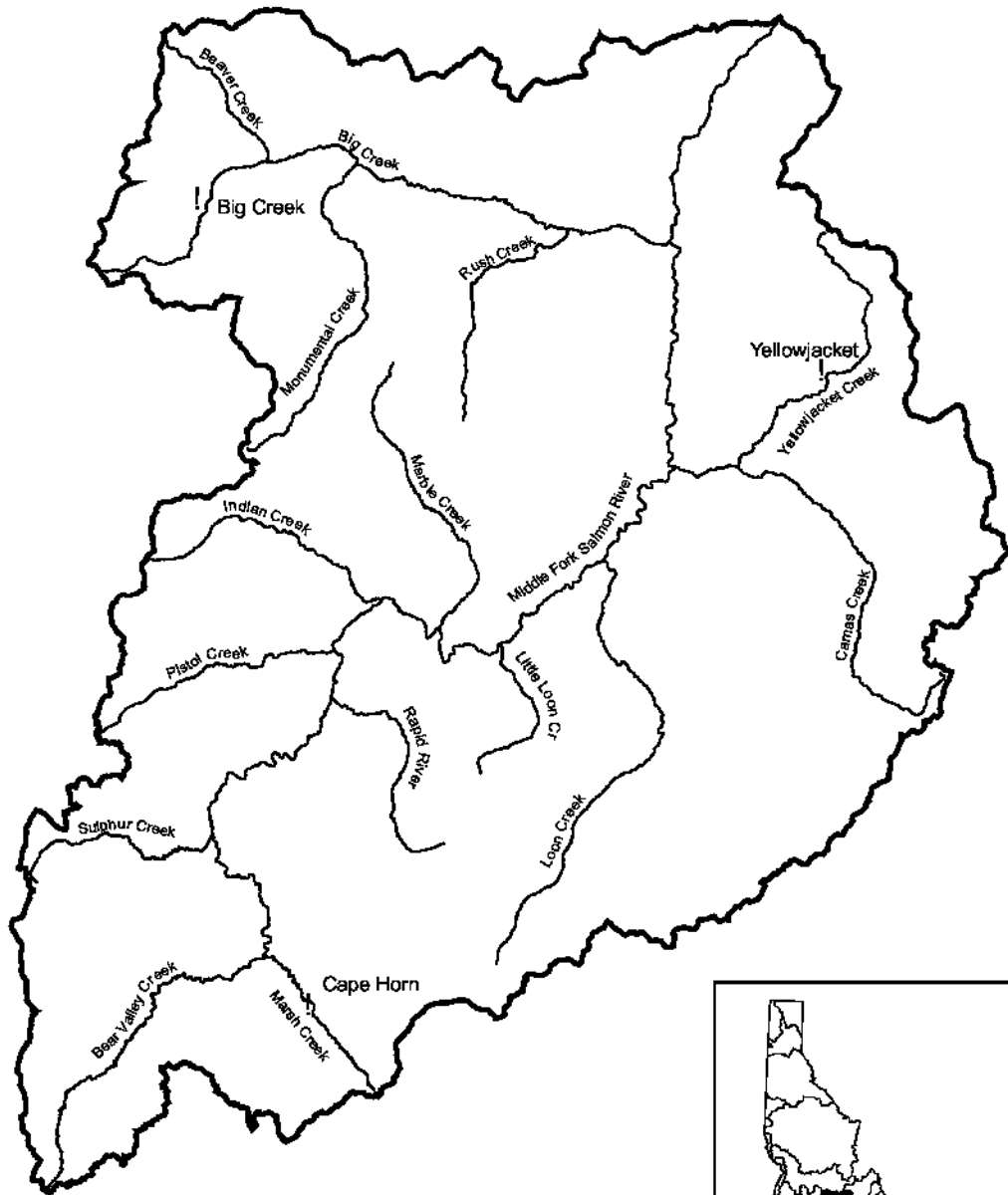
Program: Continue restrictive harvest fishery regulations on wild trout in the Mainstem River.

| DRAINAGE: Salmon River: Horse Creek-North Fork                                 |                 |            |  |              |  |
|--|-----------------|------------|--|--------------|--|
| Fisheries  |                 |            |  |              | Management direction   |
| Water  | Miles/<br>acres | Type       | Species present                          | Management   |  |
| From Horse Creek to North Fork   | 50/             | Coldwater  | Bull trout                               | Conservation | Closed to harvest  |
|  |                 |            | Cutthroat trout<br>Redband trout         | Conservation | Closed to harvest. Enhance populations of wild trout by directing harvest on hatchery fish only (identified by adipose fin clips). |
|  |                 | Anadromous | Rainbow trout (clipped)<br>Whitefish     | General      | Limited yield fishery during summer. Open all year.  |
|  |                 |            | Wild/natural steelhead<br>Chinook salmon | Conservation | Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met.   |
|  |                 |            | Hatchery steelhead                       | Anadromous   | Provide maximum yield of fish surplus to escapement goals  |
| Tributaries from Horse Creek to North Fork (Except Horse Creek, Panther Creek) | 150/            | Coldwater  | Redband trout<br>Cutthroat trout         | Wild         | Provide harvest fishery supported by natural production.   |
|  |                 |            | Brook trout<br>Whitefish                 | General      | Closed to harvest.   |
|  |                 | Anadromous | Bull trout                               | Conservation | Maintain adult harvest closure.  |
|  |                 |            | Chinook Salmon<br>Steelhead              | Conservation |  |
| Horse Creek  | 19/             | Coldwater  | Redband trout<br>Cutthroat trout         | Wild         | Naturally supported harvest fishery. Access restricted to trail or boat.   |
|  |                 |            | Whitefish                                | General      |  |
|  |                 | Anadromous | Bull trout                               | Conservation | Closed to harvest.   |
|  |                 |            | Steelhead<br>Chinook salmon              | Conservation | Maintain adult harvest closure. No hatchery supplementation. Important spawning/rearing tributary for wild, A-strain steelhead.    |



|  |      |            |   |                                  |   |
|--|------|------------|---|----------------------------------|---|
| Panther Creek                          | 33/  | Coldwater  | Bull trout  | Conservation                     | Closed to harvest.  |
|  |      | Anadromous | Redband trout<br>Cutthroat trout<br><br>Steelhead<br>Chinook salmon | General<br><br>Conservation      | Provide harvest fishery supported by natural production.<br><br>Maintain adult harvest closure on wild fish. Stock with fry, smolts or adults as available and needed. Work with other agencies to clean up mining pollution from Blackbird Mine and develop anadromous restoration program.  |
| North Fork Salmon River                | 22/  | Coldwater  | Redband trout<br>Brook trout  | General                          | Provide harvest fishery supported by natural production.  |
|  |      | Anadromous | Bull trout<br>Cutthroat trout<br><br>Chinook salmon<br>Steelhead    | Conservation<br><br>Conservation | Closed to harvest.<br><br>Maintain adult harvest closure.   |
| North Fork Salmon River<br>Tributaries |      | Coldwater  | Redband trout<br>Brook trout<br>Cutthroat trout<br>Whitefish        | General                          | Provide harvest fishery supported by natural production.  |
|  |      |            | Bull trout  | Conservation                     | Closed to harvest.  |
| Alpine Lakes                           | /233 | Coldwater  | Redband trout<br>Cutthroat trout                                    | General                          | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS. |

# Middle Fork Salmon River Drainage



## 12. MIDDLE FORK SALMON RIVER DRAINAGE

### A. Overview

The Middle Fork Salmon River drains 2,830 square miles of central Idaho. The main river is federally classified as wild as part of the Wild and Scenic Rivers System, and most of the drainage is within the Frank Church River of No Return Wilderness Area. Prior to classification as wilderness, the Middle Fork Salmon River drainage was included in the Idaho Primitive Area. Annual discharge, as measured during 14 years of record at the USGS gage at the Middle Fork lodge between 1974 and 2005, ranged from 581 to 2697 cfs and averaged 1325 cfs.

The topography in the Middle Fork Salmon River drainage is extremely rugged and remote. Road access is limited to a single point on the main river at Dagger Falls and secondary roads to the upper ends of a few tributary streams. The principal means of access are aircraft, boat, and primitive trail.

Except for some alpine lakes and a few small streams, the Middle Fork drainage contains only native species and fish stocks that have evolved there. Historically, a significant portion of Chinook salmon and steelhead trout in the Salmon River drainage spawned and reared in the Middle Fork Salmon River and tributaries.

Anadromous species include wild, indigenous spring and summer Chinook salmon, summer steelhead, and pacific lamprey. The Middle Fork Salmon River is one of only four drainages in the Columbia Basin that supports a population of wild steelhead classified as B-run because they are predominantly large fish which spend two or three years in the ocean. Both the Chinook and steelhead of the Middle Fork Salmon River are adapted to the long migration distances necessary for their perpetuation. Preservation of the indigenous gene pools is the highest priority, as is rebuilding these runs. The key component to meeting this objective is improved Columbia and Snake River migration survival since habitat, hatcheries, and harvest are not an issue in this drainage.

Although the Middle Fork Salmon River supported a major Chinook fishery, with annual harvest exceeding 2,000 fish in the late 1960s, nontreaty harvest has not been allowed for salmon and steelhead since 1978 because of very low run sizes. Middle Fork Salmon River steelhead are caught incidentally during fisheries in the mainstem Salmon River which target hatchery steelhead where they provide an exceptional catch-and-release opportunity for trophy class wild steelhead. Although harvest opportunity is not expected for salmon or steelhead in the Middle Fork Salmon River in the next five years, the long-term goal is to provide low yield, quality fisheries on these native species. This goal is achievable only if improved juvenile migration survival through the Snake and Columbia migration corridor is attained.

Native resident game species include bull trout, inland redband trout, westslope cutthroat trout, and mountain whitefish. Recent genetic evaluations between westslope cutthroat trout and both native and introduced trout (from alpine lakes) in the Middle Fork Salmon River demonstrated low levels of hybridization and introgression in many sample locations throughout the Middle Fork. Currently it

is unknown what level of the introgressive hybridization is a result of out-of-basin stocking or natural levels between sympatric rainbow and cutthroat populations. During this planning period the Region will continue to address this question.

Although undocumented, it is likely that white sturgeon utilize habitats in the lower portions of the mainstem. Lamprey ammocoetes of various age classes have been recently documented rearing in the mid and lower portions of the Middle Fork suggesting some level of production is still occurring. Describing the distribution of lamprey throughout the Middle Fork system during this planning period will occur during standardized surveys for salmonid species.

There are no major dams in the Middle Fork drainage, and most of the streams are in a natural state and considered in pristine condition. Some headwaters of tributary streams have experienced habitat alterations from both anthropogenic (mining, agricultural) as well as natural sources (fires, floods). Major mining sites and their access roads were not included in the wilderness area. Other tributaries have been historically impacted by grazing allotments, but most watersheds are now improving under more controlled management.

The MFSR is a major recreational river during the summer months. The number of people floating the river during the permit season has increased substantially in the past 30 years from 625 in 1962 to 10,959 floaters in 2005. The U.S. Forest Service estimated total use days to be 64,520 days in 2005, down slightly from the 67,000 use days in 2004.

## **B. Objectives and Programs**

1. Objective: Preserve genetic integrity of wild native salmon, steelhead, and trout.

Program: Manage hatchery supplemented Salmon River anadromous stocks to minimize straying into the Middle Fork Salmon River.

Program: Designated wild anadromous fish sanctuary. No stocking of hatchery fish into the stream environment.

Program: Continue to work with other state and federal agencies to improve juvenile downstream and adult upstream passage to and from the Middle Fork Salmon River.

2. Objective: Manage resident fisheries for low angler density fishing experiences and high catch rates and fish size.

Program: Maintain catch-and-release regulations for native trout in the mainstem Middle Fork Salmon River and its tributaries.

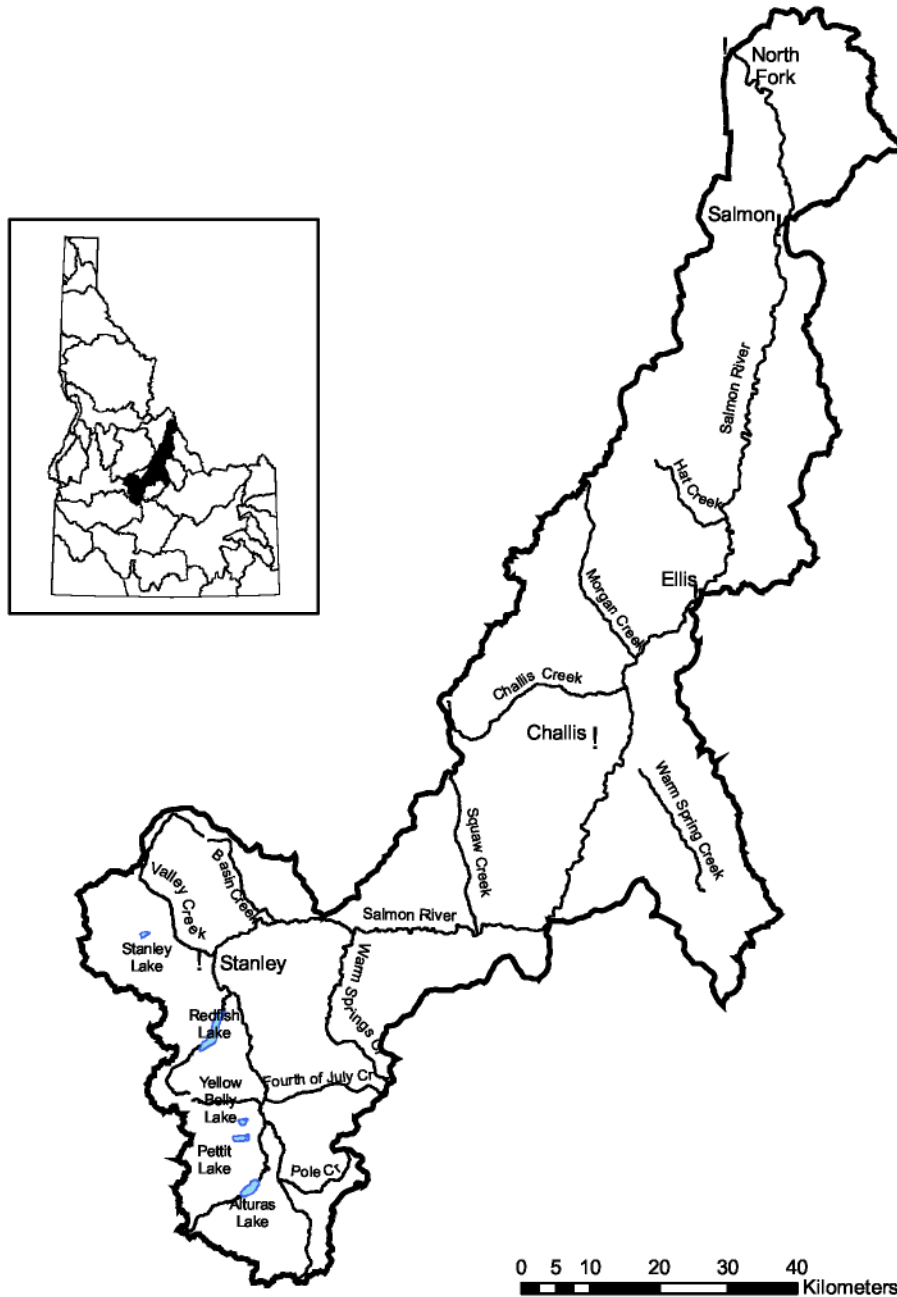
Program: Maintain cutthroat trout harvest restrictions in the main Salmon River to protect Middle Fork Salmon River cutthroat trout that emigrate there to overwinter.

3. Objective: Maintain and improve habitat and water quality of key tributary fish production areas.  
  
Program: Work with Forest Service and grazing permittees to reestablish healthy riparian vegetation through livestock management improvements.  
  
Program: Work with the Forest Service to establish stream substrate objectives for sediment that would maintain high productivity of aquatic habitat.  
  
Program: Screen all identified irrigation diversions where needed.  
  
Program: Participate in interagency mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to mining activities, if needed.  
  
Program: Participate in grazing allotment management plan reviews. Eliminate negative grazing impacts to fishery productivity and survival.
4. Objective: Maximize recruitment of native trout to the main river from tributaries.  
  
Program: Continue restrictive regulations in tributaries.  
  
Program: Continue monitoring juvenile densities by snorkeling every year if feasible.
5. Objective: Re-establish anadromous runs to the numbers necessary to fully utilize available spawning and rearing habitat.  
  
Program: Continue to work with other state and federal agencies to improve juvenile downstream and adult upstream passage to and from the Middle Fork Salmon River.
6. Objective: Develop methodologies for making accurate estimates of anadromous spawning escapement to the Middle Fork Salmon River.  
  
Program: Work with the Forest Service Rocky Mountain Research Station to improve Chinook and steelhead escapement estimates to the Middle Fork Salmon River. Continue parr density monitoring and redd counts annually.
7. Objective: Increase ability of anglers to properly identify fish species.  
  
Program: Provide fish identification signs and posters to increase recognition of bull trout. Encourage harvest of brook trout.

| DRAINAGE: Middle Fork Salmon River  |            |                          |                        |              |  |
|---|------------|--------------------------|------------------------|--------------|--|
| Water   | Miles/acre | Type                     | Fishery                |              | Management Direction   |
|   |            |                          | Species Present        | Management   |  |
| From mouth to Roaring Creek   | 4/         | Coldwater                | Bull trout             | Conservation | Closed to harvest.   |
|   |            |                          | Cutthroat trout        | Conservation | Wild stocks catch and release fishery. No trout stocking in flowing waters.                |
|   |            |                          | Redband trout          |              |  |
|   |            |                          | Whitefish              | General      | Maximize yield during period open for other species.                                       |
|   |            | Anadromous               | Wild/natural steelhead | Conservation | Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met. |
|   |            |                          | Chinook salmon         |              |  |
|   |            |                          | Lamprey                |              |  |
| From Roaring Creek to Dagger Falls including tributaries except tributaries of Camas and Loon Creeks. | 93/        | Coldwater                | Bull trout             | Conservation | Closed to harvest.   |
|   |            |                          | Cutthroat trout        | Quality      | Wild stocks catch and release fishery. No trout stocking in flowing waters.                |
|   |            |                          | Redband trout          |              |  |
|   |            |                          | Whitefish              | General      | Maximize yield during period open for other species.                                       |
|   |            | Anadromous               | Wild/natural steelhead | Conservation | Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met  |
|   |            |                          | Chinook salmon         |              |  |
|   |            |                          | Lamprey                |              |  |
| Dagger Falls  | 1/         | Coldwater/<br>Anadromous | Cutthroat trout        | Conservation | Maintain closure on fish concentrated below falls.   |
|   |            |                          | Bull trout             |              |  |
|   |            |                          | Chinook salmon         |              |  |
|   |            |                          | Steelhead              |              |  |
|   |            |                          | Redband trout          |              |  |
|   |            |                          | Whitefish              |              |  |
| From Dagger Falls to headwaters including tributaries.  | 36/        | Coldwater                | Bull trout             | Conservation | Closed to harvest.   |
|   |            |                          | Cutthroat trout        | Quality      | Wild stocks catch and release fishery. No trout stocking in flowing waters.                |
|   |            |                          | Redband trout          |              |  |
|   |            |                          | Whitefish              | General      | Maximize yield during period open for other species.                                       |
|   |            |                          | Brook trout            |              |  |
|   |            | Anadromous               | Wild/natural steelhead | Conservation | Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met. |
|   |            |                          | Chinook salmon         |              |  |
|   |            |                          | Lamprey                |              |  |

|                   |        |                                 |  |   |   |
|-------------------|--------|---------------------------------|--|---|---|
| Camas Creek       | 24/    | Coldwater<br><br><br>Anadromous | Cutthroat trout<br>Red band trout<br><br>Whitefish<br>Brook trout<br><br>Bull Trout<br><br>Chinook salmon<br>Steelhead | Wild/Quality<br><br>General<br><br>Conservation<br><br>Conservation | Wild stock catch-and-release in mainstem and 2 fish harvest rules in tributaries. No trout stocking in flowing waters.<br><br>Maximize yield during period open for other species.<br><br>Closed to harvest<br><br>Closed to harvest of adult Chinook salmon, Steelhead to protect wild stocks.   |
| Loon Creek        | 25/    | Coldwater<br><br><br>Anadromous | Cutthroat trout<br>Red band trout<br><br>Whitefish<br><br>Bull Trout<br><br>Chinook salmon<br>Steelhead                | Wild/Quality<br><br>General<br><br>Conservation<br><br>Conservation | Wild stock catch-and-release in mainstem and 2 fish harvest rules in tributaries. No trout stocking in flowing waters.<br><br>Maximize yield during period open for other species.<br><br>Closed to harvest<br><br>Closed to harvest of adult Chinook salmon, Steelhead to protect wild stocks.   |
| Josephus Lake     | /7     | Coldwater                       | Redband trout<br>Cutthroat trout   | General   | Stock with sterile catchable rainbow trout.   |
| Yellowjacket Lake | /5     | Coldwater                       | Redband trout  | General   | Stock with sterile catchable rainbow trout.   |
| Capehorn Lakes    | /44    | Coldwater                       | Redband trout<br>Brook trout   | General   | Capehorn #2 (middle lake) stocked with catchable rainbow trout to provide fishery for scout camp. Large (upper) lake provides a brook trout fishery.  |
| Alpine Lakes      | /2,000 | Coldwater                       | Cutthroat trout<br>Redband trout<br>Golden trout<br>Brook trout<br>Grayling<br><br><br>Bull trout                      | General<br><br><br><br><br><br><br>Conservation                     | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS.<br><br>Closed to harvest. |

# Salmon River Drainage North Fork to Headwaters





### 13. SALMON RIVER – NORTH FORK TO HEADWATERS

#### A. Overview

The portion of the Salmon River between North Fork and the headwaters is 173 miles long and drains approximately 6,000 square miles. Highways 93 and 75 border the entire stretch of river. The headwater area, upstream from Thompson Creek, is within the Sawtooth National Recreation Area, which is administered by the USFS. Major tributaries include the Lemhi, Pahsimeroi, East Fork Salmon, and Yankee Fork Salmon rivers, which are reported separately following this section.

The drainage is characterized by mountainous terrain bisected by river valleys. Major mountain ranges include the Bitterroot Range along the Idaho/Montana border; the Lemhi Range, southwest of the Lemhi River; the Lost River Range, southwest of the Pahsimeroi River; the White Cloud Peaks, east of the upper Salmon River; and the Sawtooth Range within the Sawtooth Wilderness, west of the upper Salmon River. Numerous lakes with roaded access in the Stanley area provide significant recreational opportunity. They include Stanley, Redfish, Little Redfish, Yellowbelly, Pettit, Alturas and Perkins lakes. Also, hundreds of lakes within the Sawtooth Wilderness and White Cloud Peaks areas provide fishing opportunity in a secluded, wilderness setting for backpacking enthusiasts. Salmon, Challis, and Stanley are the only population centers in the upper Salmon River drainage. Mining, ranching, and recreation are the major industries in the area.

Many recreationists are attracted to the scenic beauty and recreational opportunities of the Sawtooth National Recreation Area. The granitic watershed yields few nutrients to the upper Salmon River and the large moraine lakes. Sterile waters and a short growing season render the lakes and streams incapable of producing the fish necessary for a large consumptive harvest under general fishing rules. Therefore, approximately 80,000 hatchery rainbow trout are stocked into popular waters in the upper Salmon River drainage. Furthermore, fishing rules in the mainstem prohibit harvest of native trout in an effort to reestablish native resident stocks. Early in the season the fishery is primarily supported by hatchery steelhead smolts. Tributary environments in the river reach between North Fork and the East Fork provide critical thermal refuge for anadromous and resident species during the summer months. The continued connectivity and reconnection of these environments is vital to develop sustainable fisheries in this area.

Anadromous management action in the Salmon River from North Fork to the headwaters will emphasize maintaining existing natural spawning populations of Chinook and preserving and enhancing habitat quality. The mainstem Salmon will continue to be managed for exploitation of hatchery steelhead. The reach of Salmon River from the East Fork to Yankee Fork contains habitat for mainstem spawning Chinook. Many of the Salmon River headwater tributaries are meandering meadow streams in a subalpine valley, which are critical spawning and rearing areas for spring Chinook. Access to most of these tributaries is impeded by irrigation diversions and dewatering. The Department will continue to screen all diversions impacting anadromous fish identified during this planning

period. The Department will also seek to improve access to these spawning and rearing locations.

At one time, large runs of sockeye salmon returned to spawn along the shorelines and inlets of the Stanley Basin lakes. In 1910, Sunbeam Dam was constructed across the Salmon River, just upstream from Yankee Fork. Fish passage was improbable until a fish ladder was completed in 1920. Even then, fish passage was very limited. In 1934, the dam was breached and fish passage was restored. Sockeye runs rebounded somewhat but declined steadily from 1960-1990. In 1994, trapping on Redfish Lake Creek captured only one adult fish. With support of the sockeye captive broodstock program, there is natural production in Redfish, Pettit, and Alturas lakes. The captive broodstock program is expected to continue to support sockeye production in these three lakes over the term of this plan. Research will be continuing on sockeye captive brood/rearing and sockeye, bull trout and kokanee interactions and enhancement in these lakes. Additional efforts will be directed into improving native fish angling opportunities.

Broodstock for hatchery steelhead stocked into this portion of the river are trapped in two places. A-run steelhead are trapped at Idaho Power Company's Pahsimeroi Hatchery and the Department's Sawtooth Hatchery, a Lower Snake River Compensation Project facility. The fish are reared at steelhead hatcheries in the Hagerman Valley and smolts are trucked back to the upper Salmon River.

Recent fluvial trout investigations identified important trout habitats on the mainstem Salmon River and associated tributaries. In general the mainstem Salmon River near Challis appears to be an important over-wintering habitat for bull trout, westslope cutthroat, and redband trout. In the spring and early summer redband trout utilized the mainstem Salmon and tributaries near Ellis for spawning whereas cutthroat trout focused spawning activities upstream of Challis in the tributary environments between Clayton and the Yankee Fork. For spawning and summer rearing bull trout moved into tributary environments in the East Fork, Warm Springs Creek, Yankee Fork and upper Salmon River.

## **B. Objectives and Programs**

1. Objective: Maintain existing natural spawning populations of salmon.

Program: Allow natural production to sustain existing naturally produced populations. Limit outplanting of hatchery fish, other than direct hatchery releases, to support supplementation research and areas devoid of naturally producing populations of salmon. Continue smolt monitoring to gain natural production and survival information.

2. Objective: Increase access and facilities for steel head and salmon anglers.

Program: Acquire additional public fishing access with purchases or easements; develop boat launches, parking sites and sanitation facilities.

3. Objective: Improve the quality of resident trout fishing in the mainstem Salmon River during the summer months.

Program: Continue protective fishing regulations on cutthroat trout, bull trout and redband trout while directing harvest on hatchery fish (as identified by adipose fin clips).

Program: Improve fish access through passage improvements to tributary environments for thermal refuge during the summer months.

4. Objective: Reestablish sockeye runs to historic habitats when population levels become sufficient to do so.

Program: Evaluate benefits of lake fertilization to enhance kokanee/sockeye production. Evaluate introductions of sockeye back into Redfish, Alturas and Pettit lakes.

5. Objective: Maintain and improve habitat quality of mainstem and tributary production areas.

Program: Work cooperatively with willing landowners through the Upper Salmon Basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes. Encourage land management activities on public and private properties that further improve the quality of natural production areas. Participate in grazing allotment management plan review. Encourage implementation of grazing management plans that eliminate negative grazing impacts to fishery productivity and survival. Participate in interagency mining oversight committees to review operating plans and work with regulatory agencies to require strict compliance with mining laws to protect water quality and fish populations. Develop monitoring programs for fish populations and fish habitat relative to mining activities, if needed. Continue to monitor and evaluate benefits from habitat projects.

6. Objective: Continue improving the return rate of stocked, catchable sized rainbow trout to the creel.

Program: Maintain high stocking frequency in heavily used areas between Hell Roaring Creek and Rough Creek Bridge and adjust, as needed, if angler distribution patterns change. Pursue the construction of a fishing pond in the Stanley vicinity to outplant catchable trout for better return to the creel.

7. Objective: Improve anadromous juvenile and adult fish passage in the Salmon River.

Program: Work with Federal Land Managers and private irrigators to alleviate passage problems in main-river and tributaries due to irrigation diversions and dewatering.

8. Objective: As funding and resources permit, evaluate the impacts of hatchery steelhead offsite release strategies on adult straying and resident trout displacement.

Program: Describe the degree and mechanisms of adult hatchery steelhead straying in tributaries.

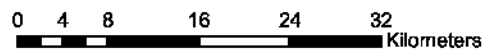
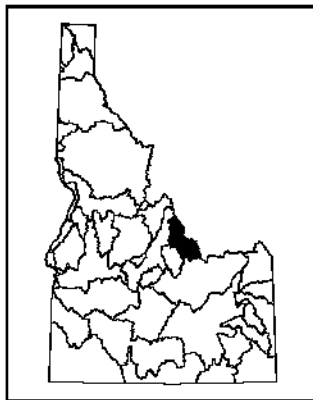
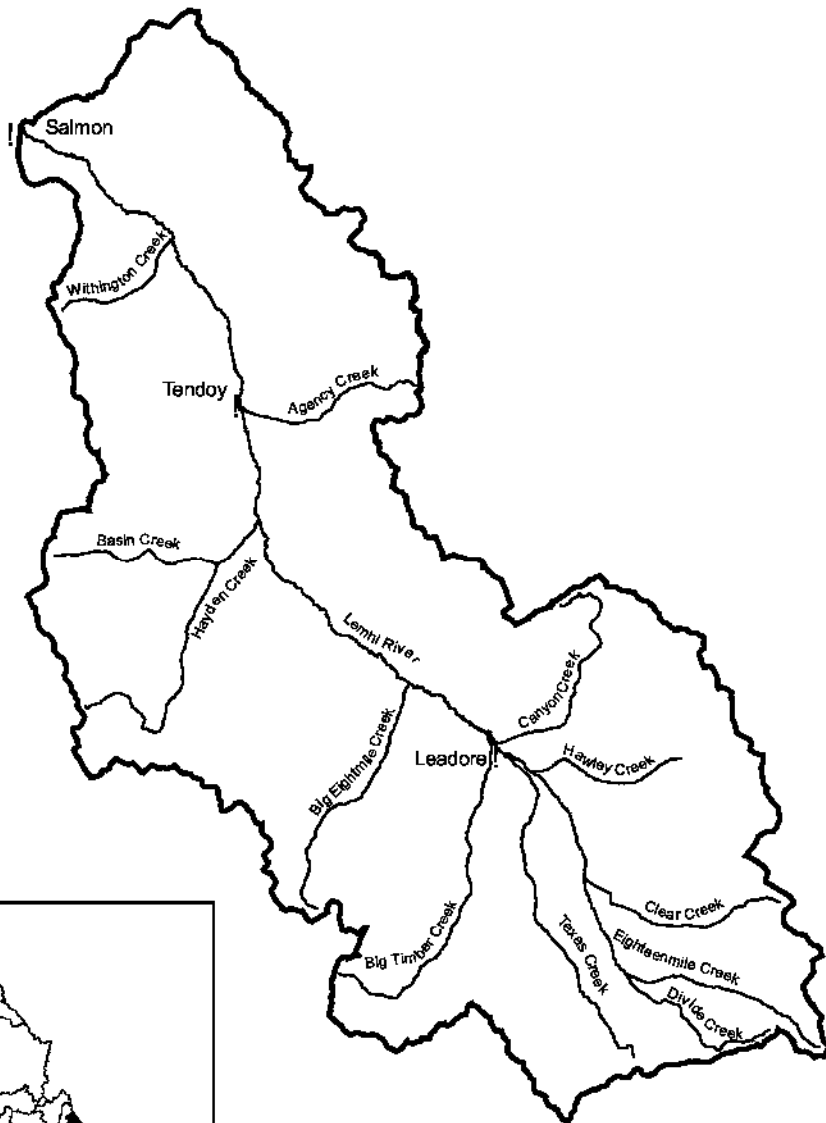
Program: Pursue/investigate opportunities to reduce straying through adjustments in release timing and alternative release strategies.

| DRAINAGE: Salmon River: North Fork to Headwaters  |             |   |  |                         |   |
|---|-------------|---|--|-------------------------|---|
| Water   | Miles/acres | Fishery   |  |                         | Management direction  |
|   |             | Type  | Species Present  | Management              |   |
| Mainstem  | 172/        | Coldwater   | Bull trout   | Conservation            | Closed to harvest.  |
|   |             |   | Cutthroat trout<br>Redband trout                             | Conservation            |   |
|   |             | Anadromous  | Rainbow trout (clipped)<br>Whitefish<br>Brook trout          | Put and take<br>General | Stock hatchery trout of catchable size to provide put and take fishery. Open all year.        |
|   |             |   | Wild/natural steelhead<br>Chinook salmon                     | Conservation            | Maintain adult harvest closure until upper Salmon River escapement goals are met.             |
| Hatchery steelhead  | Anadromous  | Provide maximum yield of fish surplus to escapement goals |  |                         |   |
| Tributaries between North Fork and headwaters (excluding N. Fork, Lemhi, Pahsimeroi, E. Fork, Yankee Fork rivers, and Valley Creek) | 466/        | Coldwater   | Redband trout<br>Cutthroat trout<br>Brook trout<br>Whitefish | General                 | Provide harvest fishery supported by natural production.                                      |
|   |             |   | Bull trout   | Conservation            | Closed to harvest.  |
|   |             | Anadromous  | Chinook salmon<br>Steelhead                                  | Conservation            | Maintain adult harvest closure.   |
| Valley Creek from mouth to headwaters   | 21/         | Coldwater   | Bull trout   | Conservation            | Closed to harvest.  |
|   |             |   | Cutthroat trout<br>Redband trout                             | Conservation            |   |
|   |             | Anadromous  | Rainbow trout (clipped)<br>Whitefish<br>Brook trout          | Put and take<br>General | Stock hatchery trout of catchable size to provide put and take fishery in lower Valley Creek. |
|   |             |   | Wild/natural steelhead<br>Chinook salmon                     | Conservation            | Maintain adult harvest closure until upper Salmon River escapement goals are met.             |
| Lake Creek upstream from Williams Lake  | 5/          | Coldwater   | Redband trout  | Quality                 | Maintain spring closure to protect redband trout spawners.                                    |

|                            |        |            |  |                             |  |
|----------------------------|--------|------------|--|-----------------------------|--|
| Williams Lake              | /180   | Coldwater  | Redband trout<br><br>Bull Trout                            | General<br><br>Conservation | Yield fishery supported by natural production. Work with BLM, USFS, IDEQ, and local sewer district and homeowners association to control sources of nutrient loading and propose long term water quality improvement solutions. Explore opportunity (impact) of sterile kokanee introductions to enhance winter ice fishing.<br><br>Closed to harvest. |
| Wallace Lake               | /10    | Coldwater  | Rainbow trout<br>Cutthroat trout                           | Put-and-take                | Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.  |
| Iron Lake                  | /18    | Coldwater  | Rainbow trout<br>Cutthroat trout                           | Put-and-take                | Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.  |
| Mosquito Flat Reservoir    | /37    | Coldwater  | Rainbow trout<br><br>Brook trout                           | Put-and-take<br><br>General | Stock hatchery rainbow trout of catchable and fingerling size to provide a harvest fishery. Continue to work with water users, state and federal agencies to address dam safety issues.  |
| Bayhorse Lakes             | /22    | Coldwater  | Rainbow trout  | Put-and-take                | Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.  |
| Stanley Lake               | /182   | Coldwater  | Rainbow trout<br>Brook trout<br>Lake trout<br>Kokanee      | General                     | Continue stocking catchable rainbow trout. Monitor status of lake trout population to determine if population is stable. Adjust fishing rules as needed to protect quality lake trout fishery.   |
| Redfish Lake               | /1,502 | Coldwater  | Rainbow trout<br>Kokanee                                   | General                     | Provide harvest fishery with sterile catchable rainbow trout if feasible. Develop management plan focused on kokanee management.   |
|                            |        |            | Bull trout   | Conservation                | Closed to harvest.   |
|                            |        | Anadromous | Sockeye salmon   | Conservation                | Closed to harvest. Continue efforts to prevent extinction of sockeye salmon.   |
| Yellowbelly Lake           | /188   | Coldwater  | Cutthroat trout<br>Rainbow trout<br>Brook trout            | Quality<br><br>General      | Manage as a catch-and-release fishery.<br>Allow harvest of brook trout.  |
| Pettit Lake                | /389   | Coldwater  | Rainbow trout<br>Brook trout<br>Cutthroat trout<br>Kokanee | General                     | Provide harvest fishery with sterile catchable rainbow trout and natural production.   |
|                            |        |            | Anadromous   | Sockeye                     | Conservation   |
| Valley Creek Lakes 1 and 2 | /20    | Coldwater  | Cutthroat trout  | Trophy                      | Catch-and-release trophy westslope cutthroat trout.  |

|              |        |            |   |              |   |
|--------------|--------|------------|---|--------------|---|
| Alturas Lake | /838   | Coldwater  | Rainbow trout<br>Kokanee  | General      | Provide harvest fishery with catchable rainbow trout. If resources and time permit, develop management plan with emphasis on kokanee management.  |
|              |        |            | Bull Trout  | Conservation | Closed to harvest   |
|              |        | Anadromous | Sockeye salmon  | Conservation | Experimental reintroduction. Closed to adult harvest.   |
| Perkins Lake | /51    | Coldwater  | Rainbow trout<br>Whitefish  | General      | Provide harvest fishery with catchable rainbow trout and some natural production.   |
|              |        |            | Bull trout  | Conservation | Closed to harvest.  |
| Alpine Lakes | /5,000 | Coldwater  | Rainbow trout<br>Cutthroat trout<br>Golden trout<br>Brook trout<br>Grayling | General      | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS. Evaluate the control of stunted brook trout populations with experimental measures. |
|              |        |            | Bull trout  | Conservation | Closed to harvest.  |

# Lemhi River Drainage





## 14. LEMHI RIVER DRAINAGE

### A. Overview

The Lemhi River flows 60 miles from the confluence of Texas and Eighteen-mile creeks to the Salmon River at river mile 258.5 at the city of Salmon. The river drains approximately 1,290 square miles and flows through a broad valley of fertile agricultural land between the Bitterroot and Lemhi mountain ranges. The valley includes more than 25,000 acres of land irrigated for hay production and grazing. The principal form of irrigation is flooding from an extensive system of ditches. All major mainstem ditches are screened and have bypass systems to prevent fish entrainment losses. The river can be seasonally dewatered in the lower reach during low flow years, which without intervention, impedes adult and juvenile salmon and steelhead migration.

The drainage supports runs of both spring Chinook salmon and summer steelhead. The amount of potential spawning habitat has been reduced by stream alterations, but there is still adequate habitat available, particularly in the upper reaches of the river and in the Hayden Creek watershed.

Hatchery Chinook have not been outplanted into this drainage in large numbers since 1982 when the Hayden Creek Hatchery was closed. The population has sustained itself through natural production. Beginning in 1998, a Chinook captive rearing research program was initiated in the Lemhi River to evaluate this strategy as a short-term approach to species preservation. Juvenile Chinook salmon removed from the Lemhi River are released back into their native river after attaining maturity in a hatchery. This program's main strategy was to prevent cohort failure especially during years of very poor returns. Steelhead were outplanted annually through the 1980s and in the lower mainstem and lower Hayden Creek reaches during the last decade. Over the next six years, anadromous management action in the Lemhi River will emphasize maintaining natural spawning populations of spring Chinook and summer steelhead.

Native resident trout include redband trout, cutthroat trout, and bull trout. Brook trout are present in limited numbers, primarily in the uppermost portions of the watershed. The redband trout population responded to restrictive regulations implemented in 1996. Limited angler access limits use of the fishery.

### B. Objectives and Programs

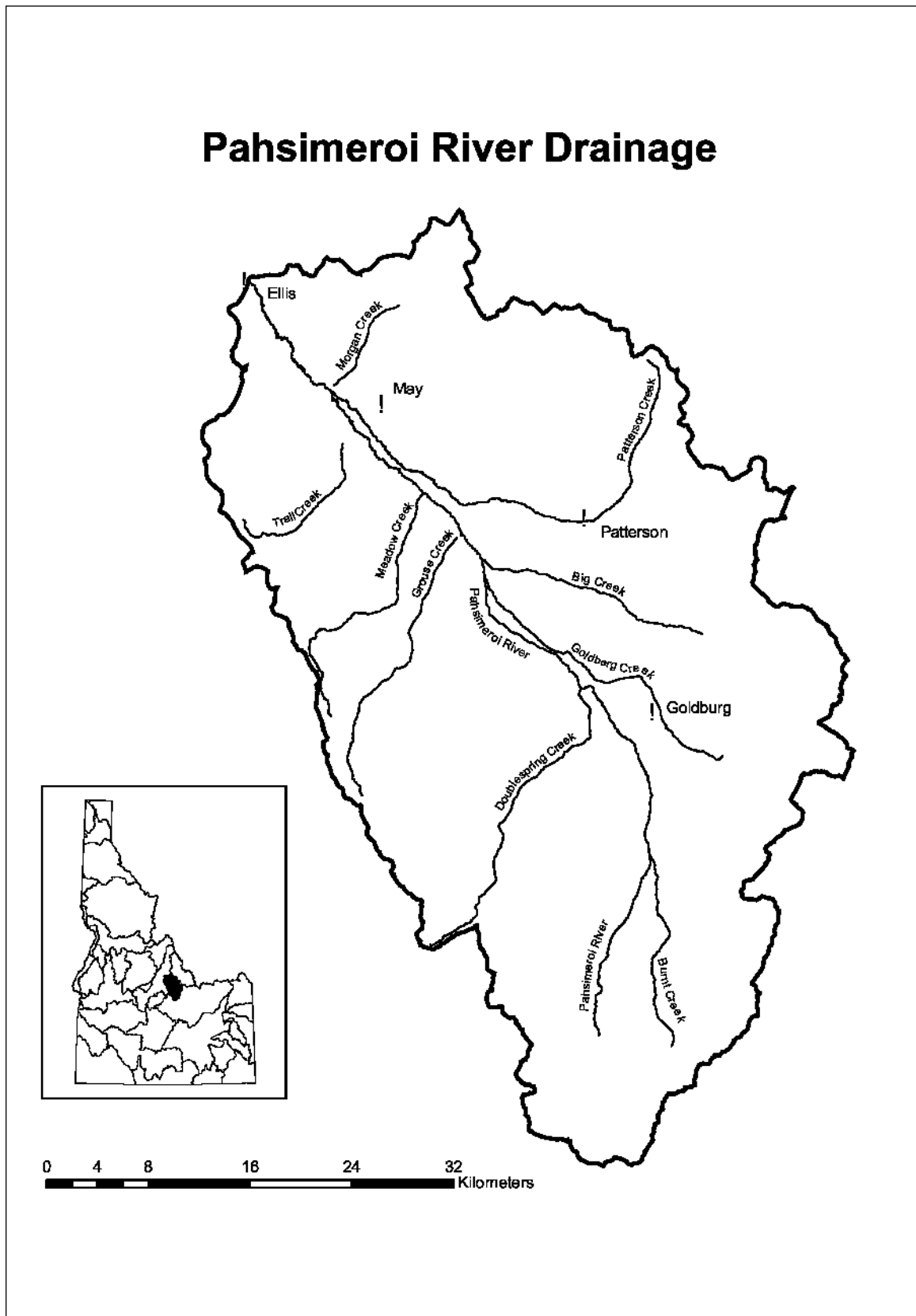
1. Objective: Maintain existing natural spawning populations of salmon and steelhead.

Program: Allow natural production to sustain existing naturally producing populations. Restrict anadromous fish stocking to only those necessary for recovery efforts.

2. Objective: Improve angler access to the Lemhi River for fishing  
  
Program: Negotiate with landowners to establish fishing by permission, easements or purchases.
3. Objective: Continue to improve flows in mainstem river reaches during peak irrigation season.  
  
Program: Continue to participate and support efforts through the Upper Salmon Basin Watershed Project and others to transfer or purchase water rights to provide adequate flows in the mainstem. Continue to investigate methods such as improved irrigation delivery systems, ditch consolidations, permanent head gates, and stream channel improvements, to provide safe passage throughout the river.
4. Objective: Minimize loss of juvenile salmon and steelhead to irrigation diversions on streams.  
  
Program: Continue evaluation of the current screening program to explore opportunities for improvements.  
  
Program: Install screens in any identified unscreened ditches.
5. Objective: Maintain and improve habitat quality throughout the Lemhi River drainage.  
  
Program: Continue to work cooperatively with willing landowners through the Upper Salmon Basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes. Pursue the reconnection of tributaries through improved irrigation delivery systems, dry year lease options, and/or permanent leases.
6. Objective: Improve the quality of cutthroat trout fishing in the mainstem Lemhi River and maintain the quality of the redband trout population.  
  
Program: Maintain restrictive fishing regulations on all cutthroat trout and redband trout.  
  
Program: Improve connection to tributary environments so fluvial fish have access to mainstem environments.

| DRAINAGE: Lemhi River |             |             |  |                             |   |
|-----------------------|-------------|-------------|--|-----------------------------|---|
| Water                 | Miles/acres | Fishery     |  | Management                  | Management direction  |
|                       |             | Type        | Species Present  |                             |   |
| Mainstem              | 60/         | Coldwater   | Redband trout  | Quality                     | Provide fishery for naturally produced redband trout ~ 14 inches and harvest fishery on adipose fin-clipped residual steelhead.   |
|                       |             |             | Brook trout<br>Whitefish                                     | General                     | Maximize brook trout and whitefish harvest.   |
|                       |             |             | Cutthroat trout<br>Bull trout                                | Conservation                | Closed to harvest.  |
|                       |             | Anadromous  | Steelhead<br>Chinook salmon                                  | Conservation                | Closed to adult harvest   |
| Tributaries           | 420/        | Coldwater   | Redband trout<br>Brook trout<br>Whitefish<br>Cutthroat trout | General                     | Provide fishery for naturally produced trout. Maximize brook trout and whitefish yield.   |
|                       |             |             | Bull trout   | Conservation                | Closed to harvest.  |
|                       |             |             | Anadromous   | Steelhead<br>Chinook salmon | Conservation  |
|                       |             | Meadow Lake | /12  | Coldwater                   | Redband trout   |
| Alpine Lakes          | /421        | Coldwater   | Redband trout<br>Cutthroat trout<br>Brook trout<br>Grayling  | General                     | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS. Evaluate the control of stunted brook trout populations with experimental measures. |

# Pahsimeroi River Drainage



## 15. PAHSIMEROI RIVER DRAINAGE

### A. Overview

Currently flows in the Pahsimeroi River are interrupted at several locations on the valley floor due to irrigation withdrawal. At one time it is suspected that the Pahsimeroi River seasonally flowed 49 miles from the confluence of the East and West Forks to the Salmon River at river mile 304. The drainage is approximately 845 square miles. Similar to the Lemhi River, the bottom lands of the Pahsimeroi Valley are mostly under private ownership and heavily irrigated (particularly in the lower drainage) for hay and grazing. All major tributaries are dewatered almost year-round and several river sections during the irrigation season and are inaccessible to all mainstem fish for spawning.

The Pahsimeroi Valley lies between the Lemhi and Lost River mountain ranges. Water percolates through a broad, pervious alluvial fan in the upper valley and enters the river through ground water and springs lower in the valley. Therefore, productivity in the river is higher than most streams in the upper Salmon River drainage.

There is an anadromous fish hatchery on the Pahsimeroi River, owned and funded by Idaho Power Company and operated by the Department. The main hatchery and weir are located within one mile of the mouth of the river where summer Chinook salmon are trapped and reared. A-run steelhead are also trapped at the weir. However, the offspring are reared at fish hatcheries in the Hagerman Valley. The hatchery was constructed and is operated as mitigation for lost anadromous production from the Hells Canyon dam complex. Adult steelhead returning to the Pahsimeroi Hatchery contribute significantly to the steelhead fishery in the upper Salmon River.

Anadromous management action in the Pahsimeroi River will emphasize maintaining existing natural spawning populations of Chinook and steelhead.

Native resident fish species include inland redband trout, bull trout, mountain whitefish, and westslope cutthroat trout. The non-native brook trout is also present.

### B. Objectives and Programs

1. Objective: Maintain existing natural spawning populations of salmon and steelhead.

Program: Allow natural production to sustain existing, naturally producing populations. Limit outplanting of hatchery fish, other than direct hatchery releases, to support supplementation research and areas devoid of naturally producing salmon and steelhead.

2. Objective: Improve angler access to the Pahsimeroi River.

Program: Negotiate with landowners to establish fishing by permission, easements or purchases.

3. Objective: Minimize loss of juvenile salmon and steelhead to irrigation diversions on streams.

Program: Continue evaluation of the current screening program to explore opportunities for improvements.

Program: Install screens in any identified unscreened ditches.

4. Objective: Maintain and improve habitat quality of the throughout the Pahsimeroi River drainage.

Program: Continue to work cooperatively with willing landowners through the Upper Salmon Basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes.

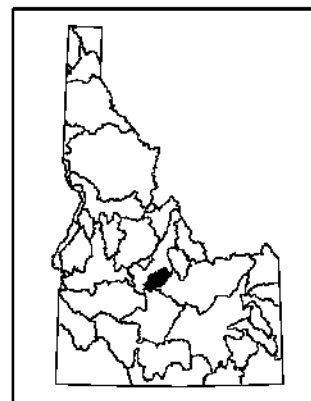
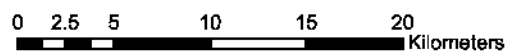
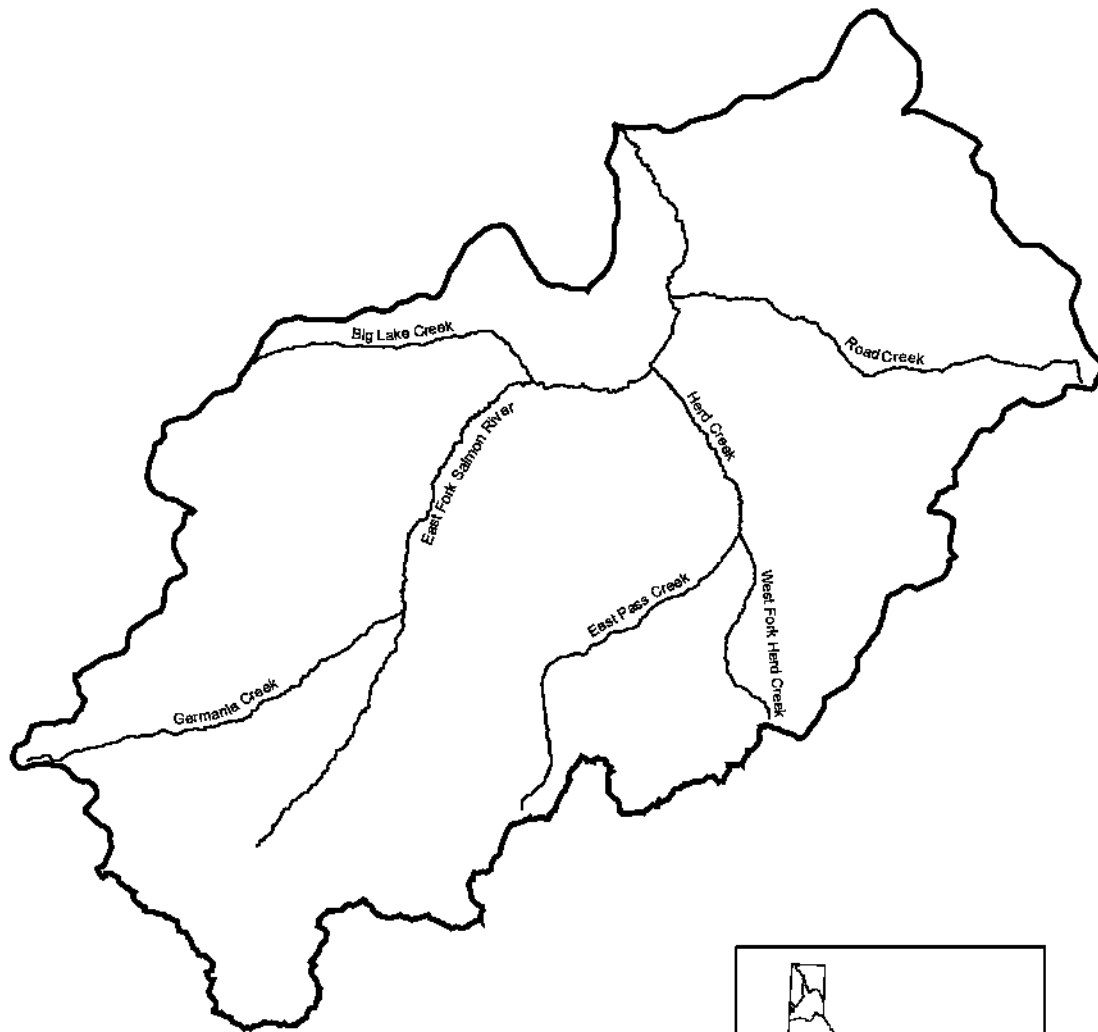
5. Objective: Manage for quality resident trout fishing in the mainstem Pahsimeroi River.

Program: Maintain protective fishing regulations on all cutthroat trout and redband trout less than 14 inches in the mainstem river.

Program: Pursue the reconnection of tributaries through improved irrigation delivery systems, dry year lease options, and/or permanent leases.

| DRAINAGE: Pahsimeroi River |             |            |   |              |   |
|----------------------------|-------------|------------|---|--------------|---|
| Water                      | Miles/acres | Fishery    |   |              | Management direction  |
|                            |             | Type       | Species present   | Management   |   |
| Mainstem                   | 59/         | Coldwater  | Redband trout   | Quality      | Provide fishery for naturally produced trout - 14 inches and harvest of adipose fin-clipped residual steelhead.   |
|                            |             |            | Brook trout<br>Whitefish  | General      | Maximize brook trout and whitefish yield.   |
|                            |             | Anadromous | Cutthroat trout<br>Bull trout   | Conservation | Closed to harvest.  |
|                            |             |            | Steelhead<br>Chinook salmon   | Conservation | Trap sufficient numbers of hatchery Chinook salmon and steelhead for production programs.   |
| Tributaries                | 227/        | Coldwater  | Redband trout<br>Brook trout<br>Whitefish<br>Cutthroat trout                | Wild         | Provide harvest fishery for naturally produced trout. Maximize brook trout and whitefish yield.   |
|                            |             |            | Bull trout  | Conservation | Closed to harvest.  |
|                            |             | Anadromous | Steelhead<br>Chinook salmon   | Conservation | Closed to adult harvest.  |
|                            |             |            |   |              |   |
| Alpine Lakes               | /200±       | Coldwater  | Rainbow trout<br>Brook trout<br>Cutthroat trout<br>Golden trout<br>Grayling | General      | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS. Evaluate the control of stunted brook trout populations with experimental measures. |

# East Fork Salmon River Drainage





## 16. EAST FORK SALMON RIVER DRAINAGE

### A. Overview

The East Fork Salmon River flows 33 miles from the confluence of the South and West Forks before entering the Salmon River at river mile 343. The drainage area is 540 square miles and includes the White Cloud Peaks to the west and the Boulder Mountains to the south. Water supply and quality in the upper drainage is excellent for fish spawning and rearing. In the lower drainage, the river bisects a zone of volcanic soils, which are highly erosive. Lack of vegetative cover, channelization, diking, woody debris removal, and livestock grazing in the riparian zone can result in substantial sediment loads to the river, particularly during spring runoff.

The drainage supports runs of spring and summer Chinook salmon and summer steelhead trout. The East Fork is an important tributary for salmon spawning and rearing in the upper Salmon River drainage. A trapping facility, constructed in 1984 at approximately river mile 18, currently collects natural and hatchery steelhead as part of the Sawtooth Hatchery operation. Naturally-produced steelhead are collected for an experimental local broodstock supplementation program. Biologists also monitor Chinook salmon and bull trout at this facility. Beginning in the late 1990s, a Chinook captive rearing research program was initiated to evaluate this strategy as short-term approach to species preservation. Juvenile Chinook salmon removed from the East Fork Salmon River are released back into their native river after attaining maturity in a hatchery. This program's main strategy was to prevent cohort failure, especially during years of very poor returns.

### B. Objectives and Programs

1. Objective: Maintain existing natural spawning populations of salmon and steelhead.

Program: Limit outplanting of hatchery fish, other than direct hatchery smolt releases, to support supplementation research and areas devoid of naturally producing populations of spring and summer salmon and summer steelhead.

2. Objective: Maintain and improve fish habitat and water quality.

Program: Encourage land and water management that protects and enhances the quality of natural production areas.

Program: Continue to work cooperatively with willing landowners through the Upper Salmon Basin Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes.

3. Objective: Improve the quality of resident trout fishing in the mainstem East Fork Salmon.

Program: Maintain restrictive fishing regulations for cutthroat trout in the mainstem river.

4. Objective: Improve anadromous juvenile and adult fish passage to and from the Salmon River.

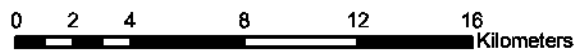
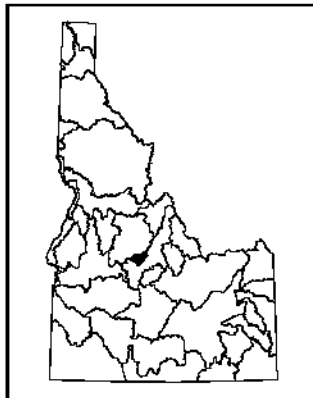
Program: Work with landowners to alleviate entrainment passage problems due to irrigation diversions. Screen identified unscreened diversions on the mainstem East Fork Salmon River and associated anadromous tributaries.

5. Objective: Improve angler access to the East Fork Salmon River.

Program: Negotiate with private landowners to establish fishing access by permission, easements, or purchases.

| DRAINAGE: East Fork Salmon River |             |            |   |                                  |   |
|----------------------------------|-------------|------------|---|----------------------------------|---|
| Water                            | Miles/acres | Fishery    |   | Management                       | Management direction  |
|                                  |             | Type       | Species present   |                                  |   |
| Mainstem                         | 33/         | Coldwater  | Redband trout<br>Whitefish  | General                          | Provide fishery for naturally produced trout. Maximize whitefish yield.   |
|                                  |             | Anadromous | Bull trout<br>Cutthroat trout<br><br>Steelhead<br>Chinook salmon            | Conservation<br><br>Conservation | Closed to harvest.<br><br>Closed to adult harvest.  |
| Tributaries                      | 199/        | Coldwater  | Redband trout<br>Whitefish<br>Cutthroat trout                               | Wild                             | Provide fishery for naturally produced trout. Maximize whitefish yield.   |
|                                  |             | Anadromous | Bull trout<br><br>Steelhead<br>Chinook salmon                               | Conservation<br><br>Conservation | Closed to harvest.<br><br>Closed to adult harvest.  |
| Jimmy Smith Lake                 | /62         | Coldwater  | Redband trout   | Wild                             | Provide fishery supported by natural production. Investigate and implement management action to maintain and improve the size structure of the resident redband trout population which may include liberalized bag limits, improved access, and/or additional sterile predator introductions.   |
| Herd Lake                        | /30         | Coldwater  | Redband trout   | Wild                             | Provide fishery supported by natural production. Investigate and implement management action to maintain and improve the size structure of the resident redband trout population which may include liberalized bag limits, improved access, and/or additional sterile predator introductions.   |
| Alpine Lakes                     |             | Coldwater  | Rainbow trout<br>Brook trout<br>Cutthroat trout<br>Golden trout<br>Grayling | General                          | Continue aerial stocking to provide fisheries that are consistent with lake productivity and angler pressure. Discontinue or reduce stocking in lakes with natural reproduction. When feasible use sterile westslope cutthroat and rainbow trout. Reserve some lakes for specialty fish (golden trout and grayling). Maintain natural wilderness values by leaving some lakes fishless to provide for native fauna and to maintain natural alpine lake ecosystems. Collect baseline data on lakes in cooperation with USFS. Evaluate the control of stunted brook trout populations with experimental measures. |

# Yankee Fork Salmon River Drainage



## 17. YANKEE FORK SALMON RIVER DRAINAGE

### A. Overview

The Yankee Fork Salmon River flows 26 miles from its headwaters to the Salmon River at river mile 367.1. The drainage area is 195 square miles. Soils are primarily Idaho Batholith granitics, which results in low productivity streams

Gold was discovered in the drainage in 1873 and the towns of Custer and Bonanza developed into thriving mining communities along the banks of the Yankee Fork. Until the late 1930s, gold was extracted by placer mining. In 1938 a large dredge was constructed and operated from 1939-1942 by the Silas Mason Company. After World War II the dredge was reactivated and operated until 1952. It was estimated that \$11 million worth of gold was extracted (at market values effective at the time of mining) from approximately eight miles of Yankee Fork and Jordan Creek. Mining activity continues today throughout the drainage and particularly in the Jordan Creek drainage. Hecla Mining Company has had a continuing problem with subsurface discharge of chemicals into Jordan Creek. Hecla now diffuses leaching chemicals into the mainstem Yankee Fork near the mouth of Jordan Creek. The long-term impacts of this practice are not well known.

Secondary roads border the entire length of Jordan Creek and the Yankee Fork upstream to McKay Creek. The lower West Fork is accessible by road and the remainder of the stream is bordered by a trail.

Despite the extensive mining, Yankee Fork continues to support very small runs of spring and summer Chinook salmon and summer steelhead trout. Hatchery steelhead have also been outplanted into this drainage and will be used for natural production augmentation. In 2006, spring Chinook smolts were released into the Yankee Fork for the same purposes. A Chinook captive rearing research program was initiated in the West Fork Yankee Fork to evaluate this strategy as a short-term approach to species preservation. Juvenile Chinook salmon removed from the West Fork Yankee Fork are released back into their native river after attaining maturity in a hatchery. This program's main strategy was to prevent cohort failure, especially during years of very poor returns.

Native resident species include inland redband trout, bull trout, westslope cutthroat trout, and mountain whitefish. Several historic dredge ponds are stocked with catchable rainbow trout during the summer months that provide a popular local fishery. The Yankee Fork was recently identified as a very important spawning area for fluvial bull trout originally from Redfish Lake and the mainstem Salmon River. The drainage likely supports fluvial cutthroat trout in addition to redband trout and whitefish.

### B. Objectives and Programs

1. Objective: Preservation of Chinook and steelhead by harvest closures.

Program: Coordinate efforts with Shoshone-Bannock Tribes to protect existing Chinook salmon spawners.

2. Objective: Maintain and improve fish habitat and water quality.

Program: Continue to support the establishment of the dredged portion of the Yankee Fork mainstem to a natural state.

Program: Reduce impacts of mining activity to fish populations and habitat by continuing to work with agencies such as the U.S. Forest Service and Department of Water Resources, mining companies, and private consultants to provide adequate protective measures in licensing and permitting agreements.

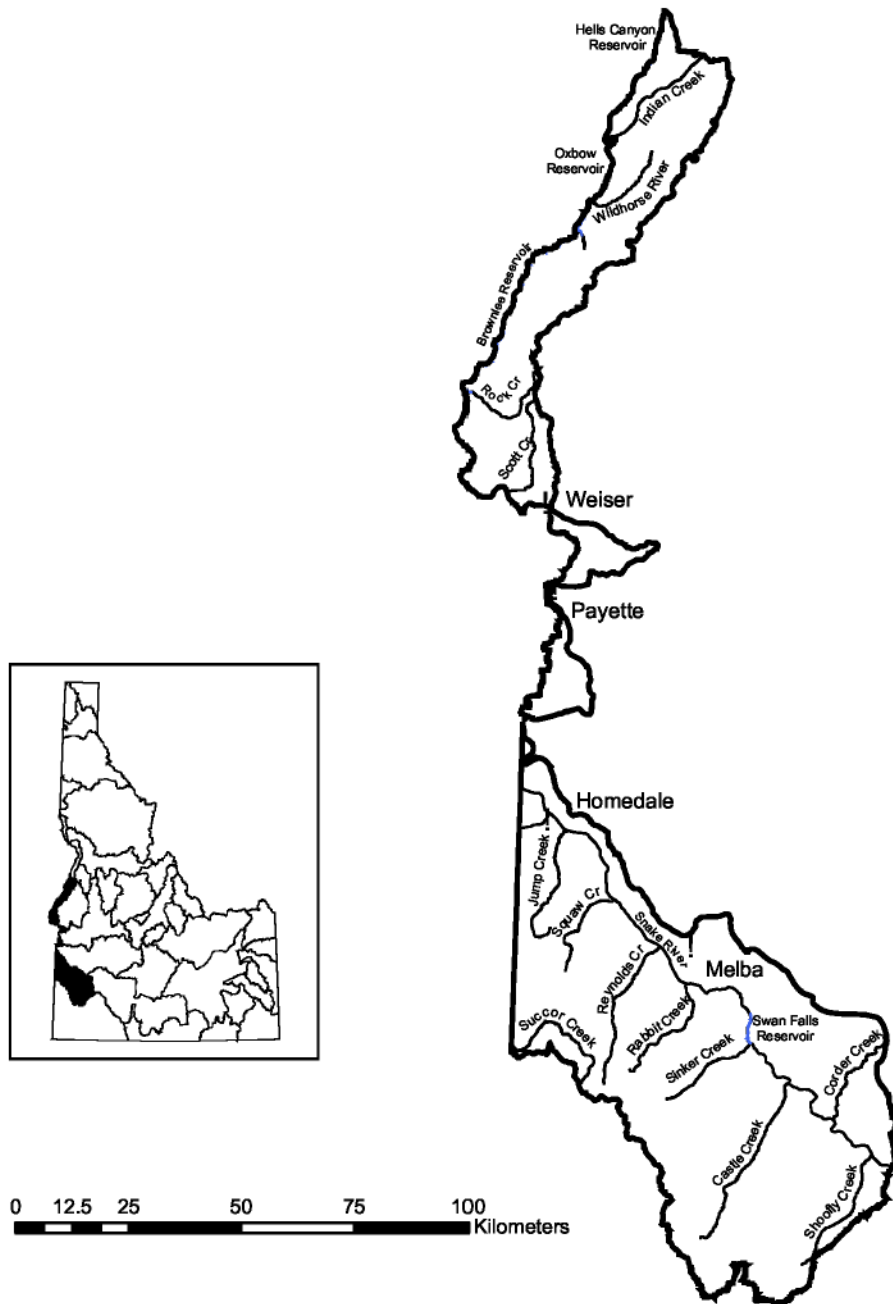
3. Objective: Improve the resident and anadromous fisheries in the Yankee Fork system.

Program: Support the reconnection of tributary habitats to mainstem environments in the dredged portion of the drainage where these habitats are disturbed.

Program: Explore feasibility, risks, and opportunity of using hatchery tools for re-establishing naturally spawning Chinook and steelhead populations in the Yankee Fork watershed.

| DRAINAGE: Yankee Fork Salmon River |             |            |  |                                  |  |
|------------------------------------|-------------|------------|--|----------------------------------|--|
| Water                              | Miles/acres | Type       | Fishery  | Management                       | Management direction   |
|                                    |             |            | Species present  |                                  |  |
| Mainstem and West Fork             | 30/         | Coldwater  | Redband trout<br>Whitefish                                       | Wild                             | Provide fishery supported by natural production.   |
|                                    |             | Anadromous | Bull trout<br>Cutthroat trout<br><br>Chinook salmon<br>Steelhead | Conservation<br><br>Conservation | Closed to harvest.<br><br>Closed to adult harvest. Supplement with hatchery releases.<br>Develop harvest strategies. |
| Tributaries excluding West Fork    | 70/         | Coldwater  | Redband trout<br>Whitefish<br>Cutthroat trout                    | Wild                             | Provide fishery supported by natural production  |
|                                    |             | Anadromous | Bull trout<br><br>Steelhead<br>Chinook salmon                    | Conservation<br><br>Conservation | Closed to harvest.<br><br>Closed to adult harvest. Supplement with hatchery releases.<br>Develop harvest strategies. |
| Yankee Fork Dredge Ponds           | /10         | Coldwater  | Rainbow trout  | Put-and-take                     | Provide put-and-take fishery.<br>Increase stocking to provide additional harvest opportunity.                        |

# Snake River Drainage Hells Canyon Dam to C.J. Strike Reservoir





## **18. SNAKE RIVER DRAINAGE FROM HELLS CANYON DAM TO C.J. STRIKE RESERVOIR**

### **A. Overview**

The Snake River between Hells Canyon Dam to the backwaters of C.J. Strike Reservoir (265 miles) has been greatly altered by impoundments and diversions. Within this reach of river, Idaho Power Company has constructed five major dams: Hells Canyon, Oxbow, Brownlee, Swan Falls, and C.J. Strike. These dams impound 111 miles of river with a total of 27,400 surface acres of water. There is 154 miles of flowing water remaining within this reach. The Snake River impoundments between Hells Canyon Dam and the State Highway 51 Bridge support populations of warmwater and coldwater game fish.

The Department has been involved in the issuance of a new federal license to operate the C.J. Strike Hydroelectric Project, participates in the long-term and ongoing relicensing process for the Hells Canyon Complex, and is involved in the process for relicensing Swan Falls. From these licensing processes, certain mitigation programs designed to protect or enhance aspects of aquatic resources are or will be required of Idaho Power Company. These actions where appropriate will be incorporated into fishery management decisions of the Department.

Major tributaries to the Snake River between Hells Canyon Dam and C.J. Strike Reservoir include the Weiser, Payette, Malheur, Boise, Owyhee, and Bruneau rivers. The Malheur is entirely in Oregon and will not be discussed in this plan. The other major tributaries are covered separately in this plan under the major headings of Weiser River Drainage, Payette River Drainage, Boise River Drainage, Owyhee River Drainage, and Bruneau River Drainage.

Minor or small tributaries to the Snake River within this planning section flow from the Seven Devil Mountains, Cuddy Mountains, Hitt Mountains, and the Owyhee Mountains. Streams draining the semi-arid Owyhee Mountains flow through deep, rugged canyons; many flow intermittent during the warm summer months. The remaining small tributaries drain high elevation, mountainous terrain. Most small tributaries to the Snake River and impoundments, which are capable of supporting fish, contain native inland redband trout. The headwaters of some of these streams also support bull trout. These species will be given management priority to protect native stocks from overharvest and habitat degradation.

From Brownlee Reservoir upstream to Walters Ferry, the Snake River flows through a broad, flat plain with low gradient, few rapids or riffles, and many large islands. This section of river supports a diversity of warmwater species, including smallmouth bass, channel catfish, largemouth bass, crappie, bluegill, pumpkinseed, sunfish, and flathead catfish. From Walters Ferry upstream to Swan Falls Dam, the Snake River flows through a narrow canyon with boulder strewn rapids and large, deep pools. The primary fishery upstream from Walters Ferry consists of smallmouth bass, channel catfish, and white sturgeon.

### **B. Objectives and Programs**

1. Objective: Provide a diversity of smallmouth bass fishing experiences within the river and mainstem impoundments.

Program: Evaluate regulation alternatives and public support for special regulations that would increase catch rates for larger size classes of bass in Brownlee and/or Hells Canyon reservoirs, in addition to Oxbow Reservoir.

Program: Assess current growth, condition, and angler exploitation of smallmouth bass.

2. Objective: Enhance fisheries for largemouth bass in reservoirs by increasing largemouth bass habitats.

Program: Continue placing artificial reef habitat in C.J. Strike Reservoir in cooperation with Idaho Power Company and Idaho State B.A.S.S. Federation.

3. Objective: Maintain or increase fishing opportunity for white sturgeon.

Program: Monitor angler catch rates and continue to cooperate with Idaho Power Company in developing and implementing the Snake River White Sturgeon Conservation Plan (WSCP). The WSCP is a plan developed by Idaho Power Company during the period 1991-2005 in coordination with the Department and other fishery management agencies to monitor white sturgeon abundance in the Snake River between Shoshone Falls and Lewiston, Idaho. Implementation of the WSCP is required of Idaho Power Company as part of the issuance of new federal licenses to operate the Middle Snake River Projects (Upper Salmon Falls, Lower Salmon Falls, Bliss) and C.J. Strike. The WSCP will also include actions associated with the Hells Canyon Complex and Swan Falls when they are relicensed. The plan is in close alignment with the Department's Draft White Sturgeon Management Plan (to be finalized in 2007). Actions in the WSCP include:

- a. Monitoring of white sturgeon population size and age structure;
- b. Evaluating supplementation options of white sturgeon populations with native stocks where necessary to maintain future options to utilize suitable spawning or rearing habitats. This might include hatchery reared fish or translocation of wild fish;
- c. Researching potential options to increase survival rates of various life stages of white sturgeon. One important aspect of this research is to understand early life history habitat needs and factors potentially limiting white sturgeon survival.

Program: Assess effects of catch-and-release angling on white sturgeon populations, and evaluate regulation changes if needed to protect white sturgeon during periods when they may especially vulnerable to stresses associated with angling.

4. Objective: Increase angler awareness of the white sturgeon biology and life history. Emphasize proper fishing techniques and tackle, so anglers can minimize mortality when fishing for sturgeon.

Program: Revamp the out of print brochure on white sturgeon fishing and redistribute.

Program: Develop a video on sport fishing for white sturgeon in Idaho. Emphasis will be on proper tackle and technique with a substantial amount of biology, life history, and conservation information included. Video will be distributed to sporting goods retailers and fishing clubs in the Snake River drainage. Video will be useful at Regional offices and sporting events.

5. Objective: Protect native bull trout and redband trout populations in Snake River tributaries.

Program: Monitor distribution and abundance of tributary populations of bull trout and redband trout.

Program: Offer appropriate and accurate responses to proposed land and water management activities of private, state and federal entities. Advocate for improved habitat and water management to restore connectivity between tributaries and the mainstem Snake River.

6. Objective: Enhance the rainbow trout fishery in C.J. Strike Reservoir.

Program: Cooperate with Idaho Power Company in the implementation of a rainbow trout stocking plan required as part of the new federal license for the operation of the C.J. Strike Hydroelectric Project developed in consultation with the Department and other fish management agencies. The plan requires that Idaho Power Company annually stock 50,000 catchable-size (3/pound) rainbow trout in the spring months following receding flows (prior to July 1) and 31,250 catchable-size rainbow trout in the fall months after reservoir turnover. Stocked rainbow trout will be triploid (sterile) to avoid potential introgression with wild stocks. The plan further requires that Idaho Power Company closely monitors the success of the stocking program through angler interviews (creel surveys) and return of marked fish to the creel.

7. Objective: Seek mitigation for operational impacts of Idaho Power Company's hydroelectric facilities on the Snake River.

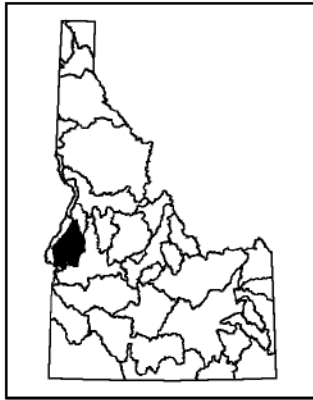
Program: Coordinate with Idaho Power Company in the implementation of license conditions required as part of new federal license for the C.J. Strike Project. Maintain Department involvement in the FERC relicensing process underway for the Hells Canyon Complex and Swan Falls.

| Drainage: SNAKE RIVER - HELLS CANYON DAM TO C.J. STRIKE RESERVOIR |            |                      |   |   |   |
|---|------------|----------------------|---|---|---|
| Water   | Miles/acre | Fishery              |   |   | Management Direction  |
|   |            | Type                 | Species Present   | Management  |   |
| Hells Canyon Reservoir  | 26/2500    | Mixed/<br>Anadromous | Steelhead   | Anadromous  | Maintain limited fishery with hatchery steelhead when adult fish are available.<br><br>Closed to Harvest.                               |
|   |            |                      | Rainbow trout<br>Smallmouth bass<br>Largemouth bass<br>Channel catfish<br>Bluegill<br>Crappie<br>Yellow perch<br>Bullhead<br>Ko ka n ee<br>Sturgeon | General<br><br><br><br><br><br><br><br>Conservation |   |
| Oxbow Reservoir   | 12/1150    | Mixed                | Smallmouth bass<br>Largemouth bass  | Quality   | Maintain and evaluate quality bass regulations.<br><br>Closed to Harvest.   |
|   |            |                      | Rainbow trout<br>Bluegill<br>Crappie<br>Yellow perch<br>Channel catfish<br>Sturgeon   | General<br><br><br><br><br>Conservation             |   |
| Tributaries to Snake River and reservoirs                         | 110/       | Coldwater            | Rainbow trout<br>Redband trout  | Wild  | Bull trout and redband trout will receive management priority to prevent overharvest and habitat degradation.<br><br>Closed to harvest. |
|   |            |                      | Bull trout  | Conservation  |   |
|   |            |                      | Brook trout   | General   |   |

|   |             |           |   |   |  |
|---|-------------|-----------|---|---|--|
| Brownlee Reservoir                                    | 55 / 15,000 | Mixed     | Smallmouth bass<br>Largemouth bass<br>Bluegill<br>Black crappie<br>White crappie<br>Yellow perch<br>Bullhead<br>Rainbow trout<br>Channel catfish<br>Flathead catfish<br><br>Sturgeon                                      | General<br><br><br><br><br><br><br><br><br><br>Conservation | Document current bass and catfish growth and condition. Monitor crappie and other panfish populations, and develop methods to predict fishing quality. Seek to maintain strong year classes of panfish. Assess angler exploitation of smallmouth bass and crappie.<br><br><br><br><br><br><br><br><br><br>Maintain catch-and-release fishery |
| Snake River from Brownlee Reservoir to Swan Falls Dam | 121/        | Mixed     | Largemouth bass<br>Smallmouth bass<br>Channel catfish<br>Flathead catfish<br>Bluegill<br>White crappie<br>Black crappie<br>Bullhead<br>Yellow perch<br>Pumpkinseed<br>Rainbow trout<br>Mountain whitefish<br><br>Sturgeon | General<br><br><br><br><br><br><br><br><br><br>Conservation | Monitor bass and catfish population size, growth, and condition. Assess angler use, catch and harvest, and satisfaction.<br><br><br><br><br><br><br><br><br><br>Maintain catch-and-release fishery.  |
| Reynolds Creek  | 25/         | Coldwater | Redband trout   | Wild  | Improve production of native redband trout by seeking improved range and riparian management through BLM planning process.   |
| Swan Falls Reservoir                                  | /900        | Mixed     | Largemouth bass<br>Smallmouth bass<br>Bullhead<br>Yellow perch<br>Bluegill<br>Channel catfish<br>Rainbow trout<br>White Crappie<br>Black Crappie<br>Pumpkinseed<br>Mountain whitefish<br>Flathead catfish<br>Sturgeon     | General<br><br><br><br><br><br><br><br><br><br>Conservation | Determine fish population species composition and size structure. Monitor sturgeon population status and mortalities at Swan Falls Dam, if any.<br><br><br><br><br><br><br><br><br><br>Maintain catch-and-release fishery.   |



# Weiser River Drainage



## 19. WEISER RIVER DRAINAGE

### A. Overview

The Weiser River Basin lies in southwestern Idaho. It drains from the Seven Devils Mountains on the north, Cuddy Mountain to the west, and the West Mountains to the east. The drainage flows in a southwesterly direction for about 112 miles where it drains into the Snake River near the City of Weiser. Elevations in the drainage vary from 8,000 feet in the mountains to 2,090 feet at Weiser. The Weiser River drains a basin area of 1,660 square miles, primarily in low, rolling foothills dissected by many small streams. It has an average annual runoff of 742,000 acre-feet of water. Runoff during the spring is essentially unregulated, but in the lower drainage summer discharge is extremely low as much of the flow is diverted for irrigation. Late summer flows in the lower 18 miles are supplemented by releases from Crane Creek Reservoir.

The Weiser River has no mainstem storage reservoirs. Private irrigation districts have constructed four reservoirs on tributary streams. Those reservoirs, Lost Valley, Ben Ross, Crane Creek, and Manns Creek, have a total storage capacity of about 83,000 acre-feet of water. All were constructed to provide irrigation benefits, and typically fill during the spring runoff period and become extremely low in the late summer and early fall. In extremely dry years, Crane Creek, Ben Ross, and Lost Valley have gone dry. Manns Creek, Ben Ross, and Crane Creek reservoirs are best suited for production of warmwater game species. Manns Creek Reservoir supports a mixed fishery of warmwater species, hatchery rainbow trout, and native redband trout. All three reservoirs support populations of largemouth bass and crappie. Crane Creek Reservoir is currently impacted by a large population of common carp which contribute to poor water quality and low productivity for sport fish. Ben Ross Reservoir is managed for quality fishing for largemouth bass. It also has bluegill and black crappie that provide prey for the bass and a general fishing opportunity.

Lost Valley Reservoir can be an excellent rainbow trout fishery but has a history of problems associated with stunted yellow perch. It has routinely been chemically reclaimed when the perch population increases to the point it reduces growth of both the trout and perch. A proposal to enlarge the dam and triple the storage capacity of Lost Valley Reservoir has been evaluated for its benefits to irrigators, the reservoir fishery and for providing late summer flows to the Weiser River. Unfortunately, the proposal could result in negative impacts to an important colony of Northern Idaho Ground Squirrels so the project has not been completed.

From the mouth of the Weiser River upstream to Galloway Dam, the river supports a marginal warmwater fishery. Low summer flows and poor water quality limit fishery production in this section of river. From Galloway Dam upstream to Cambridge, the river supports a limited fishery for rainbow trout and smallmouth bass. Upstream from Cambridge, inland redband trout, mountain whitefish, and nongame fish dominate the fish community. Tributaries to the Weiser River, which have not been adversely impacted by agricultural practices or stream alterations support excellent populations of native redband trout. These streams will be



managed to conserve redband trout, and hatchery trout stocking will be limited to sterile rainbow trout in areas with high angler use.

Scattered populations of bull trout occupy individual tributaries to the Little Weiser River, the East Fork Weiser River and Hornet Creek. These remnant populations would benefit from becoming interconnected by improved water quality and stream flows.

## **B. Objectives and Programs**

1. Objective: Obtain stream resource maintenance flows and enhance fish passage to improve native fish populations.

Program: Work with state and federal agencies and landowners to develop more efficient irrigation systems.

Program: Evaluate the potential to enlarge Lost Valley Reservoir to provide summer flows in the Weiser River for eventual delivery to Weiser area irrigators or hydropower interests. Emphasis must include protection and mitigation of impacts to the Northern Idaho Ground Squirrel colony. Review project feasibility after five-year status review of North Idaho Ground Squirrel.

Program: Collaborate with local irrigation districts to improve year-round fish passage at Galloway Dam.

2. Objective: Improve methods to control flooding and erosion.

Program: Work with Soil Conservation Service, and Idaho Department of Water Resources to promote environmentally acceptable methods for stream channel alterations and riparian vegetation restoration.

3. Objective: Preserve disjunctive populations of bull trout and work to reconnect them into meta-populations to enhance recovery.

Program: Work with land management agencies to preserve and improve habitat. Identify and remedy migration barriers that prevent fish migration. Support efforts to provide improved water quality and summer stream flow throughout the drainage above Little Weiser River. Install efficient irrigation diversions with fish screening.

4. Objective: Preserve redband trout genetic integrity and population abundance.

Program: Limit hatchery trout to reservoirs and limited stream sections near major access points, such as campgrounds. Use only sterile rainbow trout stocks.

Program: Retain springtime fishing closures in the Adams County portions of the drainage to protect naturally spawning fish from harvest during this period of concentration and vulnerability.

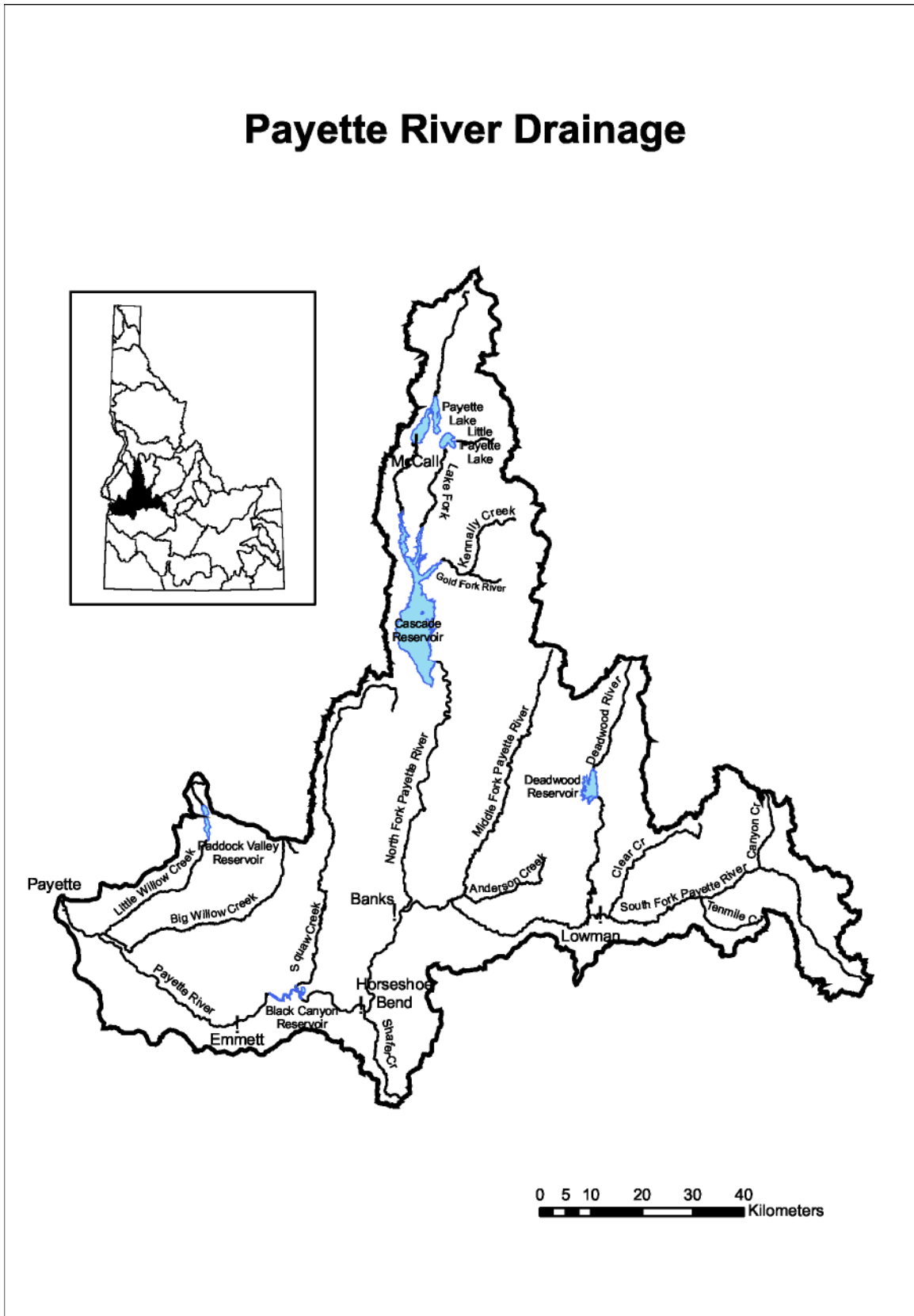
5. Objective: Create local small fisheries in cooperation with local city or county governments.

Program: Utilize available funds and grants to construct local fishing ponds.

| Drainage: WEISER RIVER   |            |           |   |              |  |
|--|------------|-----------|---|--------------|--|
| Water  | Miles/acre | Type      | Fishery   | Management   | Management Direction   |
|  |            |           | Species Present   |              |  |
| Weiser River from mouth to Little Weiser River   | 36/        | Mixed     | Smallmouth bass<br>Channel catfish<br>Rainbow trout<br>Mountain whitefish | General      | Evaluate current fishery and angler satisfaction. Identify limiting factors and seek to reduce their impacts on fish production. Improve fish passage at Galloway Dam. Identify and procure fishing access sites.                        |
| Mainstem from mouth of Little Weiser River upstream including tributaries not listed below | 196/       | Mixed     | Rainbow trout<br>Redband trout  | Wild         | Redband trout will be managed to conserve native populations. Use only sterile hatchery rainbow trout for stocking programs. Maintain spawning season closures where needed to conserve native trout.<br><br>Closed to harvest.          |
|  |            |           | Brook trout<br>Smallmouth bass<br>Mountain whitefish                      | General      |  |
|  |            |           | Bull trout  | Conservation |  |
| Little Weiser River and tributaries  | 62/        | Coldwater | Rainbow trout<br>Redband trout  | Wild         | Redband trout will be managed for racial preservation use only sterile hatchery rainbow trout stocking. Maintain spawning season closure.<br><br>Closed to harvest.  |
|  |            |           | Brook trout<br>Mountain whitefish   | General      |  |
|  |            |           | Bull trout  | Conservation |  |
| Middle Fork Weiser River and tributaries   | 28/        | Coldwater | Rainbow trout/<br>Redband trout   | Wild         | Maintain 0.5 fish/hour catch rates on naturally-produced and hatchery rainbow trout. Continue limited hatchery plantings on Middle Fork near campgrounds only. Redband trout will receive priority management.<br><br>Closed to harvest. |
|  |            |           | Brook trout<br>Mountain whitefish   | General      |  |
|  |            |           | Bull trout  | Conservation |  |
| West Fork Weiser River and tributaries   | 36/        | Coldwater | Rainbow trout<br>Redband trout  | Wild         | Redband trout will be managed to conserve native populations. Use only sterile hatchery rainbow trout for stocking programs. Maintain spawning season closure.<br><br>Closed to harvest.   |
|  |            |           | Brook trout<br>Mountain whitefish   | General      |  |
|  |            |           | Bull trout  | Conservation |  |
| Mann Creek Reservoir (Spangler Reservoir)  | /281       | Mixed     | Largemouth bass<br>Black crappie<br>Rainbow trout<br>Redband trout        | General      | Maintain catchable rainbow trout stocking. Monitor adfluvial redband Trout abundance.  |
| Crane Creek Reservoir  | /2,200     | Warmwater | Largemouth bass<br>Bullhead<br>White crappie<br>Channel catfish           | General      | Evaluate sport fish population structure every three years. Investigate fishery renovation to remove carp during drought years.  |

|                       |      |           |   |                    |  |
|-----------------------|------|-----------|---|--------------------|--|
| C. Ben Ross Reservoir | /353 | Mixed     | Largemouth bass<br>Bluegill<br>Crappie<br>Bullhead<br>Rainbow trout | Quality<br>General | Maintain quality bass regulation. Monitor status every 3-4 years.<br><br>Evaluate the feasibility of constructing habitat structures. Investigate potential for trophy regulations on largemouth bass. Work with landowners to retain access to shoreline.   |
| Lost Valley Reservoir | /633 | Coldwater | Rainbow trout<br>Brook trout<br>Yellow perch                        | General            | Maintain 0.5 to 1.0 fish/hour catch rates on 10- to 16-inch rainbow trout from annual fingerling and catchable rainbow trout stocking. Expect overpopulation of yellow perch on a 5- to 6-year cycle, and chemically eradicate the reservoir when the perch population retards trout growth or becomes a serious nuisance to anglers. Continue working with parties for possible expansion of reservoir. |

# Payette River Drainage



## 20. PAYETTE RIVER DRAINAGE

### A. Overview

The Payette River Basin lies in southwestern Idaho. Its headwaters originate in the Sawtooth and Salmon River mountains at elevations over 10,000 feet. The drainage flows in a southwesterly direction for over 175 miles where it empties into the Snake River near the city of Payette at an elevation of 2,125 feet. The Payette River Basin comprises about 3,240 square miles.

Principal tributaries are the North and South Forks of the Payette River. The North Fork drains about 950 square miles and the South Fork about 1,200 square miles. The Payette River has an average annual discharge into the Snake River of 2,192,000 acre-feet of water. Irrigation accounts for the largest water use, with about 160,000 acres of irrigated farmland. This system also provides water for recreation, hydroelectric generation, mining, and logging. The drainage is comprised of primarily granitic soils, which are highly erosive.

Due to the wide range in elevation, the Payette River has a variety of fish and fish habitats. Salmon and steelhead were eliminated in the drainage by Black Canyon Dam in 1924. From its mouth to Black Canyon Dam, the river supports a mixed fishery for coldwater and warmwater species. Mountain whitefish make up the bulk of game fish in this section of river, with smallmouth bass, largemouth bass, channel catfish, black crappie, and rainbow trout making significant contributions. Upstream from Black Canyon Dam, the gradient of the river increases with coldwater species increasing in abundance. The South Fork of the Payette River supports good populations of inland redband trout and is one of the more popular recreation rivers in the region. The North Fork of the Payette River has been severely altered by railroad and highway construction and provides only a marginal fishery for salmonids. However, in unaltered sections such as the Cabarton reach, the North Fork is productive for salmonids.

There are six major impoundments in the Payette basin, Black Canyon, Sagehen, Paddock, Cascade, Horsethief, and Deadwood, and several small impoundments and natural lakes with increased storage, such as the three Payette lakes. Impoundments in the Payette basin primarily serve irrigation needs with flood control and recreation providing additional benefits. Black Canyon Reservoir provides only marginal fish habitat. Sand from upstream land disturbances has covered most habitats. Paddock Reservoir, on Big Willow Creek, has a good fishery for largemouth bass, bluegill, and black crappie, but is subject to extreme drawdown during drought years. Lake Cascade on the North Fork was once the most heavily fished water in the state. Deadwood Reservoir provides a popular fishery for kokanee, rainbow trout, and cutthroat trout. Deadwood is also the state's primary egg source for early-spawn kokanee.

Lake Cascade near the city of Cascade received a great deal of investigation during the last planning period to restore the once popular yellow perch fishery. Investigations revealed that the yellow perch fishery likely collapsed due to a combination of factors including poor water quality possibly resulting in adult fish kills, and predation from northern pikeminnow on juvenile yellow perch. The

Department proposed draining and chemical renovation of the reservoir in 2003. The Bureau of Reclamation, the reservoir operator, deemed that an environmental impact statement would be necessary and that task was begun in 2003. In early 2004 the Department was forced to withdraw plans for draining the reservoir due to concerns of supplying Salmon Flow Augmentation waters during the drawdown. The Department shifted to a management strategy of swamping predation by stocking adult yellow perch spawners and aggressive removal of northern pikeminnow adults through trapping and chemical treatments of their spawning runs. As a result of these efforts, the yellow perch have demonstrated good reproduction, survival and growth and the adult northern pikeminnow numbers are a tenth of pretreatment numbers. During this planning period the Department will monitor the expanding yellow perch population and control northern pikeminnow if they resurge. We will also monitor the fishery with a major creel survey.

Alpine lakes within the Payette River drainage provide anglers with a variety of fishing opportunity. Rainbow trout, cutthroat trout, rainbow trout x cutthroat trout hybrids, golden trout, and arctic grayling are stocked in alpine lakes within the drainage. Brook trout are also present in a number of lakes, but in many cases have stunted and alternative management may be warranted. There are a total of 178 alpine lakes in the Payette drainage. Many of these lakes are too small to support a fishery. The Department presently stocks approximately ninety of the alpine lakes in the Payette River system. A number of alpine lakes in the Payette River drainage have self-sustaining populations.

## **B. Objectives and Programs**

1. Objective: Provide a diversity of fishing opportunities within the Payette River drainage.

Program: Concentrate hatchery catchable stocking in locations where the highest return-to-creel will occur.

Program: Manage for wild trout where habitat and fish populations will sustain an acceptable fishery.

Program: Increase warm water angling opportunity by acquiring access or title to ponds in the Lower Payette River drainage.

Program: Seek funding for construction of new ponds near urban areas.

Program: Improve land-use management through working with federal, state, and private land owners on proper land uses to increase soil stability in the drainage.

Program: Pursue a land purchase or easement to secure public access to Paddock Reservoir.

2. Objective: Maintain riparian and floodplain values for fish and public access.

Program: Continue to comment and provide accurate fish and wildlife data to local planning bodies.

Program: Work with Valley County and landowners to provide public access to the North Fork Payette River.

3. Objective: Maintain/enhance the large-size, mature nature of the lake trout population in Payette Lake.

Program: Maintain trophy regulations for lake trout to maximize numbers of large, mature fish.

Program: Supplement kokanee population with fingerling stocking and monitor results.

4. Objective: Monitor the yellow perch fishery recovery in Cascade Reservoir.

Program: Monitor yellow perch recruitment with otter trawl surveys, hydroacoustic surveys and creel catch rates.

Program: Monitor northern pikeminnow abundance, size and age structure, with bi-annual gill net surveys and annual hydroacoustic surveys.

Program: Document angler use of Lake Cascade with a major creel within this planning period.

5. Objective: Conserve and enhance existing bull trout populations in the drainage.

Program: Continue angler educational signage about bull trout no-harvest rules in the drainage.

Program: Continue to define and monitor distribution and abundance of bull trout.

Program: Work with the Forest Service and other parties to identify fish passage barriers and prioritize culvert replacements or other passage solutions.

6. Objective: Provide a diversity of alpine lake fishing opportunities.

Program: Complete surveys of the majority of alpine lakes in the drainage

Program: Investigate additional alpine lakes for different management actions such as brook trout suppression by stocking sterile predators.



| Drainage: PAYETTE RIVER                          |            |           |  |                             |  |
|--|------------|-----------|--|-----------------------------|--|
| Water  | Miles/acre | Fishery   |  |                             | Management Direction   |
|  |            | Type      | Species Present  | Management                  |  |
| Mouth to Black Canyon Dam                        | 39/        | Mixed     | Smallmouth bass<br>Channel catfish<br>Largemouth bass<br>Flathead catfish<br>Bullhead<br>Mountain whitefish<br>Rainbow trout | General                     | Monitor fish populations. Determine catch rates and angler satisfaction for the existing fishery.<br><br>Develop angler access and float-and-fish brochures for this area.   |
| Black Canyon Reservoir                           | /1,100     | Warmwater | Largemouth bass<br>Black crappie<br>Bullhead<br>Bluegill<br>Yellow perch   | General                     | Monitor fish composition and size structure during this six-year period.   |
| Black Canyon to South Fork/North Fork Confluence | 34/        | Coldwater | Rainbow trout<br>Mountain whitefish<br>Cutthroat trout<br><br>Bull trout   | General<br><br>Conservation | Maintain as a non-stocking native fishery. Evaluate fish and habitat by visual and snorkeling techniques.<br><br>Closed to harvest.  |
| Emmett Airport and Sawyers ponds                 | /8         | Mixed     | Largemouth bass<br>Bullhead<br>Bluegill<br>Pumpkinseed<br>Channel catfish<br>Rainbow trout                                   | General                     | Monitor fish composition and size structure. Add appropriate stocks of fish to provide an improved fishery. Evaluate channel catfish stocking. Monitor and treat Eurasian water milfoil as needed.                                     |
| Paddock Reservoir                                | /1,302     | Mixed     | Largemouth bass<br>Black crappie<br>Bullhead<br>Bluegill<br>Rainbow trout  | General                     | Monitor recovery of warmwater fish populations following 2001-2005 drought. Supplement populations as necessary. Utilize excess steelhead smolts to supplement fishery.  |
| Warmwater lowland ponds and reservoirs           | /200       | Warmwater | Largemouth bass<br>Bluegill<br>Pumpkinseed<br>Bullhead<br>Smallmouth bass<br>Channel catfish<br>Black crappie                | General                     | Maintain warmwater populations to use for maximum local fishing. Use stunted stocks for introduction into new water. Inventory and more intensively manage waters on public lands. Monitor and treat Eurasian water milfoil as needed. |
| Squaw Creek and Willow Creek                     | 71/        | Mixed     | Redband trout<br><br>Bull Trout  | Wild<br><br>Conservation    | Maintain native stocks. Monitor status and distribution of redband trout.<br><br>Closed to harvest. Monitor bull trout populations in upper Squaw Creek drainage. Work with federal agencies to remove migration barriers.             |

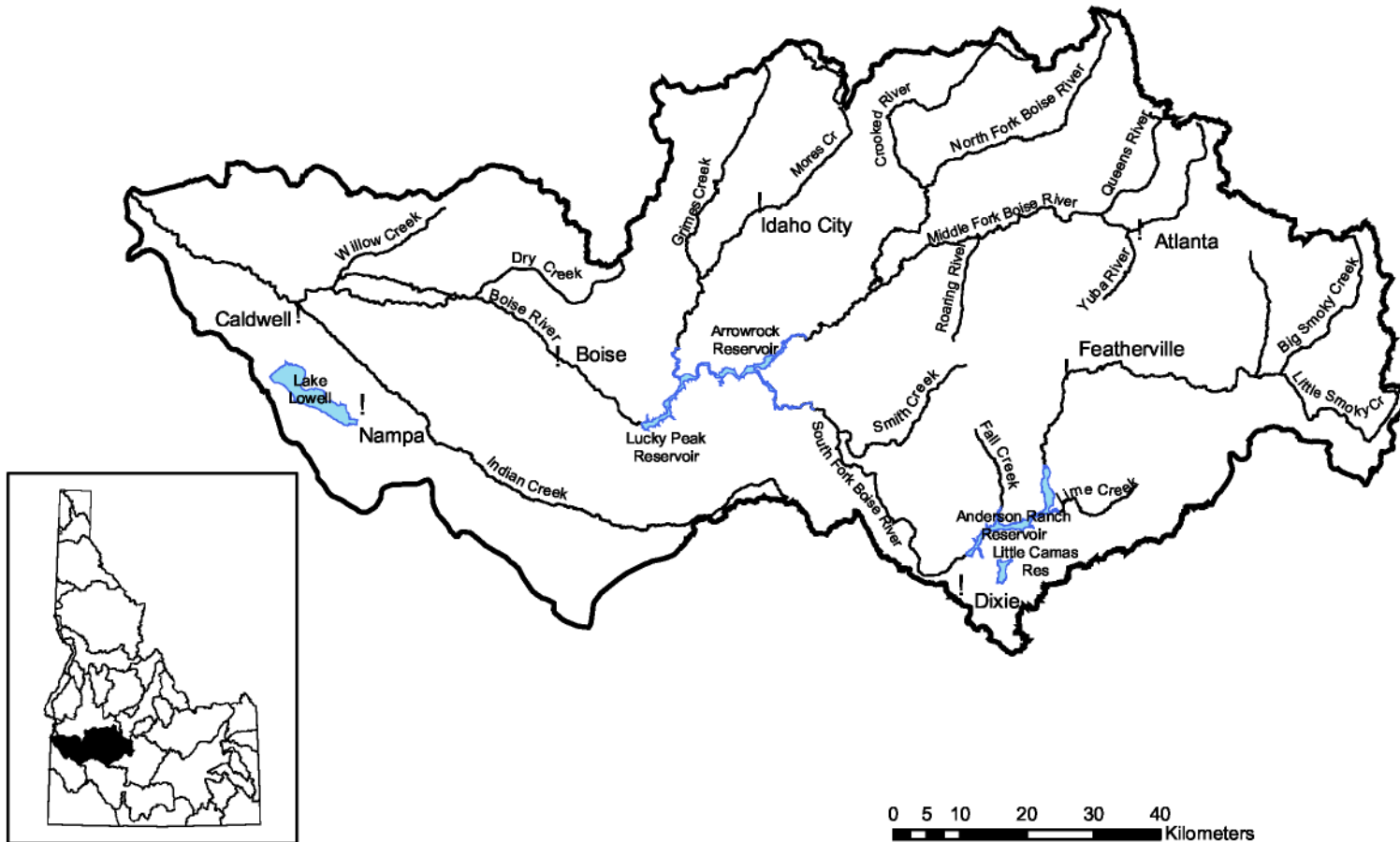
|  |      |           |  |   |   |
|--|------|-----------|--|---|---|
| Sagehen Reservoir  | /180 | Coldwater | Rainbow trout<br>Redband trout   | Put-and-take<br>General                 | Maintain stocking program with sterile rainbow trout catchables<br>Monitor spawning tributaries to Sage Hen Reservoir, and contribution of adfluvial redband trout to the reservoir. Inventory tributary stream to develop a management plan for the natural spawning stocks.   |
| North Fork Payette River from Banks to Smiths Ferry, including tributaries                             | 78/  | Coldwater | Redband trout<br>Rainbow trout<br>Mountain whitefish   | Wild                                    | Manage for wild trout. Inventory to assess status of wild rainbow trout fishery. Seek to improve angler access with land management agencies.   |
| North Fork Payette River from Smiths Ferry to Cascade Dam, including tributaries                       | 74/  | Coldwater | Redband trout<br>Yellow perch<br>Mountain whitefish  | Wild<br>General                         | Manage for wild trout.  |
| North Fork Payette River from Tamarack Fall Bridge to Lardo Dam  | 24/  | mixed     | Rainbow trout<br>Redband trout<br>Brown trout<br>Mountain whitefish<br>Brook trout<br>Kokanee<br>Smallmouth bass | Put-and-take<br>General                 | Seek to increase the naturally reproducing trout population. Work with landowners and land management agencies to protect riparian and floodplain. Work with Valley County to maintain public access.   |
| North Fork Payette River from Payette Lake to headwaters, including Fisher Creek and other tributaries | 34/  | Coldwater | Rainbow trout<br>Brook trout<br>Redband trout<br>Mountain whitefish<br>Kokanee                                   | Put-and-take<br>General                 | Concentrate supplemental hatchery trout in high angler use areas. .<br>Protect spawning habitat for kokanee. Maintain spawning season closure for kokanee.  |
| Gold Fork River and tributaries  | 49/  | Coldwater | Rainbow trout<br>Brook trout<br>Kokanee<br>Redband trout<br>Bull trout   | Put-and-take<br>General<br>Conservation | Concentrate supplemental hatchery trout in high angler use areas.<br>Improve natural trout production in drainage. Assess opportunity to seek habitat improvements in drainage by contacting private landowners and land management agencies. Continue with plans with NRCS and Irrigation Co. to remove Gold Fork Diversion and rebuild upstream with new fish friendly structure. Investigate construction of an enhanced wetland/sub impound to maintain the Gold Fork arm at the Cascade Reservoir full pool level.<br>Closed to harvest. |
| Lake Fork Creek from mouth to Little Payette Lake, including tributaries                               | 37/  | Coldwater | Redband trout<br>Rainbow trout<br>Kokanee<br>Brook trout<br>Smallmouth bass                                      | General                                 | Assess fish losses occurring in mainstem Lake Irrigation District canal and laterals through biological sampling. Support Lake Irrigation District Canal Company's plans to modify parts of canal system to improve water delivery efficiency. If surplus water is available after reconstruction, pursue establishment of stream maintenance flow. Screen canals found to cause significant fish losses.   |
|  |      |           |  |   |   |

|  |         |           |  |   |  |
|--|---------|-----------|--|---|--|
| Lake Fork Creek from Little Payette Lake to Brown's Pond |         | Coldwater | Rainbow trout<br>Kokanee   | General                                 | Stock with sterile rainbow trout catchables. Allow kokanee harvest.  |
| Lake Fork Creek from Brown's Pond to headwaters          |         | Coldwater | Rainbow trout<br>Redband trout<br>Brook trout<br>Bull trout  | Put-and-take<br>General<br>Conservation | Concentrate supplemental hatchery trout in high angler use areas. Evaluate return to creel and adjust stocking strategy as needed.<br><br>Closed to harvest. (Remnant population).   |
| Boulder Creek and tributaries                            | 17/     | Coldwater | Redband trout<br>Brook trout   | General                                 | Enhance natural trout production in drainage. Work with landowners and land management agencies to improve fish habitat.   |
| Valley County ponds                                      | /1,247  | Coldwater | Rainbow trout<br>Cutthroat trout   | General                                 | Develop diversity and increase fishing opportunity for trout in area ponds by working with landowners to allow public access. Construct small community fishing ponds.   |
| Horsethief Reservoir                                     | /1,270  | Coldwater | Rainbow trout<br>Brook trout<br>Brown trout<br>Splake  | General                                 | Maintain as a hatchery-supported fishery due to high angler use and excellent access. Keep year-round season due to public support. Monitor perch population and take appropriate management actions to eliminate perch when necessary. Stock large fingerling brown trout to provide diversity and a large fish component to the harvest.   |
| Trophy Mt. Lakes   |         | Coldwater | Rainbow trout<br>Cutthroat trout<br>Rainbow trout x cutthroat trout hybrids<br>Grayling  | Trophy                                  | Monitor success of trophy trout regulations and evaluate need for additional waters.   |
| All other alpine lakes                                   | /1,386  | Coldwater | Rainbow trout<br>Arctic grayling<br>Brook trout<br>Cutthroat trout<br>Brown trout<br>Rainbow trout x cutthroat trout hybrids   | General                                 | Stock with fingerling salmonids to provide diverse fishing opportunity in backcountry areas. Stock most lakes on a three-year rotation. Provide catch rates of at least 0.5 fish/hour. Explore feasibility of rehabilitating stunted brook trout lakes through stocking predator species or chemical treatments.   |
| Cascade Reservoir  | /28,300 | Mixed     | Rainbow trout<br>Kokanee<br>Coho salmon<br>Yellow perch<br>Channel catfish<br>Black crappie<br>Smallmouth bass<br>Tiger muskie | General                                 | Manage Cascade Reservoir for both yellow perch and salmonid species as co-equals. Monitor yellow perch and northern pikeminnow population. Aggressively reduce adult northern pikeminnow numbers if they reach 15 per gill net night and 75% of the northern pikeminnow greater than 350 mm, in the reservoir. Seek to improve warmwater fishing opportunity. Improve tributary habitat condition and access for natural trout production. Continue strong support for water quality improvement studies and encourage timely implementation. Creel surveys will be done to assess angler use and harvest and assist in evaluating and refining trout stocking policy if needed. Stock catchable rainbow trout at 5/acre. Best fit stocking program to the reservoir to enhance fishing success and opportunity. Evaluate smallmouth bass, channel catfish, and black crappie population status and potential. Investigate construction of enhanced wetlands/subimpoundments in the Gold Fork and North Fork arms and the development of warmwater fisheries. Evaluate success of tiger muskie introductions and need to continue program. Investigate the introduction of bluegill and white crappie. |

|  |        |           |   |                       |  |
|--|--------|-----------|---|-----------------------|--|
| Little Payette Lake  | /1,450 | Mixed     | Rainbow trout<br>Smallmouth bass<br>Tiger muskie<br>Kokanee   | General<br>Trophy     | Monitor nongame fish, trout, and tiger muskie populations. Allow harvest of kokanee. Continue tiger muskie program to utilize sucker and pikeminnow populations. Remove spawning northern pikeminnow and sucker from Lake Fork Creek with rotenone.  |
| Upper Payette Lake   | /400   | Coldwater | Rainbow trout<br>Brook trout<br>Splake  | General               | Maintain as hatchery-supported system due to high catch rate and excellent return rate. Explore feasibility of alternative species. Maintain catch rates of at least 0.5 fish/hour.  |
| Payette Lake   | /5,337 | Coldwater | Rainbow trout<br>Cutthroat trout<br>Kokanee<br><br>Lake trout   | General<br><br>Trophy | Maintain average kokanee size at 10 to 12 inches through population manipulation. Monitor kokanee numbers both in lake and in spawning runs. Protect adult kokanee in North Fork Payette River during spawning. Supplement kokanee and monitor results. Monitor lake trout population and maintain as trophy size fish by using restrictive size and bag limits. Employ net pen rearing techniques to produce catchable size rainbow trout for release into the lake and as a point of interest to visitors to the area. Encourage wise land management use in adjacent watersheds to maintain high water quality. |
| Middle Fork Payette River to Silver Creek and up Silver Creek to above Silver Creek Plunge bridge        | 23/    | Coldwater | Rainbow trout   | Put-and-take          | Put-and-take with sterile catchable rainbow trout. Evaluate catch rates and angler satisfaction. Monitor populations using established snorkeling transects.<br><br>Develop a community fishing pond near Garden Valley.   |
|  |        |           | Cutthroat trout<br>Redband trout<br>Mountain whitefish<br>Brook trout<br><br>Bull trout                 | Conservation          |  |
| Middle Fork Payette River upstream from Silver Creek and above bridge directly above Silver Creek Plunge | 53/    | Coldwater | Redband trout<br>Cutthroat trout<br>Mountain whitefish<br>Brook trout                                   | Wild                  | Non-stocking, retain as a native fishery. Monitor populations using established snorkeling transects.<br><br>Closed to harvest.  |
|  |        |           | Bull trout  | Conservation          |  |
| Deadwood River from mouth to Deadwood Dam, including tributaries   | 30/    | Coldwater | Redband trout<br>Mountain whitefish   | Wild                  | Wild trout management.<br><br>Closed to harvest. Collaborate with BOR to assess abundance and distribution.  |
|  |        |           | Bull trout  | Conservation          |  |
| Deadwood Reservoir and tributaries   | /3,000 | Coldwater | Kokanee<br>Cutthroat trout<br>Rainbow trout<br>Fall Chinook salmon<br>Brook trout<br>Mountain whitefish | General               | Manage kokanee fishery to yield four-year-old spawners with mean length that exceeds 13 inches by controlling age class and number of spawners using natural spawning areas. Monitor established self-sustaining population of westslope cutthroat trout. Evaluate catchable rainbow trout stocking.<br><br>Closed to harvest. Collaborate with BOR to assess abundance and life history, and entrainment losses.  |
|  |        |           | Bull trout  | Conservation          |  |
|  |        |           |   |                       |  |

|  |     |           |   |              |   |
|--|-----|-----------|---|--------------|---|
| South Fork Payette River from Mouth to headwaters, including tributaries | 41/ | Coldwater | Redband trout   | Wild         | Maintain wild trout fishery. Evaluate catch rates and wild trout densities with angler interviews and snorkeling surveys. |
|  |     |           | Cutthroat trout<br>Brook trout<br>Mountain whitefish<br>Rainbow trout | General      |   |
| Clear Creek  | 22/ | Coldwater | Bull trout  | Conservation | Closed to harvest.  |
|  |     |           | Redband trout   | Wild         | Wild trout management.  |
|  |     |           | Mountain whitefish  | General      |   |
| Bull Trout and Martin Lakes  | /90 | Coldwater | Bull trout  | Conservation | Closed to harvest.  |
|  |     |           | Rainbow trout   | General      | Put and take rainbow trout stocking.  |

# Boise River Drainage



## 21. BOISE RIVER DRAINAGE

### A. Overview

The Boise River basin lies in southwestern Idaho and contains about 4,100 square miles of land. The headwaters of the Boise River originate in the Sawtooth Mountains at elevations in excess of 10,000 ft. It flows in a westerly direction for about 200 miles before emptying into the Snake River near Parma at an elevation of 2,100 ft. Major tributaries to the Boise River include the North Fork Boise River, the South Fork Boise River, Middle Fork Boise River, and Mores Creek. This basin has an average annual runoff of 2,005,000 acre-feet of water.

The Boise River has three major instream impoundments, Anderson Ranch, Arrowrock and Lucky Peak Reservoirs, and one large off-stream impoundment, Lake Lowell. The four large reservoirs have a combined storage capacity of 1,143,249 acre-feet of water. The Boise River reservoirs supply water storage for irrigation flood control, recreation, hydropower and instream flows.

Because of the wide range in elevations, geographic features and water uses, the Boise River has a great variety of habitat types and fish species. The drainage includes the major population center in the state, has over 250,000 acres of irrigated cropland and some of Idaho's earliest mining, logging and hydroelectric developments. Man caused impacts have severely degraded most habitats over a long period of time creating severe limitation on fishery productivity. Human development has significantly altered habitats for native fish species, especially in lower elevation mainstem rivers, and much of the angling opportunity is provided by introduced sport fishes.

From the mouth of the Boise River upstream to Star, low summer flows and poor water quality limit sport fish production. This section of river supports a fair fishery for largemouth bass, smallmouth bass and channel catfish. From Star upstream to Lucky Peak Dam, the river changes from a warmwater to a coldwater fishery. Mountain whitefish make up the bulk of the game fish biomass, with hatchery-reared rainbow trout, wild rainbow trout and brown trout supporting the bulk of the fishing opportunity. When available, surplus hatchery Chinook salmon adults are stocked in the spring and hatchery steelhead adults are stocked in the fall. Upstream from Lucky Peak and Arrowrock reservoirs, rivers and streams contain excellent populations of redband trout, mountain whitefish, and bull trout. Brook trout, redband trout and cutthroat trout occur in some tributary streams. Due to the heavy angling pressure exerted on these streams, catchable-size hatchery rainbow trout supplement wild populations in selected heavy use areas of the streams. The Middle Fork Boise from the North Fork confluence up to Atlanta Dam is managed for wild trout, as is the South Fork Boise River downstream from Anderson Ranch Dam.

The South Fork Boise River between Arrowrock Reservoir and Anderson Ranch Dam was the first designated quality trout stream segment in southwestern Idaho, and remains the premier wild trout fishery in the southwest region. Redband trout and mountain whitefish make up the majority of the fish caught in the South Fork.

The redband trout fishery is managed with trophy regulations. In 1978, anglers caught an estimated 19,150 redband trout and released 18,059 (94%). In 1988, anglers caught an estimated 18,400 redband trout and released 99%. Between 1988 and 2002, angler effort increased 66%.

A 1988 creel survey of the South Fork Boise River between Featherville and Big Smoky Creek estimated effort at 365 hours/mile. Hatchery rainbow trout made up over 80% of fish checked in anglers creels but the overall return total creel rate was only 21%, indicating hatchery fish needed to be more efficiently utilized. Hatchery fish are now stocked only at campgrounds in the lower portion of this area and the upper section above Beaver Creek is being managed as a wild trout area.

Popular reservoir fishing within the Boise River drainage exists at Lake Lowell, Lucky Peak, Arrowrock, Anderson Ranch and Little Camas. The Lake Lowell fishery consists primarily of largemouth bass, smallmouth bass, yellow perch, black crappie, bullhead, bluegill, and channel catfish. Lucky Peak and Anderson Ranch reservoirs provide "two-story" fisheries with smallmouth bass occupying the warm, inshore waters and rainbow trout and kokanee dominating the cold, mid-water fishery. The rainbow trout fishery in both reservoirs depends heavily on stocked catchable or fingerling size fish and the kokanee fishery in Lucky Peak is also hatchery-supported. In good water years Arrowrock Reservoir also provides excellent fishing for hatchery rainbow, smallmouth bass, and kokanee. Little Camas Reservoir is a very productive hatchery trout fishery. All reservoirs on the Boise River have a history of extreme drawdown or draining during drought years.

Good spawning conditions in tributary streams provide a continuous supply of kokanee in Anderson Ranch Reservoir. Anderson Ranch is one of the more popular kokanee fisheries in southern Idaho, and anglers harvested an estimated 40,000+ kokanee in 1979, 34,000 in 1985, and 29,000 in 1997. Kokanee populations in the reservoir have fluctuated significantly from 1983 through 1999 due to extreme high and low water conditions in the drainage and overstocking of fall Chinook salmon in the early 1980s. Ongoing studies of kokanee populations are being used to develop models to reduce population fluctuations through variations in escapement and hatchery supplementation. A weir has been constructed to limit kokanee spawners during excess production years as well as a site to secure kokanee eggs for the Department's hatchery program when needed.

Within the Treasure Valley, the lower Boise River and a complex of over 15 community ponds provide diverse and close-to-home fishing opportunity for over 500,000 residents and visitors. These urban waters support some of the most intensive fishing pressure in the state, over 5,000 hours per acre on some ponds. Both the river and pond fisheries are supplemented with hatchery rainbow trout which provide much of the harvest opportunity. Most ponds also contain self-sustaining warm water fish communities, and some are stocked with channel catfish. These waters are all managed as yield fisheries, and are an important component of angler recruitment in the southwest region.

Alpine lakes within the Boise River drainage provide anglers with a variety of fishing opportunity. Rainbow trout, cutthroat trout or brook trout are found in many lakes. Arctic grayling and golden trout provide fisheries in a few alpine



locations. There are 224 alpine lakes in the Boise drainage. Most of these lakes are too small to support a fishery. The Department presently stocks 68 of the alpine lakes in the Boise River system.

**B. Objectives and Programs**

1. Objective: Provide a diversity of fishing opportunities within the Boise River drainage.

Program: Concentrate hatchery catchable stocking in the locations where the highest return to the creel will occur.

Program: Manage for wild trout where habitat and fish populations will sustain acceptable fisheries.

Program: Manage for increased catch rates and fish size in selected stream reaches with quality and trophy trout regulations.

Program: Manage warmwater fisheries to provide a wide variety of sizes and species readily available to the large population of the Treasure Valley area.

Program: Develop ponds in the upper South Fork Boise River and Smoky Creek drainages for planting sterile catchable rainbow trout.

Program: Continue to support and develop additional urban and small community fishing ponds, and promote these waters for angler recruitment and education.

2. Objective: Seek improved land and water management practices that significantly protect and enhance fish habitat.

Program: Collaborate with other agencies and private entities to protect and enhance flows, fish habitat, and remove migration barriers.

Program: Provide riparian vegetation objectives to land management agencies where grazing, development, or other activities have degraded riparian zones.

3. Objective: Monitor effects of land management activities, fishery regulations, and other human activities on fish habitat and fish populations.

Program: Collect standardized trend data on habitat and fish populations at established sites throughout the Boise River drainage.

4. Objective: Seek changes to reservoir management and streamflows that benefit fish.

Program: Evaluate effectiveness of proposed minimum pool elevations and thresholds to protect bull trout and other sport fishes in Anderson Ranch and Arrowrock reservoirs.

Program: Study water management at Lake Lowell to determine the relationship between fish production and water levels.

Program: Determine which water levels in Anderson Ranch Reservoir result in downstream losses of bull trout and/or failed kokanee escapement. Develop reservoir management plans and work with the Bureau of Reclamation to avoid or mitigate losses.

5. Objective: Improve distribution and population status of bull trout.

Program: Identify barriers for removal to connect all possible bull trout habitat.

Program: Continue angler educational program about bull trout in the drainage.

Program: Continue to define and monitor populations of bull trout.

Program: Continue to coordinate with the Bureau of Reclamation on bull trout studies in Arrow Rock Reservoir, Anderson Ranch Reservoir, and upper Boise River drainage.

6. Objective: Provide a diversity of alpine lake fishing opportunities.

Program: Investigate alpine lakes for opportunities to create trophy management.

Program: Stock a diversity of fish species including cutthroat trout, rainbow trout, golden trout, and arctic grayling.

Program: Intermittently evaluate alpine lake fisheries and adjust stocking accordingly if necessary.

| Drainage: BOISE RIVER  |            |           |   |   |  |
|--|------------|-----------|---|---|--|
| Water  | Miles/acre | Fishery   |   | Management                                      | Management Direction   |
|  |            | Type      | Species Present   |   |  |
| Mouth to Star  | 34/        | Mixed     | Rainbow trout<br>Mountain whitefish<br>Largemouth bass<br>Smallmouth bass<br>Channel catfish<br>Black crappie | General   | Work with state and federal regulatory agencies to improve water quality and habitat condition. Evaluate fish population, species composition, and size structure. Determine angler satisfaction with current fishery.   |
| Star to Lucky Peak   | 25/        | Coldwater | Rainbow trout<br><br>Steelhead<br>Chinook salmon<br>Brown trout<br>Mountain whitefish                         | Put-and-take<br><br>General                     | Work with state and federal regulatory agencies and private groups to improve water quality and habitat conditions. Stock with catchable rainbow trout year-round, and steelhead and Chinook seasonally if available. Maintain quality section below Barber Dam. Monitor wild fish populations every five years. |
| East Boise footbridge to Loggers Creek Diversion                           | 4/         | Coldwater | Rainbow trout<br>Brown trout<br>Mountain whitefish  | Quality   | Monitor abundance and size structure of wild trout populations.  |
| Mores Creek  |            | Coldwater | Rainbow trout<br>Mountain whitefish   | General   | Work with regulatory agencies to enhance habitat. Stock with catchable Rainbow trout.  |
| Boise River Drains   |            | Mixed     | Rainbow trout<br>Brown trout<br>Mountain whitefish  | General   | Work with communities, irrigation companies, landowners, and regulatory agencies to improve water quality and habitat conditions, and improve angler access where feasible.  |
| Loggers Creek  | 2/         | Coldwater | Rainbow trout<br>Brown trout<br>Mountain whitefish  | General   | Manage as a nursery stream to provide catchable size fish to Boise River.  |
| Middle Fork Boise River from Arrowrock Reservoir to North Fork Boise River | 11/        | Coldwater | Rainbow trout<br><br>Redband trout<br>Mountain whitefish<br><br>Bull trout                                    | Put-and-take<br><br>General<br><br>Conservation | Stock with catchable rainbow trout following high water period until Labor Day. Evaluate return to the creel of hatchery trout. Monitor angler use and satisfaction with current fishery.<br><br>Closed to harvest.  |
| From North Fork to Atlanta Power Dam                                       | 32/        | Coldwater | Redband trout<br><br>Cutthroat trout<br>Brook trout<br>Mountain whitefish<br><br>Bull trout                   | Quality<br><br>General<br><br>Conservation      | Manage for high catch rates on wild fish.<br><br>Closed to harvest.  |
| From Atlanta Power Dam to Sawtooth Wilderness Boundary                     | 4/         | Coldwater | Rainbow trout   | Put-and-take                                    | Stock with sterile catchable rainbow trout following high water period until Labor Day. Evaluate return of hatchery trout. Seek opportunities to develop catch-out pond for planting catchables.   |

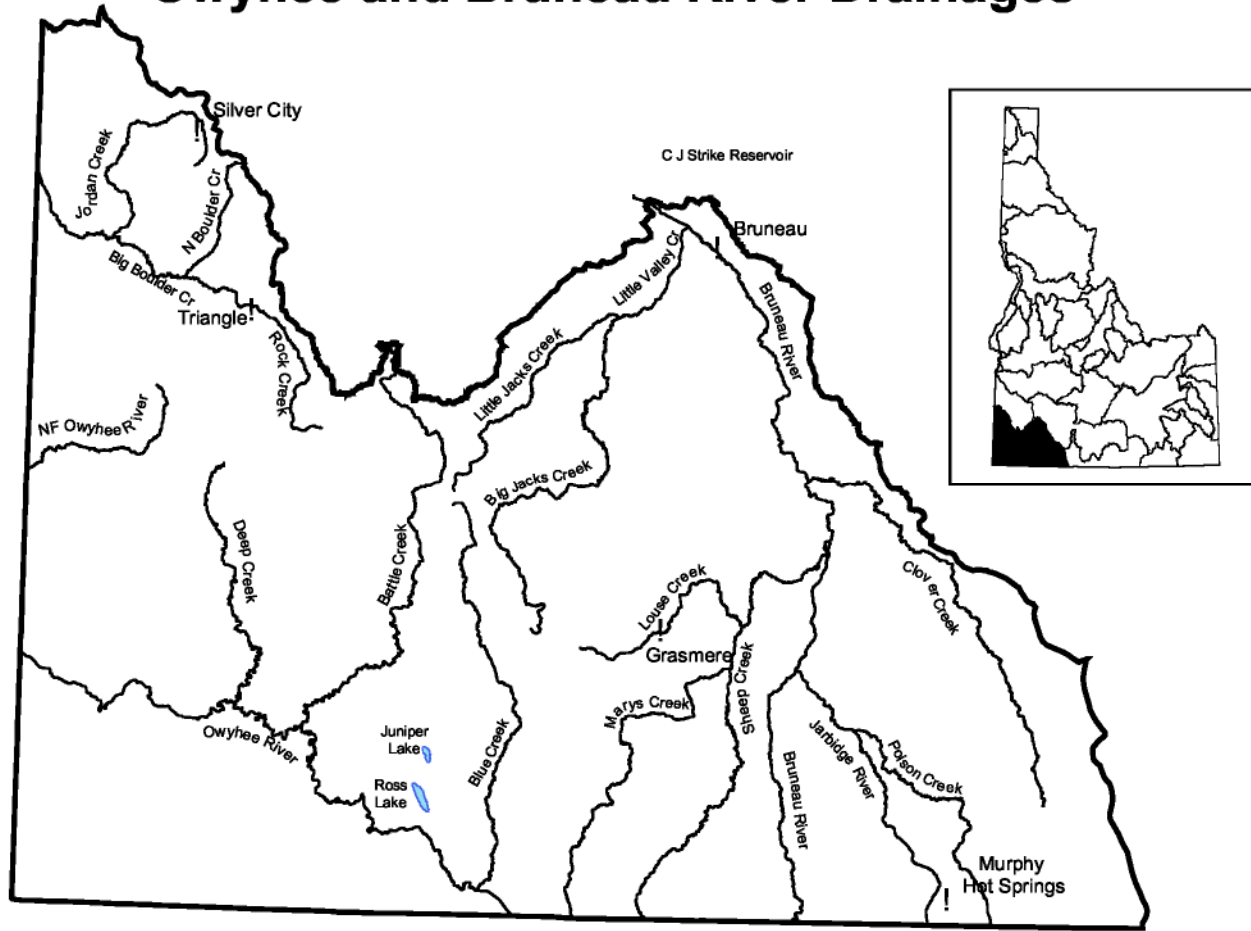
|  |     |           |   |   |   |
|--|-----|-----------|---|---|---|
|  |     |           | Redband trout<br>Brook trout<br>Cutthroat trout<br>Mountain whitefish<br>Bull trout         | General<br><br>Conservation                     | Closed to harvest. Maintain and operate the Kirby Dam fish ladder.  |
| Upstream of Sawtooth Wilderness Boundary and all tributaries         | 30/ | Coldwater | Redband trout<br><br>Brook trout<br>Cutthroat trout<br>Mountain whitefish<br><br>Bull trout | Wild<br><br>General<br><br>Conservation         | Manage for high catch rates and low angler densities. Manage for wild fish.<br><br><br>Closed to harvest.   |
| South Fork Boise River from Arrowrock Reservoir to Neal Bridge       |     | Coldwater | Rainbow trout<br>Redband trout<br>Mountain whitefish<br><br>Bull trout                      | General<br><br><br>Conservation                 | Manage for harvest opportunity for stream trout and mountain whitefish.<br><br><br>Closed to harvest.   |
| South Fork Boise River from Neal Bridge to Anderson Ranch Dam        | 10/ | Coldwater | Redband trout<br>Mountain whitefish<br><br>Bull trout                                       | Trophy<br><br>Conservation                      | Manage for high catch rates for large fish. Monitor angler catch rates and wild trout abundance and size structure every three years.<br><br>Closed to harvest.   |
| South Fork Boise River from Anderson Ranch Reservoir to Beaver Creek | 26/ | Coldwater | Rainbow trout<br><br>Redband trout<br>Mountain whitefish<br>Kokanee<br><br>Bull trout       | Put-and-take<br><br>General<br><br>Conservation | Good quality habitat with wild trout potential. High accessibility and campgrounds give potential for hatchery return rates of >30%.<br><br>Operate kokanee weir annually to monitor escapement.<br><br>Closed to harvest. Work with BOR to establish long-term adfluvial bull trout monitoring program |
| South Fork Boise River from Beaver Creek to Big Smoky Creek          | 10/ | Coldwater | Redband trout<br><br>Mountain whitefish<br>Kokanee<br><br>Bull trout                        | Quality<br><br>General<br><br>Conservation      | Good quality habitat for wild trout although growth is slow due to the low stream productivity. Manage for quality >14-inch wild rainbow trout to increase natural reproduction.<br><br>Closed to harvest.  |
| South Fork Boise River from Big Smoky Creek to headwaters            | 15/ | Coldwater | Rainbow trout<br><br>Redband trout<br>Mountain whitefish<br>Kokanee                         | Put-and-take<br><br>General                     | Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout.<br><br>Good quality habitat, however low natural stream productivity limits wild trout growth for acceptable size rainbow.  |

|   |      |           |  |              |   |
|---|------|-----------|--|--------------|---|
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| Big Smoky Creek from mouth to Calf Creek  | 4/   | Coldwater | Rainbow trout                                  | Put-and-take | High accessibility gives potential for >30% return on fish. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout. |
|   |      |           | Redband trout<br>Mountain whitefish<br>Kokanee | General      | Good quality habitat with wild trout potential.   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| Big Smoky Creek from Calf Creek to headwaters   | 15/  | Coldwater | Rainbow trout                                  | Wild         | Maintain limited harvest opportunity.   |
|   |      |           | Mountain whitefish                             | General      |   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| Little Smoky Creek  | 20/  | Coldwater | Rainbow trout                                  | General      | Evaluate hatchery program. Investigate possibility and pursue funding To construct off-river ponds for put-and-take stocking of trout.                                  |
|   |      |           | Redband trout                                  | General      | Closed to harvest.  |
|   |      |           | Bull trout                                     | Conservation |   |
| All other streams in South Fork Boise River drainage upstream from Anderson Ranch Reservoir | 277/ | Coldwater | Redband trout                                  | Wild         | Maintain naturally reproducing populations and harvest opportunity.   |
|   |      |           | Mountain whitefish                             | General      |   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| North Fork Boise River from mouth To Rabbit Creek   | 7/   | Coldwater | Redband trout                                  | Wild         | Manage for high catch rates (3 fish/hour) and low angler densities.   |
|   |      |           | Mountain whitefish                             | General      |   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| Rabbit Creek to Deer Park (Hunter Creek)  | 13/  | Coldwater | Rainbow trout                                  | Put-and-take | Manage for high yield and moderate angler densities.  |
|   |      |           | Redband trout<br>Mountain whitefish            | General      |   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |
| Deer Park to headwaters and all tributaries   | 41/  | Coldwater | Redband trout<br>Mountain whitefish            | General      | Manage for high catch rates (3 fish/hr) and low angler densities.   |
|   |      |           | Bull trout                                     | Conservation | Closed to harvest.  |

|                           |         |           |   |                             |   |
|---------------------------|---------|-----------|---|-----------------------------|---|
| Lucky Peak Reservoir      | /2,850  | Mixed     | Smallmouth bass<br>Yellow perch<br>Rainbow trout<br>Kokanee<br><br>Bull trout   | General<br><br>Conservation | Evaluate status of smallmouth bass fishery. Maintain an attractive kokanee fishery for large fish. Continue to stock fingerling catchable rainbow trout.<br><br>Closed to harvest.  |
| Arrowrock Reservoir       | /4,000  | Mixed     | Smallmouth bass<br>Yellow perch<br>Rainbow trout<br>Mountain whitefish<br><br>Bull trout  | General<br><br>Conservation | Continue to seek minimum conservation pool. Stock annually with fingerling and catchable rainbow trout, and kokanee as available. Monitor kokanee escapement and recruitment.<br><br>Closed to harvest  |
| Lake Lowell               | /10,000 | Mixed     | Largemouth bass<br>Smallmouth bass<br><br>Channel catfish<br>Bluegill<br>Yellow perch<br>Black crappie<br>Pumpkinseed<br>Rainbow trout<br>Cutthroat trout | Quality<br><br>General      | Determine angler use and harvest rates. Manage bass with primary emphasis on quality fishery. Evaluate hatchery Lahontan cutthroat trout. Monitor panfish harvest. Assess productivity, forage fish abundance, and panfish recruitment. Evaluate channel catfish stocking program.  |
| Anderson Ranch Reservoir  | /4,740  | Mixed     | Rainbow trout<br>Mountain whitefish<br>Kokanee<br>Yellow perch<br>Smallmouth bass<br><br>Bull trout   | General<br><br>Conservation | Emphasize kokanee. Continue developing model to evaluate escapement and recruitment goals to achieve 1.0 kokanee/hour with mean size of 12 to 14 inches if productivity allows. Improve trout fishing through hatchery program and public awareness. Maintain smallmouth bass to diversify fishing opportunity.<br><br>Closed to harvest. |
| Little Camas Reservoir    | /1,455  | Mixed     | Rainbow trout<br>Smallmouth bass  | General                     | Use fall fingerling plants to improve carryover in high water years. Seek minimum pool to maximize hatchery rainbow trout carryover.  |
| Mountain Home Reservoir   |         | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill  | General                     | Stock with rainbow trout when water levels allow. Monitor bass and bluegill recovery following drought. Work with irrigation companies to leave conservation pool so trout can overwinter.  |
| Indian Creek Reservoir    | 195     | Warmwater | Largemouth bass<br>Bluegill   | Quality                     | Re-stocked in 2006. Monitor bass and bluegill recovery following drought.   |
| Featherville dredge ponds | /3      | Coldwater | Rainbow trout   | Put-and-take                | Continue stocking hatchery rainbow trout. Provide 1.0 fish/hour.  |
| Big Trinity Lake          | /25     | Coldwater | Rainbow trout   | Put-and-take                | Accessible by road. Stock annually with catchables. Stock cutthroat   |

|                     |      |           |  |               |   |
|---------------------|------|-----------|--|---------------|---|
|                     |      |           | Cutthroat trout  | General       | trout fingerlings for diversity.  |
| Little Trinity Lake | /3   | Coldwater | Rainbow trout<br>Cutthroat trout   | Put-and -take | Accessible by road. Stock annually with catchables. Stock cutthroat Trout fingerlings for diversity.  |
| Other alpine lakes  | /801 | Coldwater | Rainbow trout<br>Cutthroat trout<br>Golden trout<br>Brook trout<br>Arctic grayling | General       | Put-and-grow for trout and char.<br><br>Consider experimental control of brook trout in select lakes. |

# Owyhee and Bruneau River Drainages



0 5 10 20 30 40  
Kilometers



## **22. OWYHEE RIVER DRAINAGE, BRUNEAU RIVER DRAINAGE, AND MINOR TRIBUTARIES SOUTH OF SNAKE RIVER**

### **A. Overview**

The Owyhee River and Bruneau River basins lie in southwestern Idaho, southeastern Oregon, and northern Nevada. This basin encompasses approximately 11,340 square miles of semi-arid high desert country, of which about 8,000 square miles lies within Idaho. In the higher bench lands of the Bruneau and Owyhee, the rivers and their tributaries flow through deeply incised canyons. Elevations in the Owyhee drainage range from 8,100' in the Owyhee Mountains to 2,400 feet at the Snake River. The Owyhee River has an annual average discharge of 661,500 acre-feet of water at the Oregon/Idaho border. Elevations in the Bruneau drainage range from over 10,000 feet in the Jarbidge Mountains to 2,455 feet at the mouth. The Bruneau River has an annual average discharge of 292,000 acre-feet of water.

Most of the upper Owyhee River drainage and tributaries contain populations of native redband trout. Due to the unique qualities of this fish and the inaccessibility of the Owyhee drainage, this entire drainage will be managed to conserve native redband trout. Smallmouth bass have colonized much of the mainstem and major tributaries in the Idaho portion of the drainage, and are managed under year-round seasons with no minimum length limit. Lahontan cutthroat trout have been introduced into several reservoirs near Riddle where they have little or no interaction with redband trout.

The Bruneau River drainage is the only large drainage in southern Idaho with fish communities comprised entirely of native species. Irrigation diversion structures approximately 10 miles above the mouth have apparently prevented smallmouth bass and other non-native species from entering the upper drainage. A remnant population of bull trout exists in the Jarbidge River, primarily in Nevada. The mainstem Jarbidge River and Bruneau River in Idaho may provide winter habitat for native trout. Populations of native redband trout exist in many tributaries. Redband trout are widely distributed; however, some local populations have been adversely affected by land management activities and drought.

From the mouth of the Bruneau River upstream to the hot springs (near the diversions), the water quality is not suitable to support coldwater species year-round. Significant angling pressure occurs on the more accessible streams of the Bruneau River drainage, but pressure is extremely light on most of the relatively inaccessible streams. The Jarbidge River downstream from the confluence of the East Fork and West Fork, and the Bruneau River are utilized for float trips.

The Bruneau River, West Fork, lower East Fork, lower Sheep Creek, and Jarbidge River have been recommended for National Wild River status.

Livestock grazing on some tributary streams has impacted fish habitat, and efforts will continue to work with landowners and land management agencies to improve habitat.

**B. Objectives and Programs**

1. Objective: Manage stream and reservoir fisheries to preserve the genetic integrity of native redband trout.

Program: Stock other species of fish only in reservoirs that will not pose a threat to preserving redbands, and use only sterile rainbow trout in waters connected to redband streams.

Program: Restock streams with depleted redband populations where habitat conditions have been restored by collecting fish from adjacent drainages that contain native redband trout.

2. Objective: Monitor trends in redband trout abundance.

Program: Monitor established trend sites in streams at three to five year intervals.

3. Objective: Work cooperatively with state and federal land management agencies and grazing permittees to improve riparian and aquatic habitats.

Program: Establish riparian vegetation objectives in management plans that annually provide 80% of the potential, riparian vegetation mass to be in place prior to high flows occurring.

Program: In cooperation with the BLM, monitor stations on major tributaries of the Owyhee and Bruneau river systems to determine trends in riparian conditions, aquatic habitat, and fish production.

4. Objective: Increase reservoir fishing opportunities.

Program: Seek opportunities to construct new fishing reservoirs in cooperation with federal, state, and private landowners.

Program: Seek cooperative agreements with private landowners to gain access to existing reservoirs.

Program: Restock reservoirs with appropriate stocks of fish when drought conditions cause fish kills or de-watering.

Program: Monitor reservoir fish populations and renovate reservoirs with undesirable non-game fish populations that limit the fishery.

5. Objective: Maintain or improve bull trout and redband trout populations in the Jarbidge River drainage.

Program: Maintain no harvest rules for bull trout on river and tributaries.

Program: Support efforts by state and federal agencies to remove man-made migration barriers.

Program: Preserve or improve the Buckeroo Ditch diversion structure on the lower Bruneau River to prevent upstream migration of warmwater fish populations that could adversely impact native redband trout, bull trout, and other native species.

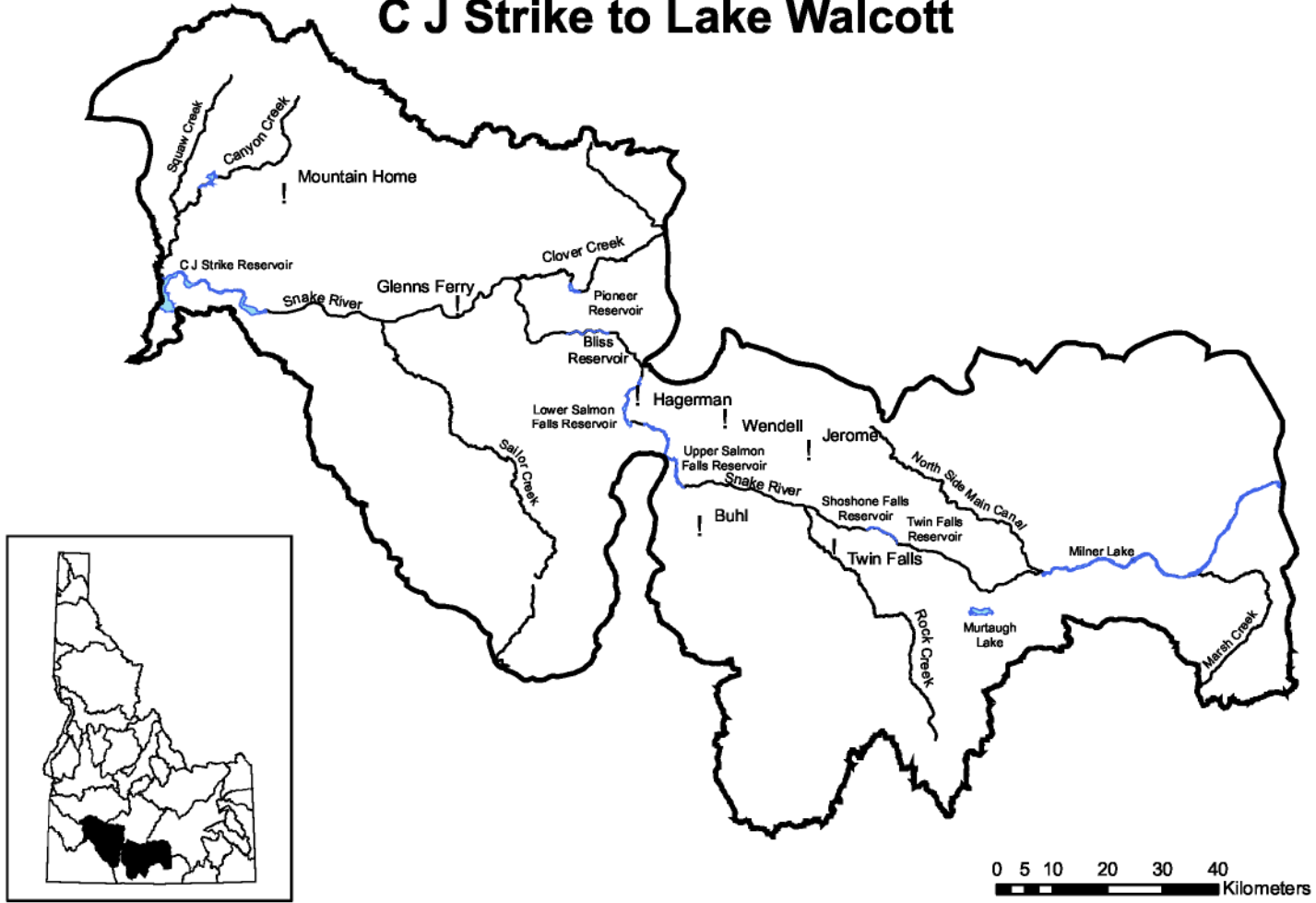
Program: Encourage state and federal agencies to improve riparian habitat, especially on the plateau streams.

Program: Provide information to public on presence, how to identify, and how to release bull trout.

| Drainage: OWYHEE RIVER  |            |           |                                  |                 |   |
|---|------------|-----------|----------------------------------|-----------------|---|
| Water   | Miles/acre | Fishery   |                                  | Management      | Management Direction  |
|   |            | Type      | Species Present                  |                 |   |
| Owyhee River (downstream of the South Fork) including tributaries   | 239/       | Mixed     | Redband trout<br>Smallmouth bass | Wild<br>General | Evaluate current growth, size and age structure, and exploitation. Maintain wild redband populations.   |
| North Fork Owyhee River, including tributaries  | 61/        | Coldwater | Redband trout                    | Wild            | Maintain wild redband populations.  |
| South Fork Owyhee River, including tributaries  | 95/        | Mixed     | Redband trout<br>Smallmouth bass | Wild<br>General | Evaluate current growth, size and age structure, and exploitation. Maintain wild redband populations. Work with Nevada Department Wildlife to avoid stocking trout that pose a threat to the future of redband trout. |
| Owyhee River (South Fork to Nevada state line), including tributaries (except Deep Creek, Battle Creek, and Blue Creek) | 12/        | Mixed     | Redband trout<br>Smallmouth bass | Wild<br>General | Evaluate current growth, size and age structure, and exploitation. Maintain wild redband trout populations.   |
| Deep Creek, including tributaries   | 142/       | Coldwater | Redband trout                    | Wild            | Evaluate current growth, size and age structure, and exploitation. Maintain wild redband trout populations.   |
| Battle Creek, including tributaries   | 103/       | Coldwater | Redband trout                    | Wild            | Evaluate current growth, size and age structure, and exploitation. Maintain wild redband trout populations.   |
| Blue Creek, including tributaries   | 139/       | Coldwater | Redband trout<br>Cutthroat trout | Wild<br>General | Investigate feasibility of treating drainage above reservoir to eliminate pikeminnow.   |
| Blue Creek Reservoir  | /131       | Coldwater | Redband trout                    | General         | Stock with redband trout following low water years. Manage for preservation of redband trout from Blue Creek Reservoir upstream. Sample periodically.   |
| Little Blue Creek Reservoir   | /188       | Coldwater | Cutthroat trout                  | General         | Stock annually with Lake Lenore strain of Lahontan cutthroat trout fingerlings. Sample periodically.  |
| Grasmere Reservoir  | /213       | Coldwater | Redband trout<br>Cutthroat trout | General         | Stock annually with Lake Lenore strain of Lahontan cutthroat trout fingerlings. Sample periodically.  |
| Shoofly Reservoir   | /85        | Coldwater | Cutthroat trout                  | General         | Stock annually with Lake Lenore strain of Lahontan cutthroat trout fingerlings. Sample periodically.  |
| Bybee Reservoir   | /70        | Coldwater | Cutthroat trout                  | General         | Stock annually with Lake Lenore strain of Lahontan cutthroat trout fingerlings. Sample periodically.  |
| Payne Creek Reservoir   | /55        | Coldwater | Cutthroat trout                  | General         | Eliminate Lahontan cutthroat trout stocking until water conditions improve. Sample periodically.  |

| Drainage: BRUNEAU RIVER   |            |           |   |              |  |
|---|------------|-----------|---|--------------|--|
| Water   | Miles/acre | Fishery   |   |              | Management Direction   |
|   |            | Type      | Species Present                                     | Management   |  |
| Bruneau River (mouth to upper diversion dam)  | 10/        | Warmwater | Smallmouth bass<br>Channel catfish<br>Rainbow trout | General      | Manage for smallmouth bass and channel catfish fishery. Study water temperatures. Spring and fall movement of rainbow trout from CJ Strike Reservoir creates short-term fishery.   |
| Bruneau River from upper diversion dam to West Fork, including tributaries (except below) | 314/       | Coldwater | Redband trout                                       | Wild         | Manage for redband trout and bull trout. Access limited by deeply incised canyon. Work with BLM and private land owners to improve riparian habitat. Protect from invasion or introduction of non-native species<br><br>Closed to harvest.<br><br>Preserve upper diversion structure to prevent upstream invasion by non-native species. |
|   |            |           | Mountain whitefish                                  | General      |  |
|   |            |           | Bull trout  | Conservation |  |
| East Fork Bruneau River (Clover Creek) and tributaries                                    | 165/       | Coldwater | Redband trout                                       | Wild         | Maintain wild trout populations and investigate status of bull trout. Work to improve riparian habitats. Maintain and evaluate fish ladder at Clover Creek Crossing.<br><br>Closed to harvest.   |
|   |            |           | Brook trout<br>Mountain whitefish                   | General      |  |
|   |            |           | Bull trout  | Conservation |  |
| Blackstone Reservoir  | /85        | Coldwater | Redband trout<br>Sterile rainbow trout              | General      | Maintain wild redband trout populations and stock sterile hatchery rainbow trout. Investigate potential for trophy trout management.   |
| Sheep Creek (including Mary s Creek)  | 143/       | Coldwater | Redband   | Wild         | Maintain existing populations of redband trout.  |
| West Fork Bruneau River and tributaries   | 103/       | Coldwater | Redband trout                                       | Wild         | Manage for native redband trout and bull trout and work with Nevada Fish and Game to eliminate stocking of trout that would threaten future of redband trout. Monitor populations at established sites.<br><br>Closed to harvest.  |
|   |            |           | Mountain whitefish                                  | General      |  |
|   |            |           | Bull trout  | Conservation |  |
| Jarbidge River and tributaries  | 87/        | Coldwater | Redband trout                                       | Wild         | Work with collaborative group to maintain or enhance wild populations of native trout. Monitor bull trout population to evaluate recovery. Catch rate of 0.7 fish/hour.<br><br>Closed to harvest.  |
|   |            |           | Mountain whitefish                                  | General      |  |
|   |            |           | Bull trout  | Conservation |  |

# Snake River Drainage C J Strike to Lake Walcott



## 23. MAIN SNAKE RIVER - C.J. STRIKE RESERVOIR TO LAKE WALCOTT

### A. Overview

Trout habitat in the main Snake River is currently poor to fair throughout most of the free-flowing reaches between C.J. Strike Reservoir and Lake Walcott. Trout habitat is best in the section between Shoshone Falls and King Hill, where large volumes of spring flow are discharged into the Snake River from the Snake River Plain aquifer. An approximate average discharge of 5,900 cfs (4.3 million acre-feet/year) flows from these springs along the north bank of the Snake River. These springs include 11 of the 65 springs in the United States which have an average discharge exceeding 100 cubic feet per second. Water quality from these springs has been excellent but continuing development of the springs for commercial aquaculture and increasing levels of nutrients in the ground water is lowering water quality in the springs and river. Development of springs has reduced available trout spawning habitat. Additional water quality problems are occurring in the river and tributaries from excessive nutrients and sediments from agricultural and municipal discharges in the surface waters. Due to these discharges, depleted night-time oxygen levels have been a problem along with excessive vegetation along portions of the river.

Trophy size trout are caught in portions of the Snake River, such as the areas below Minidoka Dam and Upper Salmon Falls Dam. Species of trout present are rainbow trout, brown trout, cutthroat trout, and rainbow trout x cutthroat trout hybrids. The cutthroat trout and rainbow trout x cutthroat trout hybrids are found mainly in the area between Milner Dam and Twin Falls Dam, an area seriously impacted by low flows during the irrigation season. Many of these hybrid trout attain large sizes, some reaching weights of over six pounds. Vinyard Creek, an aquifer spring entering the Snake River on the north side just above Twin Falls, is historically a spawning area for Yellowstone cutthroat trout and rainbow trout x cutthroat trout hybrids. Vinyard Creek supports the most downstream population of Yellowstone cutthroat trout remaining in Idaho.

Many of the minor tributary streams entering the Snake River also contain good trout habitat and support good populations of wild trout, primarily naturalized rainbow trout and native inland redband trout. Some of the streams, especially the springs, are utilized for spawning by trout from the Snake River.

The main Snake River contains seven reservoirs which are suitable in varying degrees for trout: Bliss, Lower and Upper Salmon Falls, Shoshone Falls, Twin Falls, Milner and Lake Walcott. All but Lake Walcott were created by Idaho Power Company hydroelectric projects. The trout fishery in Lower Salmon Falls Reservoir can be the best of the seven reservoirs with the fishery being supported by releases of hatchery rainbow trout. During extreme high or low water years in the Snake River, flushing or hydroelectric load following may reduce reservoir productivity and cause stocked fish to emigrate from Snake River reservoirs. Many of the smaller lakes, ponds and reservoirs close to the Snake River are also highly suitable for rainbow trout. Several of the Snake River hydroelectric projects operated by Idaho Power Company have been issued new federal licenses including Upper Salmon Falls, Lower Salmon Falls, and Bliss. As part of the Mitigation programs associated with these new licenses, with these new licenses, an annual stocking program of sterile, catchable-size rainbow trout will be initiated in 2007. The program provides for both spring and fall stockings at Centennial Park (near Twin

Falls), Upper Salmon Falls Reservoir, Lower Salmon Falls Reservoir, Bliss Reservoir, and below Bliss Dam near King Hill. Fish released will be sterile to avoid potential impacts to wild trout.

White sturgeon are found in varying numbers in the Snake River from Shoshone Falls downstream to C.J. Strike Dam. The only consistent, naturally reproducing white sturgeon population in this drainage area occurs in the free flowing river between Bliss Dam and C.J. Strike Reservoir. Spawning by white sturgeon is negligible or non-existent in other reaches within this drainage area. However, reproduction can be adversely impacted in certain below average water years when Idaho Power Company is aggressively load following at Bliss Dam. Reproduction may also be negatively affected by upstream water management in the Snake River. Recent studies have shown white sturgeon grow at a rapid rate in this area with some reaching lengths of over nine feet. Angler interest in this species is high and they are regarded as exceptionally desirable, even though the fishery is on a catch-and-release basis. White sturgeon culture has allowed the stocking of hatchery origin fish into the river, however there needs to be additional evaluation of the previously released fish due to concerns about effects on wild population genetics and competition. As part of the new licenses issued to operate hydroelectric projects in this reach of the Snake River, Idaho Power Company developed a Snake River White Sturgeon Conservation Plan (WCSP). The WCSP was developed in coordination with the Department and other fish management agencies. The WCSP requires Idaho Power Company to monitor abundance of white sturgeon populations in this section of the river and to evaluate methods of improving survival and reproductive success. The WCSP is in close alignment with the Department's Draft White Sturgeon Management Plan (to be finalized in 2007).

Areas with warmwater fisheries are fairly numerous in the main Snake River and minor tributary drainages, but a great demand exists for more waters of this type in the populated portions of the drainage. Major warmwater species present in the Snake River and surrounding waters are largemouth and smallmouth bass, bluegill, brown bullhead, channel catfish and yellow perch. Milner Reservoir offers a quality smallmouth bass fishery that has benefited from changes in dam operations in 1992. Channel catfish were stocked almost annually in the main Snake River in this area between 1965 and 1972. Periodic releases have been made in the Snake River and nearby waters since 1972 and self-sustaining populations have become established between Bliss Dam and C.J. Strike Reservoir. Idaho Power Company began an annual channel catfish stocking program in 1993. Recent surveys indicate strong numbers of large catfish in the reservoir. Bullhead angling is excellent in Wilson Lake where the fish reach sizes over two pounds. Good populations of largemouth and smallmouth bass are found in impoundments on the Snake River, and some waters in the Hagerman area produce good angling for large bluegill.

The Snake River has the greatest potential for increasing angler opportunity of any major water in the southern portion of Idaho. Daily load following, lack of adequate stream flows especially during irrigation season, deteriorating water quality, and loss of spawning areas and connectivity appear to be the factors most significantly affecting fish populations in the Snake River.



**B. Objectives and Programs**

1. Objective: Improve water quality in the Snake River for fish spawning and rearing and for recreational uses.

Program: Work with regulatory and land management agencies, irrigation companies, municipalities, Watershed Advisory Groups (WAG's), and private parties to improve water quality in the Snake River.

Program: Assist in the development of wetlands on irrigation drains and other nutrient rich water sources to filter sediments and nutrients from irrigation returns. Identify 319 grant funding opportunities and provide technical assistance to WAG.

2. Objective: Improve water quantity in the Snake River for fish spawning and rearing and for recreational uses.

Program: Work with regulatory agencies, Bureau of Reclamation, and irrigation companies to improve water management in the Snake River to enhance flows during white sturgeon spawning period.

Program: Work with Idaho Department of Water Resources to define conditions under which water can be diverted for aquifer recharge while not impacting fish or riparian resources.

3. Objective: Increase abundance of white sturgeon.

Program: Monitor angler catch rates and continue to cooperate with Idaho Power Company in the development and implementation of the Snake River White Sturgeon Conservation Plan (WSCP). The WSCP is a plan developed by Idaho Power Company in coordination with the Department and other fish management agencies to monitor white sturgeon abundance in the Snake River between Shoshone Falls and Lewiston, Idaho. Implementation of the WSCP is required of Idaho Power Company as part of the issuance of new federal licenses to operate three of its four Middle Snake River hydroelectric projects (Upper Salmon Falls, Lower Salmon Falls, Bliss) and C.J. Strike. The WSCP will also include actions associated with the Hells Canyon Complex and Swan Falls when they are relicensed. The WSCP is in close alignment with the Department's Draft White Sturgeon Management Plan (to be finalized in 2007). Actions in the WSCP include:

- a. Monitoring of white sturgeon population size and age structure;
- b. Evaluating supplementation options of white sturgeon populations with native stocks where necessary to maintain future options to utilize suitable spawning or rearing habitats;
- c. Researching potential options to increase survival rates of various life stages of white sturgeon. One important aspect of this research is to understand early life history stage habitat needs and factors potentially limiting white sturgeon survival; and

- d. Evaluating the feasibility of upstream passage of white sturgeon transportation operations to reestablish connectivity between isolated reaches.
4. Objective: Maintain or increase fishing opportunity for white sturgeon.  
  
Program: Assess effects of catch-and-release angling and environmental impacts on white sturgeon populations, and evaluate regulation changes, if needed.  
  
Program: White sturgeon populations may be supplemented with native Snake River stocks where necessary and as approved by the Department to maintain future management options including sport fishing opportunity.
5. Objective: Maintain existing and recover lost spring habitat along the Snake River in the Snake River aquifer area for Shoshone sculpin and redband trout spawning and rearing habitat.  
  
Program: Continue strong efforts to preserve undeveloped natural springs with significant fishery values.  
  
Program: Work with private developers to reestablish natural spring habitat at Banbury Springs and other sites as the opportunity arises. Cooperate with Idaho Power Company in their efforts to restore Banbury Springs to natural conditions and reduce irrigation overflow from above the canyon wall flowing into the springs discharge as part of their requirements under a new federal license issued for Upper Salmon Falls Hydroelectric Project. Cooperate with Idaho Power Company in their monitoring of Shoshone sculpin populations within Banbury Springs.  
  
Program: Work with Idaho Department of Parks and Recreation to develop a management plan for Box Canyon to maintain native vegetation communities and fish species.
6. Objective: Increase opportunity for warmwater and coldwater fishing in the Magic Valley area to meet increased demand.  
  
Program: Determine the feasibility of modifying water management at Hagerman WMA to improve warmwater fisheries in the Anderson Ponds if compatible with waterfowl management.  
  
Program: Attempt to acquire access on existing private ponds or develop new ponds for warmwater fisheries in the area.  
  
Program: Develop fishing opportunities at the Clear Lakes Grade ponds.
7. Objective: Improve fishing in ponds along the Interstate in the Burley/Rupert area.

Program: Work with local officials and the public to develop a management plan to reduce common carp in the ponds.

Program: Work with USFWS on controlling or managing fish eating birds at the ponds or develop a species or trout size stocking program to provide a fishery under current conditions.

8. Objective: Increase angler awareness of the white sturgeon's unique biology and life history. Emphasize proper fishing techniques and tackle so that anglers can minimize mortality when fishing for white sturgeon.

Program: Revamp the out of print brochure on white sturgeon fishing and redistribute.

Program: Develop a video on sport fishing for white sturgeon in Idaho. Emphasis will be on proper tackle and technique with a substantial amount of biology, life history, and conservation information included. Video will be distributed to sporting goods retailers and fishing clubs in the Snake River drainage. Video will be useful at Regional offices and sporting events.

| Drainage: SNAKE RIVER - C.J. STRIKE RESERVOIR TO LAKE WALCOTT |            |       |   |              |   |
|---|------------|-------|---|--------------|---|
| Water   | Miles/acre | Type  | Fishery   | Management   | Management Direction  |
|   |            |       | Species Present   |              |   |
| Snake River from Loveridge Bridge To Bliss Dam                | 47.3/      | Mixed | White sturgeon  | Conservation | Maintain no harvest regulation on white sturgeon. Emphasize high quality white sturgeon fishery and habitat protection.   |
|   |            |       | Rainbow trout<br>Brown trout<br>Mountain whitefish<br>Channel catfish<br>Smallmouth bass<br>Largemouth bass<br>Yellow perch     | General      | Work with collaborators to evaluate FERC required rainbow trout stocking program. Determine if stocking is necessary to maintain fishery for catfish. Improve angler access.  |
| Bliss Reservoir   | 5/250      | Mixed | White sturgeon  | Conservation | Maintain no harvest regulation on white sturgeon.   |
|   |            |       | Rainbow trout<br>Largemouth bass<br>Smallmouth bass<br>Channel catfish  | General      |   |
| Backwaters of Bliss Pool to Lower Salmon Falls Dam            | 8/         | Mixed | White sturgeon  | Conservation | Maintain no harvest regulation on white sturgeon.   |
|   |            |       | Rainbow trout<br>Brown trout<br>Mountain whitefish<br>Channel catfish<br><br>Smallmouth bass<br>Largemouth bass<br>Yellow perch | General      | Cooperate with Idaho Power Company in the Lower Malad River Construction of fish passage structures at the Malad hydroelectric may enhance fluvial and Malad resident rainbow trout populations.<br><br>Evaluate potential for quality or trophy fishery and implement a program if socially and biologically acceptable. |
| Lower Salmon Falls Reservoir                                  | 7/840      | Mixed | White sturgeon  | Conservation | Maintain no harvest regulation on white sturgeon.   |
|   |            |       | Rainbow trout<br>Largemouth bass<br>Channel catfish<br>Bluegill   | General      | Continue annual rainbow trout stockings in the Bell Rapids area. Evaluate current special bass regulations; consider general management rules.  |
| Upper Salmon Falls Reservoir                                  | 5/810      | Mixed | White sturgeon  | Conservation | Maintain no harvest regulation on white sturgeon.   |
|   |            |       | Rainbow trout<br>Largemouth bass<br>Smallmouth bass<br>Channel catfish  | General      | Investigate potential for improving fishery using fingerling and catchable trout.   |

|  |          |           |   |                             |  |
|--|----------|-----------|---|-----------------------------|--|
| Backwaters of Upper Salmon Falls Reservoir to Shoshone Falls, also flowing water between upper and lower Salmon Falls dams | 30.4/    | Mixed     | Sturgeon<br><br>Rainbow trout<br>Brown trout<br>Mountain whitefish<br>Channel catfish<br>Largemouth bass<br>Smallmouth bass<br>Yellow perch | Conservation<br><br>General | Maintain no harvest regulation on white sturgeon.<br><br>Maintain Dolman Rapids as large-size trout water. Provide comments on proposed hydropower projects which may jeopardize fisheries. Investigate potential for improving trout fishery with fingerling plants. Stock channel catfish to improve warmwater opportunities. Improve access. Work to improve summer flows.  |
| Shoshone Falls Reservoir   | 1.2/60   | Mixed     | Rainbow trout<br>Smallmouth bass  | General                     | Investigate potential of catchable rainbow trout to provide fishery in high turnover reservoir.  |
| Backwaters of Shoshone Falls Reservoir to Twin Falls Dam   | 1/       | Mixed     | Rainbow trout<br>Smallmouth bass  | General                     | Manage as a yield fishery with approximate catch rate of 0.5 fish/hour.  |
| Twin Falls Reservoir   | 1/96     | Mixed     | Cutthroat trout<br><br>Rainbow trout<br>Rainbow trout x cutthroat<br>Trout hybrids<br>Smallmouth bass                                       | Conservation<br><br>General | Emphasize protection of native cutthroat trout and rainbow trout x cutthroat trout hybrid populations. Manage as a unit with reach upstream to Murtaugh Bridge.  |
| Backwaters of Twin Falls Reserv  | 11.6/    | Mixed     | Cutthroat trout<br>Rainbow trout x cutthroat<br>Trout hybrids<br>Rainbow trout<br>Smallmouth bass   | Conservation<br>General     | Stock fingerling cutthroat trout if necessary to improve recruitment. Emphasize maintenance of trophy fishery. Evaluate potential for improved trout management with special regulations. Evaluate potential for developing smallmouth bass fishery. Work to improve summer flows.   |
| Noir to Murtaugh Bridge  |          |           |   |                             |  |
| Murtaugh Bridge to Milner Dam  | 8.5/     | Coldwater | Cutthroat trout<br>Rainbow trout<br>Smallmouth bass   | Conservation<br>General     | Work on improving habitat through improved flow management. Evaluate potential for spawning in Dry Creek. Determine need for hatchery program in IPC bypass reach.   |
| Milner Reservoir (including Minidoka Dam spillway)   | 37/3,000 | Mixed     | Rainbow trout<br>Mountain whitefish<br>Smallmouth bass<br>Largemouth bass<br>Yellow perch<br>Brown bullhead<br>Channel catfish              | General                     | Emphasize establishment of self-sustaining warmwater fish species. Continue stocking of channel catfish – promote catfish fishery. Improve warmwater fish habitat by placing cover structures on reservoir bottom.<br><br>Work with state and federal agencies to increase angler access and to optimize water management to benefit resident fisheries. Provide comments on any proposed reductions in minimum flows through the Minidoka Dam spillway area.<br><br>Evaluate angling pressure (tournament and non-tournament) on smallmouth bass populations and adjust management direction to conform with findings |
|  |          |           |   |                             |  |

|   |           |           |  |                         |  |
|---|-----------|-----------|--|-------------------------|--|
| Lake Walcott (Minidoka Reservoir)   | 29/11,850 | Mixed     | Cutthroat trout<br>Rainbow trout<br>Yellow perch<br><br>Brown bullhead<br>Smallmouth bass<br>Largemouth bass                                   | Conservation<br>General | Stock subcatchable or catchable rainbow trout on an annual basis. Monitor bass and trout populations and adjust management direction to conform with findings.<br><br>Work with state and federal agencies to increase angler access and to optimize water management to benefit resident fisheries. |
| Billingsley Creek from mouth to Tupper Grade Crossing   | 5.5/      | Coldwater | Rainbow trout<br>Brown trout   | Trophy                  | Evaluate annual stocking of brown trout. Provide comments on any future commercial fish rearing operations. Provide comments on proposed hydropower projects which may jeopardize fisheries. Maintain catch rate of approximately 0.5 trout/hour.  |
| Billingsley Creek from Tupper Grade Crossing to Vader Grade   | 2.5/      | Coldwater | Rainbow trout<br>Brown trout   | General                 | Evaluate annual stocking of brown trout . Manage for quality-size trout. Maintain catch rate of approximately 0.5 trout/hour. Fly fishing only as condition of free public access.   |
| Billingsley Creek from Vader Grade Crossing to headwaters   | 1/        | Coldwater | Rainbow trout<br>Brown trout   | General                 | Maintain catch rate of approximately 0.5 trout/hour.   |
| Riley Creek from headwaters to State Hatchery water diversion   | 2.5/      | Coldwater | Rainbow trout  | Wild                    | Maintain wild trout populations between state and national hatcheries with maximum harvest to reduce disease potentials at hatchery. Manage lower portion in conjunction with other WMA waters.  |
| Riley Creek from State Hatchery water diversion to mouth  | 2.5/      | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Channel Catfish<br><br>White Sturgeon  | General<br>Conservation | Maintain wild trout populations between state and national hatcheries with maximum harvest to reduce disease potentials at hatchery. Manage lower portion in conjunction with other WMA waters.<br><br>Maintain no harvest.  |
| Deep Creek, mouth to Twin Falls Highline Canal  | 16/       | Coldwater | Rainbow trout  | General                 | Manage as yield fishery. Maintain satisfactory instream flow.  |
| Mud Creek   | 8/        | Coldwater | Rainbow trout  | General                 | Maintain adequate minimum instream flows.  |
| Cedar Draw Creek from mouth to Twin Falls Highline Canal  | 12/       | Coldwater | Rainbow trout<br>Brown trout   | General                 | Continue assistance with state, federal, and private personnel on clean water project on stream. Maintain adequate minimum instream flows and other environmental protection at hydro sites and fish hatcheries.   |
| Cedar Draw Creek from Highline Canal to headwaters  | 2/        | Coldwater | Rainbow trout<br>Brown trout   | General                 | Continue assistance on ongoing clean water project.  |
| All other streams in drainage except Salmon Falls, Rock, and Goose creeks and Raft River and north side springs drainages | 166/      | Mixed     | Rainbow trout<br>Cutthroat trout<br>Rainbow trout x cutthroat<br>Trout hybrid<br>Brown trout<br>Smallmouth bass<br>Largemouth bass<br>Bluegill | General                 | Manage for yield fishery. Work with public and private land managers on improving stream habitat for reproducing populations of trout.   |

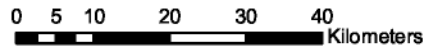
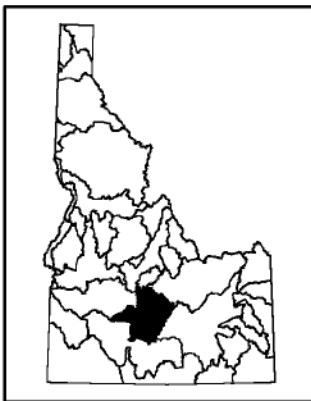
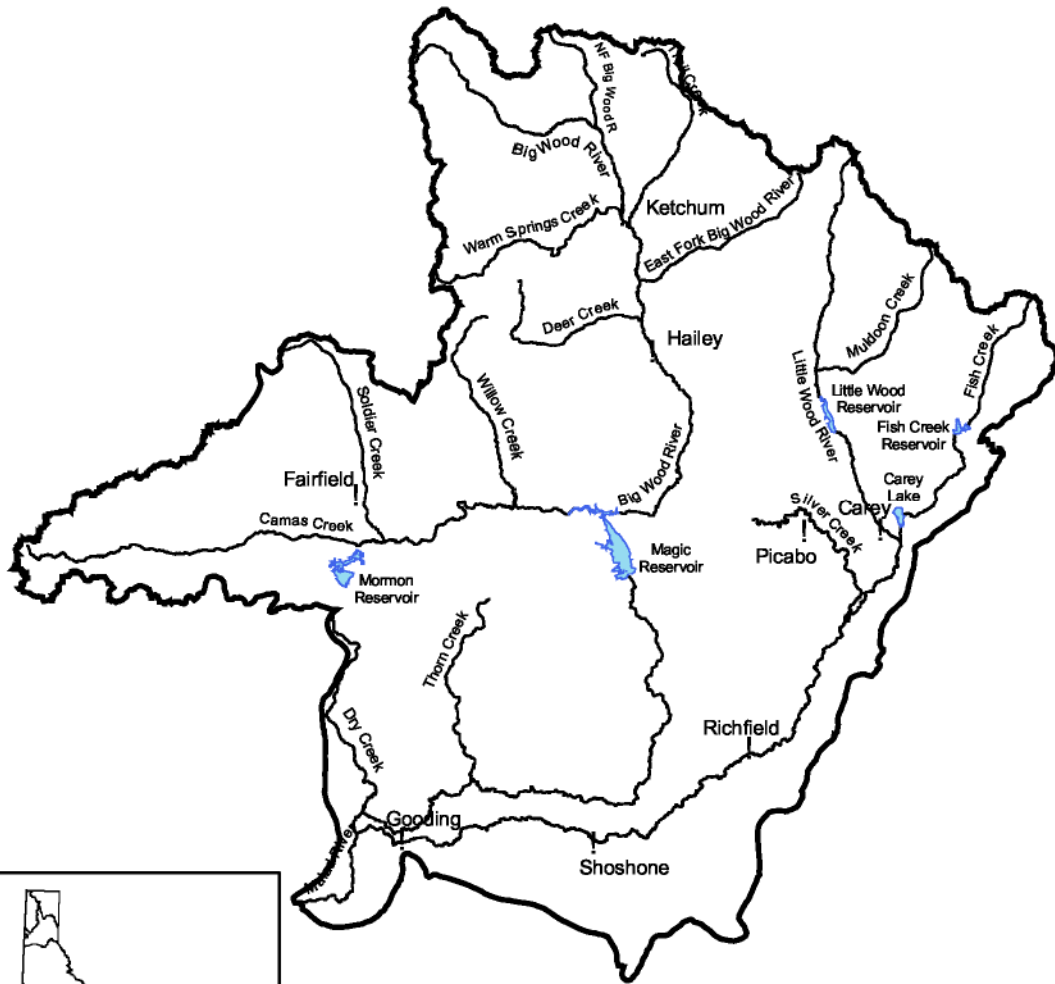
|  |      |           |   |                                   |   |
|--|------|-----------|---|-----------------------------------|---|
| Bruneau Sand Dunes lakes   | /100 | Warmwater | Largemouth bass<br>Bluegill   | Trophy<br>General                 | Evaluate trophy bass rule and adjust as needed to maintain trophy fishery. Cooperate with State Parks in promoting fishery. Maintain water levels with pumping program. Monitor and control carp populations.   |
| Blair Trail Diversion Reservoir                                    | /15  | Mixed     | Rainbow trout<br>Bluegill   | Put-and-take trout<br>General     | Put-and-take fishery.   |
| Morrow Reservoir   | /60  | Warmwater | Largemouth bass<br>Bluegill<br>Brown bullhead<br>Black crappie      | General                           | Manage as yield fishery.  |
| Pioneer (Clover Creek) Reservoir                                   | /220 | Warmwater | Tiger muskie<br>Largemouth bass<br>Bluegill<br>Bullhead             | General                           | Use drawdown to manage bluegill populations. Consider introducing tiger muskie. Develop boat access. Investigate methods to increase capacity.  |
| Frank Oster lakes, and Riley Creek impoundments                    | /30  | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Bluegill                    | General<br><br>General            | No motors water. Maintain catch rate of 0.5 fish/hour with catchable rainbow trout.<br><br>No motors water.   |
| All other lakes and ponds on The Hagerman Wildlife Management Area | /35  | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Bluegill<br>Channel catfish | Put-and-take trout<br><br>General | No motors water. Continue dredging operation to improve habitat in cooperation with land management personnel. Maintain catch rate of approximately 0.5 fish/hour.<br><br>Continue dredging operations to improve habitat. Improve bluegill spawning habitat. No motors water. Maintain July 1 opener. Consider West Highway Pond for Improved water quality and trophy bass. |
| Niagara Springs Wildlife Management Area ponds                     | /8   | Coldwater | Rainbow trout   | Wild                              | Maintain trophy fishing opportunity. Manage for catch rates of 0.5 fish/hour. Work to optimize spawning habitat. Evaluate existing pond habitat and make appropriate enhancements.  |
| Crystal Lake   | /8   | Coldwater | Rainbow trout   | Put-and-take trout                | Put-and-take for 0.7 fish/hour catch rate. Continue cooperative program with Clear Springs Trout Company to stock fish.   |

|  |      |           |   |                                   |   |
|--|------|-----------|---|-----------------------------------|---|
| Dierkes Lake                               | /100 | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Smallmouth bass                       | Put-and-take trout<br><br>General | Put-and-take for rainbow trout.<br><br>Work to improve bass/bluegill fishery. Consider tiger muskie introduction.   |
| Murtaugh Reservoir                         | /827 | Warmwater | Channel catfish<br>Yellow perch<br>Brown bullhead                                     | General                           | Low winter pool limits fishery potential.   |
| Wilson Lake                                | /484 | Mixed     | Brown bullhead<br>Yellow perch<br>Channel catfish<br>Largemouth bass<br>Rainbow trout | General                           | Continue to emphasize high quality bullhead angling in the lake. Consider other introductions, including tiger muskie, smallmouth bass, and bluegill. Work to retain minimum pool or increased winter storage.  |
| Emerald Lake                               | /40  | Mixed     | Rainbow trout<br><br>Channel catfish<br>Largemouth bass<br>Bluegill                   | Put-and-take trout<br><br>General | Stock regularly with hatchery rainbow trout as needed to maintain catch rate of approximately 0.5 fish/hour. Investigate methods of controlling avian predators.  |
| Ponderosa Pond (Connor Pond)               | /25  | Mixed     | Rainbow trout<br><br>Largemouth bass<br>Bluegill                                      | Put-and-take trout<br><br>General | Stock with hatchery rainbow trout. Investigate methods of controlling avian predators.<br><br>Monitor re-established largemouth bass and bluegill population  |
|  | /1   | Coldwater | Rainbow trout   | Put-and-take trout                | Put-and-take fishery for rainbow trout. Consider establishing as a juvenile-only water.   |
| Rupert Gravel Pit Pond                     | /4   | Mixed     | Rainbow trout<br>Bluegill<br>Largemouth bass  | Put-and-take trout                | Put-and-take fishery for rainbow trout.   |
| Thousand Springs Nature Conservancy Area   | 2/   | Coldwater | Rainbow trout   | Wild                              | Manage for native wild trout and preserve Shoshone sculpin.   |
| Box Canyon Springs                         | 1.2/ | Coldwater | Rainbow trout   | Wild                              | Maintain adequate instream flow for aquatic life and riparian habitat. Maintain very high standards for protection of stream environment. Work with Idaho Parks and Recreation to develop low impact public use opportunities. Manage on a wild trout basis and to preserve Shoshone sculpin. |
| Banbury Springs                            | 0.2/ | Coldwater | Rainbow trout   | Wild                              | Manage on a wild trout basis, with approximate catch rate of 0.7 fish/hour. Maintain adequate instream flow in all stream channels. Preserve Shoshone sculpin.  |
| All other aquifer spring in Gooding County | 10/  | Coldwater | Rainbow trout   | General                           | Manage as yield fishery. Maintain catch rate of approximately 0.7 fish/hour. Preserve quality of undeveloped aquifer springs.   |
|  |      |           |   |                                   |   |



|  |      |           |  |      |   |
|--|------|-----------|--|------|---|
| Devil's Corral Springs                     | 1/   | Coldwater | Rainbow trout  | Wild | Preserve aesthetic qualities of area.   |
| Vinyard Creek                              | 0.5/ | Coldwater | Cutthroat trout<br>Rainbow trout<br>Rainbow trout x cutthroat<br>Trout hybrids | Wild | Protect unique population of cutthroat trout and hybrid trout, which spawn and rear in stream. Protect spawning habitat. Manage for 1.0 fish/hour; change regulations if necessary. |
| All other aquifer springs in Jerome County | 0.2/ | Coldwater | Rainbow trout  | Wild | Manage as yield fishery. Maintain water quality and spawning and rearing access.  |

# Big Wood River Drainage



## 24. BIG WOOD RIVER DRAINAGE

### A. Overview

The Wood River basin has a drainage area of over 2,990 square miles. Major drainages in the Wood River system are the Big Wood and Little Wood rivers. At its lower end, the Big Wood River is also known as Malad River. Flows from the Wood River drainage are controlled for irrigation and flood control by four major reservoirs: Magic, Little Wood River, Fish Creek and Mormon. Approximately 144,000 acres are irrigated from reservoir storage and other diversions. Hydroelectric power facilities are currently in operation at Magic Dam, Little Wood River, the confluence of the Big Wood and Little Wood rivers, the Little Wood near Shoshone, Malad River upstream of the Malad George State Park, and the Malad River dams.

This drainage contains the most productive trout streams, lake and reservoir habitat in south central Idaho. Nearly all the major rivers, streams, lakes, reservoirs and ponds are suitable for trout. Rainbow trout are the most important game fish species in the drainage, but the lower Little Wood River and Silver Creek support excellent brown trout populations, and portions of the drainage sustain high populations of brook trout. Brown trout have established wild populations in the Big Wood River in the section from the backwaters of Magic Reservoir to about Stanton Crossing, and significant and steadily increasing numbers of brown trout are now found in the reservoir. The trout fisheries in the reservoirs are largely dependent on annual plantings of hatchery fish, although Magic and Little Wood River reservoirs do contain some wild trout. Trout fisheries in the larger reservoirs are normally maintained by fingerling planting but receive catchable plants following droughts or heavy drawdown periods. Wild trout populations varying from fair to excellent are found in most of the streams in the drainage. Excellent populations of wild trophy rainbow trout are found in the Big Wood River between Magic Dam and the Richfield Canal in good water years; and in Silver Creek and its main tributaries. During good water years, trophy rainbow trout are produced in Richfield Canal. The Big Wood River from Hailey to Ketchum produces trophy rainbow trout with restrictive fishing rules. Both wild and hatchery brown trout (fry and fingerling plants) reach trophy size in the lower Little Wood River and Silver Creek. Wild trout populations are supplemented with catchable rainbow trout in portions of several heavily fished streams. A remnant population of northern leatherside chub is found in the Big Wood River but its distribution is not well known. Loss of habitat from floodplain development, irrigation diversions, livestock grazing, and hydropower development has negatively impacted fish populations.

Good populations of warmwater game fish are found in many waters of the Wood River drainage, mainly in reservoirs, lakes and ponds. The principal warmwater fish species present are yellow perch, bluegill, largemouth and smallmouth bass. Tiger muskie were stocked in Dog Creek Reservoir to control stunted bluegill.

Angler pressure is high in portions of the drainage. One of the most intensively fished stream sections in the area is the Big Wood River between Gimlet and the mouth of Prairie Creek. An increasing demand by anglers for more trophy fisheries has led to establishing more restrictive regulations on the Big Wood River and

Silver Creek. Magic Reservoir is the largest reservoir in the drainage and receives the highest angler pressure of any water in the Magic Valley Region.

There are 16 alpine lakes that support fish in this drainage. These lakes are all relatively productive and most of them support high quality rainbow trout and cutthroat trout angling. The lakes are normally stocked by fixed wing aircraft every third year. Arctic grayling have been stocked in one alpine lake in the drainage and have done very well. Baker Lake is managed with a trophy trout rule to provide anglers with the opportunity to have a quality alpine lake fishery.

## **B. Objectives and Programs**

1. Objective: Maintain existing and improve degraded stream habitats in the Big and Little Wood river drainages.

Program: Work closely with county planning and zoning agencies and IDWR to prevent channel and riparian degradation and development in natural flood plains.

Program: Work with land management agencies and livestock owners to implement grazing strategies which will promote the recovery of riparian systems along streams.

2. Objective: Reestablish stream connectivity between the upper Big Wood River and Magic Reservoir in good water years to take advantage of the surplus wild trout production in the river.

Program: Work with IDWR, irrigators, and other interests to maintain adequate flows between Glendale Diversion and Stanton Crossing during average or better water years.

3. Objective: Improve returns of hatchery fish and reduce impacts on native/wild trout populations in streams.

Program: Work with the Forest Service and the public to develop new fish out ponds and improve conditions on existing ponds in high use areas of the upper Big Wood River drainage.

4. Objective: Improve fish habitat and riparian communities along the Little Wood River between Carey and Shoshone.

Program: Work with the Little Wood River Irrigation District on the development of an irrigation system which would provide flows in the river between Carey and Silver Creek in good water years.

Program: Work with state and federal agencies, irrigation districts and landowners on developing wetlands on irrigation returns to improve water quality in irrigation returns.

Program: Work with BLM and the public on reestablishing native riparian shrubs and trees along the Little Wood River between Silver Creek and Richfield to reduce water temperatures during summer months.

5. Objective: Improve reservoir fishing opportunity for both quality and harvest fisheries.

Program: Investigate the desirability and feasibility of reducing smartweed in Mormon Reservoir to improve boating access.

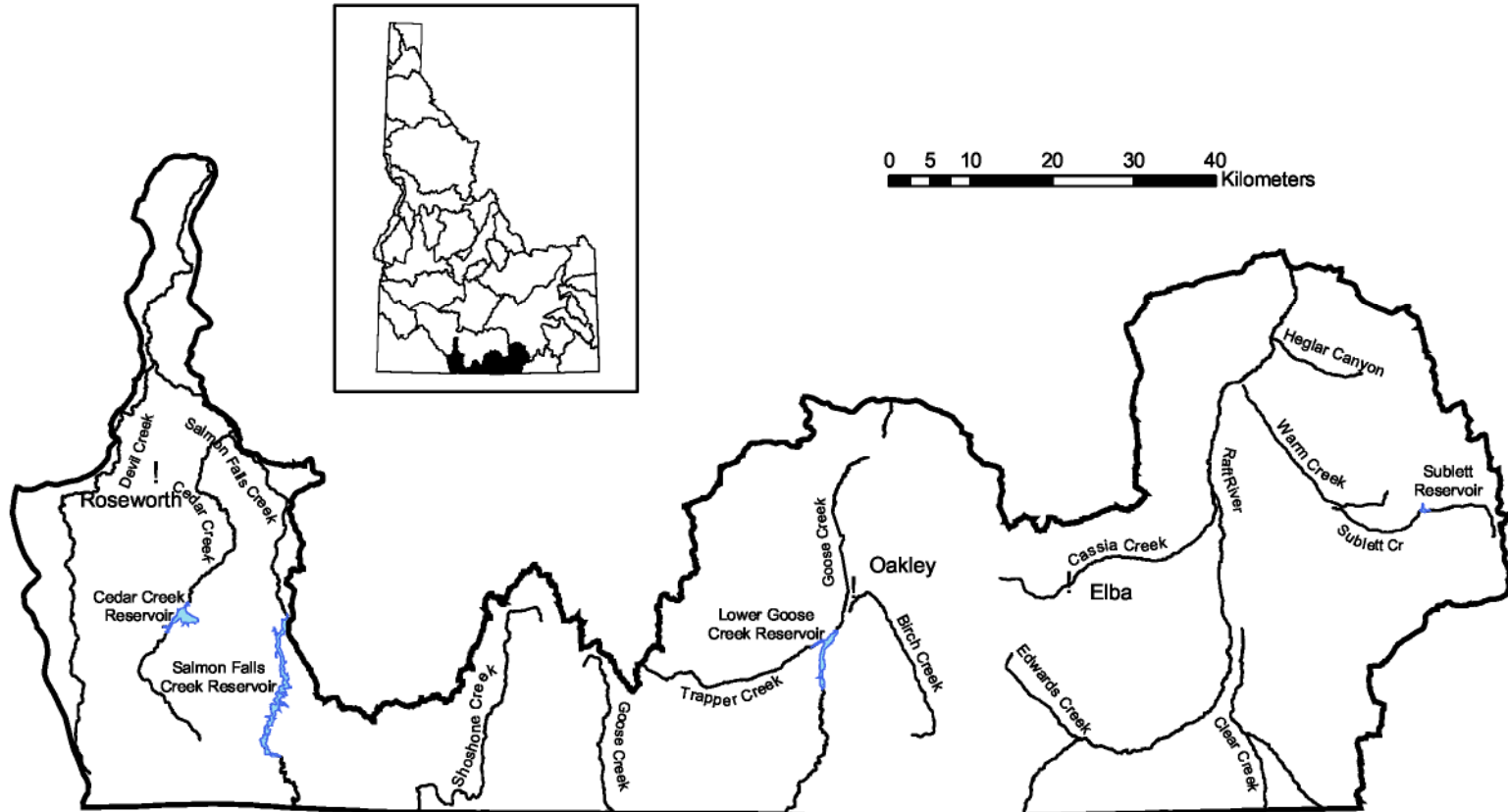
Program: Continue to evaluate rainbow trout stocking program in Mormon Reservoir to determine effects of stocking timing and fish size on survival from bird predation. Also evaluate yellow perch population recovery.

Program: Investigate the feasibility of assisting in the rebuilding of Fish Creek Reservoir Dam in exchange for a minimum conservation pool.

Program: Work with State and Federal agencies, irrigation districts, and landowners to optimize water management in reservoirs to benefit the resident fisheries.

| Drainage: BIG WOOD RIVER  |            |           |   |                         |   |
|---|------------|-----------|---|-------------------------|---|
| Water   | Miles/acre | Type      | Fishery                                     | Management              | Management Direction  |
|   |            |           | Species Present                             |                         |   |
| Big Wood (Malad) River from mouth to I-84 Bridge                                  | 3/         | Mixed     | Redband trout                               | Wild                    | Maintain catch rates at 0.7 fish/hour for wild trout. Evaluate population impacts of increased fish passage at hydroelectric facilities. Work with Idaho Power Company on fish passage provisions as per relicensing.         |
|   |            |           | Smallmouth bass                             | General                 |   |
| Big Wood River from I-84 Bridge to Richfield Canal Diversion                      | 60/        | Mixed     | Rainbow trout<br>Smallmouth bass            | General                 | Evaluate potential of hydro mitigation ponds for put-and-take fishery. Maintain smallmouth bass fishery.  |
| Big Wood River from Richfield Canal diversion upstream to Magic Dam               | 3/         | Coldwater | Rainbow trout<br>Brown trout                | Quality                 | Maintain trophy size of fish and achieve catch rates of 0.7 fish/hour. Change management if fishery not maintained under current conditions. Work to maintain minimum flow for fish survival and prevent entrainment loss.    |
| Big Wood River from Magic Reservoir upstream to Glendale diversion                | 14/        | Coldwater | Rainbow trout<br>Brown trout<br>Brook trout | General                 | Establish catch rate goals based on ability to get year-round water. Evaluate angling impact to spawning brown trout.   |
| Big Wood River from Glendale diversion upstream To Mile 122 Bridge on Highway 75  | 12/        | Coldwater | Rainbow trout                               | Quality                 | Improve habitat and river stability using native woody material where possible. Comment on continued flood plain development and woody debris removal. Catch rate goal of 1.0 fish/hour.                                      |
|   |            |           | Mountain whitefish<br>Brook trout           | General                 |   |
| Big Wood River from Mile 122 Bridge on Highway 75 upstream to mouth of North Fork | 14/        | Coldwater | Rainbow trout                               | Trophy                  | Wild trout water, catch-and-release. Improve habitat and river stability using native woody material where possible. Comment on continued floodplain development and woody debris removal. Maintain catch rate 1.0 fish/hour. |
|   |            |           | Mountain whitefish<br>Brook trout           | General                 |   |
| Big Wood River from mouth of North Fork to headwaters                             | 18/        | Coldwater | Rainbow trout                               | Put-and-take            | Yield fishery for wild and hatchery trout and mountain whitefish. Maintain catch rate of 0.7 fish/hour.   |
|   |            |           | Brook trout<br>Mountain whitefish           | General                 |   |
| Trail Creek mouth to Wilson Creek   | 9/         | Coldwater | Rainbow trout<br>Brook trout                | Put-and-take<br>General | Stock with catchable rainbow trout to provide catch rates of 0.7 fish/hour. Work to provide fish passage for Big Wood River spawners. Investigate possibility of developing off river ponds for put-and-take stocking.        |
| Warm Springs Creek from mouth to Rooks Creek campground                           | 11/        | Coldwater | Rainbow trout<br>Brook trout                | Put-and-take<br>General | Stock with catchable rainbow trout to provide catch rates of 0.7 fish/hour. Evaluate potential of wild trout only status. Investigate possibility of developing off river ponds for put-and-take stocking.                    |
| Richfield Canal   | 14/        | Coldwater | Rainbow trout                               | General                 | Stock fish in low water years to provide 0.5 fish/hour. Seek year-round flow in canal to maintain fishery.  |
| Little Wood River from mouth to Shoshone (Milner-Gooding Canal)                   | 18/        | Warmwater | Smallmouth bass                             | General                 | Maintain as smallmouth bass fishery.  |

# Salmon Falls Creek, Goose Creek and Raft River Drainages



## 25. SALMON FALLS CREEK, GOOSE CREEK, ROCK CREEK AND RAFT RIVER DRAINAGES

### A. Overview

There are four major drainages south of the Snake River between C.J. Strike Reservoir and Massacre Rocks - Raft River, Goose Creek, Rock Creek and Salmon Falls Creek. The four drainages have a combined drainage area of over 6,870 square miles. Three major reservoirs; Oakley, Salmon Falls Creek and Roseworth, and one minor reservoir, Sublett, store water for irrigation and flood control. These reservoirs all support trout fisheries varying from fair to excellent. Sublett has excellent trout reproduction in tributary streams.

All of these drainages have streams that support good wild trout populations. Species found in different portions of the area are rainbow trout, Yellowstone cutthroat trout, brown trout, and brook trout. Populations of native cutthroat trout are found in the Raft River and Goose Creek drainages. Native cutthroat trout populations in some areas have declined as a result of land uses degrading habitat, water diversions, and introduction of non-native species, particularly rainbow trout. Programs for maintaining or improving existing cutthroat trout populations and restoring remnant populations will be emphasized. Leatherside chub, an uncommon Protected Nongame Species, is present in the Goose and Raft river drainages.

Beaver ponds furnish much valuable trout habitat on many of the smaller streams of the Raft River and Goose Creek drainages. Large portions of streams in the Raft River, Goose Creek and Salmon Falls Creek drainages have been degraded by overgrazing and poor land use practices.

Salmon Falls Creek Reservoir was completed in 1912 and until the spring of 1984 was considered a closed system. As a result, it has received plantings of many species of fish through the years. Record snows in the drainage caused the reservoir to fill and spill for the first time in the spring of 1984. No evidence has been found to indicate that any fish survived the spill below the reservoir. It currently has a greater variety of game fish species than any other reservoir in the area. Game species currently in the reservoir are rainbow trout, Yellowstone cutthroat trout x rainbow trout hybrids, brown trout, kokanee, yellow perch, black crappie, smallmouth bass, and walleye. Salmonids are maintained by hatchery stocking. Walleye and kokanee are the two most recent additions and both species have done well. With the addition of walleye, numbers of nongame fish have declined and an additional forage species, the spottail shiner, has been introduced to supplement the forage base.

The walleye fishery in Salmon Falls Creek Reservoir is very popular with anglers. An angler survey undertaken on the reservoir in the summer of 1995 indicated approximately 2,900 walleye were taken by anglers and the number taken per year has been steadily increasing. Trophy-size walleye are occasionally caught in the reservoir. A new state record of over 17 pounds was caught in 2006. Walleye were also introduced into Oakley Reservoir in 1989. Unfortunately, naturally reproducing walleye populations tend to be very cyclic with a few years of strong



year classes followed by years of low numbers. To effectively manage for these boom and bust cycles, harvest rules and hatchery supplementation need to be variable and adjusted according to the walleye population status. Trout fishing remains good in the reservoirs with the stocking of larger catchable rainbow trout instead of fingerlings.

Angling pressure varies considerably throughout the drainages. It is high on Roseworth, Sublett and Salmon Falls Creek reservoirs, but is relatively light on streams in the Salmon Falls Creek and Raft River drainages. Easily accessible streams in the Goose Creek and Rock Creek drainages receive high public use.

There are three alpine lakes which support game fish in the Raft River drainage. These include the two Independence Lakes on Mount Independence near Oakley and Lake Cleveland on Mount Harrison. The Independence Lakes have good cutthroat trout and arctic grayling populations that result from fry plantings. Lake Cleveland is accessible by road, and the fishery is maintained by catchable rainbow trout stockings and fingerling cutthroat trout.

**B. Objectives and Programs**

1. Objective: Develop management options for fishing on cyclic walleye populations in Salmon Falls Creek and Oakley reservoirs.

Program: Establish annual monitoring programs for both reservoirs to determine year class strength. Adjust rules and hatchery program accordingly.

2. Objective: Improve forage fish populations in Salmon Falls Creek and Oakley reservoirs for walleye.

Program: Improve habitat for forage fish spawning and rearing during low water years by working with local fishing clubs to create additional vegetative structure for yellow perch spawning and rearing.

3. Objective: Protect and restore native Yellowstone cutthroat populations.

Program: Work with land management agencies and private landowners on reestablishing connectivity in watersheds and enhancing riparian habitats.

Program: Work with land management agencies on improving degraded riparian habitats with the implementation of improved grazing practices.

Program: Maintain Yellowstone cutthroat trout genetic integrity by eliminating stocking or stocking only sterile rainbow trout in cutthroat trout drainages.

Program: Work with local Watershed Advisory Groups to improve water quality.

Program: Expand Yellowstone cutthroat trout distribution through translocations of suitable donor stocks into historical habitat.

Program: Work with Federal and State agencies, landowners, and irrigation districts by reducing competition (brook trout) or hybridization risk (rainbow trout) in the Goose and Raft River drainages.

4. Objective: Protect leatherside chub populations in Goose Creek and Raft River drainages.

Program: Provide information to land management agencies and public on identification, population status and distribution of leatherside chub in the drainages.

Program: Work with local regulatory agencies and landowners to minimize impacts of livestock grazing on riparian areas.

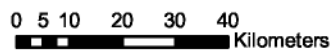
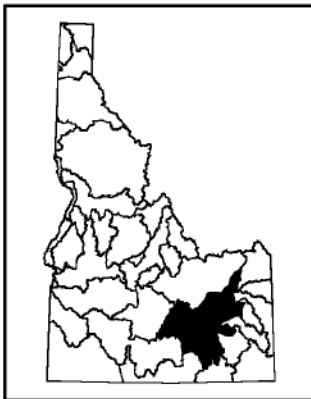
5. Objective: Improve water quality for fish habitat in lower reaches of streams in section.

Program: Work with regulatory agencies and landowners to reduce sediment and nutrient loads in streams flowing into the Snake River.

| Drainage: SALMON FALLS CREEK, ROCK CREEK, GOOSE CREEK, AND RAFT RIVER DRAINAGES |            |           |  |                         |  |
|---|------------|-----------|--|-------------------------|--|
| Water   | Miles/acre | Fishery   |  | Management              | Management Direction   |
|   |            | Type      | Species Present  |                         |  |
| Salmon Falls Creek from mouth to Balanced Rock Park                             | 26/        | Mixed     | Rainbow trout<br>Smallmouth bass   | Put-and-take<br>General | Stock catchable rainbow trout at Balanced Rock Park. Allow increased harvest of smallmouth bass by removing minimum length limit.  |
| Salmon Falls Creek from Balanced Rock to Salmon Falls Creek Dam                 | 18/        | Mixed     | Rainbow trout<br>Brook trout<br>Smallmouth bass  | General                 | Maintain wild trout fishery. Allow increased harvest of smallmouth bass by removing minimum length limit.  |
| From backwaters of Salmon Falls Creek Reservoir to Nevada border                | 7/         | Mixed     | Rainbow trout<br>Brown trout<br>Mountain whitefish<br>Smallmouth bass<br>Walleye   | General                 | Maintain wild trout fishery.   |
| Shoshone Creek from Nevada border to mouth of Big Creek                         | 10/        | Coldwater | Rainbow trout<br>Brown trout   | Wild<br>General         | Work with USFS and BLM to improve habitat through grazing and beaver management.   |
| Shoshone Creek from mouth of Big Creek to headwaters                            | 12/        | Coldwater | Rainbow trout  | Wild                    | Work with USFS and BLM to improve habitat through grazing and beaver management.   |
| Big Creek from mouth to headwaters  | 14/        | Coldwater | Rainbow trout<br>Brown trout   | Wild<br>General         | Work with USFS and BLM to improve habitat through grazing and beaver management.   |
| All other streams in Salmon Falls Creek drainage                                | 57/        | Coldwater | Rainbow trout  | Wild                    | Evaluate need for harvest restrictions to maintain native trout where present.   |
| Salmon Falls Creek Reservoir  | /3,400     | Mixed     | Walleye<br>Rainbow trout/steelhead<br>Rainbow trout hybrids<br>Kokanee<br>Yellow perch<br>Smallmouth bass<br>Black crappie | General                 | Monitor angling pressure and harvest. Annual monitoring of both walleye and walleye forage species. Establish fishing rule options depending on walleye population characteristics. Emphasize species diversity. |
| Roseworth Reservoir (Cedar Creek Reservoir)                                     | /1,500     | Coldwater | Rainbow trout  | General                 | Emphasize rainbow trout in reservoir. Improve carryover with fall Fingerling plants in good water year. Catch rate of 0.5 fish/hour.   |
| Rock Creek from mouth to Twin   | 21 /       | Coldwater | Rainbow trout  | Put-and-take            | Continue cooperation with local and state agencies to continue Rock  |

|                      |  |  |             |         |   |
|----------------------|--|--|-------------|---------|---|
| Falls Highline Canal |  |  | Brown trout | General | Creek rural clean water projects. Continue stocking hatchery rainbow and brown trout at high use sites. Coordinate rainbow trout stocking with the College of Southern Idaho Hatchery. Assure adequate minimum instream flows and other environmental protection at hydropower sites. Work to improve fish passage. Experiment with rainbow trout fingerlings to improve catch rates to 0.7 fish/hour. Year-round season. |
|----------------------|--|--|-------------|---------|---|

# Snake River Drainage Lake Walcott to Henrys Fork



## 26. SNAKE RIVER-LAKE WALCOTT TO CONFLUENCE OF SOUTH FORK AND HENRYS FORK

### A. Overview

The Snake River from Massacre Rocks upstream to the confluence of the North (Henrys) and South forks encompasses a variety of habitat types. This section extends approximately 125 miles, of which approximately 20 miles is flooded by American Falls Reservoir. Fish species found in this reach include the following native species: mountain whitefish, Yellowstone cutthroat trout, Utah chub, longnose dace, speckled dace, redbelly shiner, Utah sucker, Bluehead sucker, mountain sucker, and mottled sculpin; and the following introduced species: white sturgeon, rainbow trout, brown trout, brook trout, common carp, brown bullhead, channel catfish, green sunfish, bluegill sunfish, smallmouth bass, largemouth bass and yellow perch. Crappie, which once were present in fishable numbers in American Falls Reservoir, have not been reported by anglers or fishery biologists in the past 15 years.

The six miles of river from Eagle Rock upstream to American Falls Dam is a popular trout and smallmouth bass fishery. This section is noted for quality size trout, many of which are between 16 and 20 inches long. Most trout in this reach are hatchery stocked rainbow trout, but a small percent are feral brown trout and native Yellowstone cutthroat trout. A fishing rule of six trout, of which only two may be over 16-inches long, was implemented in 1998 to reduce harvest on large trout. Fish and fish population size is dependent on the amount of water retained in American Falls Reservoir.

Some of the trout stocked in American Falls Reservoir annually leave the reservoir to the Snake River below in mid to late summer due to a combination of high water temperature, low dissolved oxygen and in some years, severe drawdown and associated high turbidity. Minimum allowable dissolved oxygen in water flowing from the reservoir into the river is 3.5 mg/L at all water temperatures. To satisfy water rights for storage, flows below American Falls Dam are commonly reduced to near 350 cfs during winter. This is 4% of mean annual flow which greatly reduces river width and depth and allows anchor ice to form. Flows less than 10% of mean annual flow cause severe degradation to fishery resources. Under these conditions, which occurred most winters from 2000 through 2005, trout condition decreases.

From Eagle Rock down through Lake Walcott, the smallmouth bass fishery greatly expanded between the years 2000 and 2006. Bass tournaments centered on the Massacre Rocks boat launch increased from two in 2000 to 10 in 2006, as bass anglers recognized the increasing opportunity to catch quality size smallmouth bass. Boaters are not allowed in 19 of 44 the miles between Lake Walcott Dam and American Falls Dam. Additionally road access is very limited to this reach. The boat closure is a US. Fish and Wildlife Service rule within the Minidoka National Wildlife Refuge. This rule greatly reduces angler use. In a June 2005 electrofishing survey, of the bass sampled in isolated areas of the reach closed to boats that were at least 7 inches long, 30% of these were also at least 17 inches long and

ranged from 8 to 13 years in age. In the reach above Massacre Rocks State Park, where boating is allowed, no bass 17 inches or larger were sampled. Total annual mortality in the boat-closure reaches was 25%. In reaches where boats are allowed, total annual mortality was 45%. A 2006 telemetry study documented that some of the large bass from the boat-closure reach seasonally migrate into areas accessible by boat anglers. For this reason, quality of bass in angler catches has so far remained very good compared to other bass smallmouth bass fisheries in the state. Numerous anglers have asked the Department to decrease harvest of bass in the Lake Walcott to American Falls reach. Their concern is that with increasing fishing effort, quality of the bass population will decline. In a 2006 Angler Opinion Survey anglers were asked if they would like quality bass regulations with the associated reduction bag limit. In Statewide, Region 4 and Region 5 surveys more anglers preferred to maintain the current general bass rules rather than reduce harvest opportunities with quality-bass rules.

American Falls Reservoir covers 58,078 surface acres and has a usable storage of 1,671,300 acre-feet. This is a popular fishing reservoir, with an estimated 26,000 rainbow trout harvested and 125,000 hours fishing during years when water volume has been sufficient in previous years for a multiple age class population to accumulate. During consecutive drought years, when the reservoir is drained annually to near 3% volume, catch rate decreases as does fishing effort. American Falls Reservoir is stocked annually with both catchable and fingerling size trout in early May and September. Trout grow from 9-inches to 16-inches or more during the year following stocking. Most trout caught range in size from 1.5 to 3 pounds and most are of hatchery origin. Use of fingerlings stocked in the reservoir and river above the reservoir were evaluated and found to be successful for developing a river and reservoir fishery. A smallmouth bass fishery developed in American Falls Reservoir during the 1995-2000 period. Department electrofishing surveys first documented numerous bass in multiple age classes in 1997. The first bass tournaments were held in 1999 and have been held annually since that time. Yellow perch have been present in American Falls Reservoir for decades. However, anglers rarely encounter large numbers of harvestable sized perch. Frequent years of severe drawdown may flush most of the perch from the reservoir. American Falls Reservoir also contains an abundance of nongame fish, primarily Utah suckers, common carp, and Utah chubs. Over 90% of fish caught in gillnets in American Falls Reservoir are nongame fish. The smallmouth bass fishery in American Falls Reservoir should benefit from this food source.

The Snake River from the backwaters of American Falls Reservoir upstream to Tilden Bridge, a distance of approximately 20 miles, produces quality size trout. The river in this area has limited public access because of private land and the Fort Hall Indian Reservation. Numerous springs arise on the reservation in the area known as the Fort Hall Bottoms located near the upper end of American Falls Reservoir and between the Portneuf River on the south and the Snake River on the north. The springs produce approximately 1,800,000 acre-feet of water annually, more than enough to fill American Falls Reservoir. The two largest of the reservation springs are Clear Creek (7 miles long) and Spring Creek (11 miles long). These are considered high quality spawning and rearing streams and are managed by the Shoshone-Bannock Tribes.

The Snake River flows 37 river miles from Tilden Bridge upstream to the Gem State Power Dam and runs through a mixed cottonwood riparian forest. Water is diverted from the river at numerous points in this reach. During the irrigation season and early fall, river flows vary depending on amount released from upriver storage and on amount diverted at each canal. Research conducted in 1987 and 1988 documented catch rates of 0.08 to 0.25 trout/hour between American Falls Reservoir and the Gem State Dam. Hatchery rainbow trout comprised the majority of the catch. However, large wild rainbow trout, brown trout, and cutthroat trout also are caught in this reach. Research recommended increased supplemental stocking of fingerling brown and cutthroat trout to capitalize on high growth rates in this recruitment limited river reach. Large numbers of rainbow trout and brown trout were stocked in that reach since 1991 and the fisheries in the river and reservoir below improved. After initiation of the fingerling-stocking program in this river reach, catch rate was documented at 0.35 trout/h in 1992. Since 1999 brown trout have not been stocked as part of a statewide policy.

This river reach is most easily accessed by boat as there is very little public access along the shore. Additional access for boat and bank anglers would enhance the value of this fishery.

Reservoirs and ponds along the Snake River in this area include Springfield Reservoir, McTucker Ponds, and Rose Pond. Springfield Reservoir covers 66 surface acres and is kept full during summer to facilitate water flow into irrigation canals. Due to excessive predation by birds, mainly double-crested cormorants, fish stocking and fishing rules were changed in 1998. It was no longer practical to stock fingerling and catchable size trout. A decreased number of larger trout (16 to 17 inches long) are now stocked in late October when most of the migratory fish-eating birds have migrated south. Anglers may keep only two trout, which must be at least 20-inches long and only artificial flies or lures are allowed. This change has been opposed by some anglers and applauded by others. Angling pressure has increased as compared to the year immediately prior to the change. McTucker Ponds are eight small gravel pits covering a total of 25 surface acres. These ponds are located near the upper end of American Falls Reservoir on the northwest side of the Snake River. The two ponds at the east end of the complex are stocked frequently with catchable size trout. Largemouth bass, bluegill, and channel catfish are stocked in the rest of the ponds. These ponds were renovated with rotenone in 2003 following a high water event in 1997 that connected the McTucker Ponds with the Snake River. This brought nongame fish species from the Snake River and most of the stocked warmwater fish probably left. These ponds were restocked in the spring of 2004. In 2005 several fishing docks were placed on the ponds to enhance fishing opportunities. As of 2006, warm water species are abundant in the ponds, although most are young. These ponds are popular with children because these fish are easily caught. In the spring of 2006, an abundance of green sunfish were discovered in the McTucker ponds that are on the east side of the pond complex. During the next drought cycle the ponds in the McTucker complex that contain green sunfish should be renovated as this species has a negative effect on recruitment of bass and bluegill and would compete for food with stocked trout.



Rose Pond is located north of Blackfoot and contains rainbow trout, bluegill, and largemouth bass. In 1997 it connected with the Snake River and now contains nongame fish. The pond is reduced from over 20 surface acres in summer to less than three shallow acres in winter as the ground water level recedes. Therefore very few trout survive the winter.

The Snake River from the Gem State project to the outflow of the upper Idaho Falls Power Plant is primarily a put-and-take hatchery rainbow trout fishery. The Department and the City of Idaho Falls stock this reach with hatchery catchable rainbow trout. Hatchery rainbow trout provide the majority of the catch in this reach but native Yellowstone cutthroat trout, rainbow trout, and brown trout are also important components of the fishery. The hydropower impoundments in this section block upstream migration of spawning trout and provide less productive trout habitat than run of the river reaches. This section will be managed for optimum return to the creel of catchable rainbow trout.

The remainder of the upper Snake River from the Idaho Falls Upper Power Plant to the confluence of the Henrys Fork and South Fork (39 miles) produces occasional catches of large rainbow trout and cutthroat trout. Brown trout are also caught in this reach. No hatchery stocking occurs above the upper power plant pool. The fishery in this area has declined since the Teton Dam failure due to silt deposition and loss of habitat. Little improvement has been noted in recent years. Because of hatchery space limitations and very poor return to the creel in this fishery, this river reach will not receive catchable hatchery trout. We will attempt to supplement natural production with fingerling cutthroat trout as our hatchery production allows.

Reservoirs and ponds along the Snake River in this area supporting fisheries include Roberts Gravel Pond and Market Lake, both of which are owned by the Department. Roberts Gravel Pond covers 35 surface acres and is managed with catchable rainbow trout. Artificial aeration during winter periods has offset past winter kills in Roberts Gravel Pond. Market Lake WMA water channels contain yellow perch, bullhead catfish and Utah chubs. The Market Lake WMA waterfowl marsh has been renovated into new management units connected by newly dredged canals. These canals provide the majority of fish habitat at Market Lake and should improve fishing opportunities for yellow perch and bullhead catfish. During drought conditions angling opportunities at Market Lake are severely limited. It is managed as a mixed fishery.

The Snake River from American Falls Reservoir to the confluence of the Henrys Fork and South Fork has undergone much change in trout habitat quality that limits our ability to provide improvements in quality and quantity of trout angling opportunity. Alternate species management may provide the best and most cost effective means to improve fishing in this portion of the river. Smallmouth bass especially perform well in this type of river habitat. The Department has introduced smallmouth bass in the Idaho Falls area impoundments.

**B. Objectives and Programs**

1. Objective: Maintain quality of the smallmouth bass fishery from Lake Walcott to American Falls Dam.

Program: Advise angling public of the opportunity and ascertain public support for quality bass rules.

Program: Coordinate with the Fish and Wildlife Service on boating access within the Minidoka National Wildlife Refuge considering potential impacts on wildlife.

Program: Consider potential to restore put-and-grow brown trout fishery downriver from American Falls Dam

2. Objective: Maintain quality trout fishery from Eagle Rock to American Falls Dam.

Program: Seek enhanced biologically-based minimum flow below American Falls Dam.

3. Objective: Maintain boating access and seek an adequate minimum conservation pool in American Falls Reservoir.

Program: Work with the Bureau of Reclamation, Idaho Department of Water Resources, Bonneville Power Administration, and water users to secure a minimum conservation pool in American Falls Reservoir. An adequate minimum conservation pool level should target keeping at least one boat ramp accessible for anglers and maintain enough depth and surface area to minimize entrainment losses of game fish. It should also be targeted to minimize water quality impacts from sediment entrainment, and maintain some rocky shoreline habitat to encourage smallmouth bass to remain in the reservoir environment.

4. Objective: Protect and restore native Yellowstone cutthroat trout in the Snake River from headwaters of American Falls Reservoir to Gem State Dam.

Program: Advise angling public of the opportunity and ascertain angler interest in closing harvest to cutthroat trout while maintaining current limit on rainbow trout and brown trout.

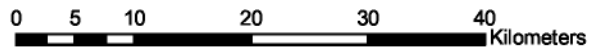
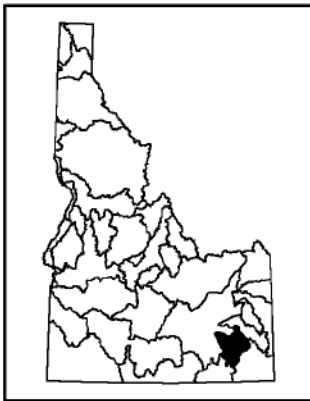
5. Objective: Improve fishing opportunities at McTucker ponds

Program: Work with Bingham County and the U.S. Bureau of Reclamation to improve restroom facilities, fishing docks, camping locations and other amenities to make this area more attractive as a "Family Fishing Water".

| DRAINAGE: Snake River-Lake Walcott to Confluence of South Fork and Henrys Fork |             |           |  |   |  |
|--|-------------|-----------|--|---|--|
| Water  | Miles/acres | Fishery   |  | Management                                      | Management Direction   |
|  |             | Type      | Species present  |   |  |
| Lake Walcott   | /8241       | Mixed     | Rainbow trout<br>Smallmouth bass<br><br>Cutthroat trout<br>Yellow perch                      | General   | Evaluate angler access options on Minidoka National Wildlife Refuge with USFWS.<br><br>Work with BOR to provide stable winter water levels to benefit fish habitat.  |
| Snake River from eastern boundary of Minidoka Wildlife Refuge to Eagle Rock    | 8/          | Mixed     | Rainbow trout<br>Brown trout<br>Smallmouth bass<br>Cutthroat trout                           | General   | Assess angler desires for quality bass management.   |
| Snake River from Eagle Rock to American Falls Dam                              | 7/          | Mixed     | Rainbow trout<br>Brown trout<br>Smallmouth bass<br><br>White sturgeon<br><br>Cutthroat trout | General<br><br>Conservation<br><br>Quality/Wild | Annually monitor the opening day trout fishery for catch rate, effort and fish condition. Develop a fishery management plan for the reach consistent with research findings and public input.<br>No harvest of planted sturgeon.<br><br>Maintain quality trout rules and the sturgeon stocking program and assess public interest in quality bass rules. Consider restoration of the hatchery brown trout program in this river reach. |
| American Falls Reservoir   | /56,000     | Mixed     | Rainbow trout<br>Cutthroat trout<br>Brown trout<br>Smallmouth bass                           | General   | Develop a fishery management plan for reservoir using research findings and public input.  |
| Rock Creek and tributaries   | 55/         | Coldwater | Cutthroat trout<br><br>Rainbow trout   | Quality<br><br>General                          | Develop angler access. Work with other agencies to minimize grazing impacts through NRCS programs  |
| Springfield Lake   | /66         | Coldwater | Rainbow trout  | General   | Assess public support and potential partners to increase water depth. Consider introduction of brown trout.  |
| McTucker ponds   | /10         | Mixed     | Rainbow trout.   | Put-and-take                                    | Improve facilities for Family Fishing . Experiment with fertilization to alter the plant community and increase fish growth and production.  |
| Rose Pond  | /5          | Mixed     | Rainbow trout.   | General   | Work with county and state highway Departments to deepen ponds. Frequent connection with the Snake River preclude warm water fish management.  |
| American Falls Reservoir to Gem State Dam                                      | 57/         | Coldwater | Cutthroat trout<br><br>Brown trout<br>Rainbow trout<br>Mountain whitefish                    | Quality/Wild<br><br>General                     | Maintain the current fishery with catchable and fingerling size rainbow trout stocking   |
| Gem State Dam to outflow of Idaho Falls upper power plant                      | 12/         | Coldwater | Rainbow trout<br>Brown trout<br>Whitefish  | General<br><br>Quality                          | Maintain catch rate for all trout to 0.5 fish/hr. Stock catchable rainbow trout. Monitor smallmouth bass populations.  |

|  |      |           |  |                    |  |
|--|------|-----------|--|--------------------|--|
| Idaho Falls upper power plant to South Fork          | 39/  | Coldwater | Cutthroat trout<br>Brown trout<br>Rainbow trout<br>Whitefish | Quality<br>General | Upper Snake Region cutthroat trout restricted harvest. Improve angler boat access. Manage for catch rates of 0.5 fish/hour for all trout. Rely on natural recruitment with experimental supplemental stocking of cutthroat trout fingerlings. Monitor smallmouth bass populations. |
| Roberts Gravel Pond                                  | /35  | Coldwater | Rainbow trout  | General            | Catchable rainbow trout stocked in spring and fall.  |
| Market Lake  | /545 | Warmwater | Yellow perch<br>Bullhead                                     | General            | Work with habitat managers to maintain warmwater fishery. Emphasis on yellow perch.  |
| Spring Creek, Taylor, Bannock, Jim and Texas sloughs | 33/  | Coldwater | Rainbow trout<br>Cutthroat trout                             | General<br>Quality | Put-and-grow fishery, Maintain catch rates of 0.5 fish/hr. Conduct spot creel checks to assess catch rate, effort, and size. Maintain supplementation with cutthroat trout and rainbow trout fingerlings.  |

# Portneuf River Drainage



## 27. PORTNEUF RIVER DRAINAGE

### A. Overview

The Portneuf River and tributaries total 297 miles of stream, and drain nearly 1,300 square miles. In addition, there are four irrigation storage reservoirs in the drainage covering 1,704 surface acres. Fish species found in this reach include the following native species: Yellowstone cutthroat trout, Utah chub, speckled dace, redbside shiner, Utah sucker, mountain sucker, Paiute sculpin and mottled sculpin; and the following introduced species: rainbow trout, brown trout, brook trout, and common carp. Mountain whitefish may be in the lower reach of the Portneuf River below Pocatello as they are present in American Falls Reservoir. This lower reach is mostly on the Fort Hall Indian Reservation and has not been surveyed by the Department.

The Portneuf River begins upstream of Chesterfield Reservoir on the Fort Hall Indian Reservation and flows into American Falls Reservoir. From this confluence upriver to Siphon Road the Portneuf River is also on the Fort Hall Reservation. The Shoshone-Bannock Tribes manage their reaches of the river as well as a portion of Chesterfield Reservoir that is on the reservation. From American Falls Reservoir upstream to Pocatello the river receives considerable spring water and has desirable water temperature for trout. The reach from Pocatello upstream to Marsh Creek contains very few trout, receives very little fishing pressure, and is severely impacted by sediment, irrigation withdrawals, damaged stream banks and high water temperatures. Additionally, the Portneuf River, where it flows through Pocatello, was channelized and directed through a flat-bottom, vertical sided cement flume that is a partial barrier to upstream movement. From the confluence of Marsh Creek upstream to the Portneuf/Marsh Valley Canal diversion, silt is less of a problem, but low flows caused by irrigation diversions adversely affect the populations of feral brown trout, the main game species in this area. Much of the sediment in the lower Portneuf River comes from Marsh Creek.

Conditions improve upriver from the Portneuf/Marsh Valley diversion since very little water is diverted upriver from here. Also, during the summer water is added to this reach from Chesterfield Reservoir for diversion approximately 20 miles downriver at the Portneuf/Marsh Valley Canal. From the Portneuf/Marsh Valley Canal upstream to Lava Hot Spring, a distance of approximately four miles, the main problem for fish is severe bank erosion caused mostly by livestock in riparian areas. This area contains a mixture of hatchery and natural rainbow trout, brown trout, and cutthroat trout. The 16 miles from Lava Hot Springs upstream to Kelly-Toponce Road Bridge once supported an excellent native cutthroat trout population and was a very popular fishery. In 1979, an estimated 7,000 anglers fished 17,300 hours and caught 3,000 wild rainbow trout, 4,200 hatchery rainbow trout, and 900 cutthroat trout in this area. Sampling in this area indicates the trout population was composed of 69% wild rainbow trout, 19% hatchery rainbow trout, and 12% cutthroat trout.

Harvest of wild trout on the river declined in the late 1980s to a few hundred fish annually and was so low that restrictive regulations would not have been effective.

The Department, angler groups, the Natural Resource Conservation Service and landowners began a cooperative effort to correct sediment problems in the Portneuf-Marsh Valley Canal Company's "outlet canal," the channelized reach below Chesterfield Reservoir. This reach was identified as contributing most heavily to sediment in the river below.

This 10-mile reach upstream from the Kelly-Toponce Road Bridge to Chesterfield Reservoir had been extensively damaged by stream channel alterations and contained few trout. From Chesterfield Reservoir upstream, the river has a base flow less than 10 cfs and has significant beaver activity.

Beginning in 2004, the approximately 5 mile reach of the upper Portneuf River between the Pebble Area Bridge and the Kelly-Toponce Road Bridge changed to catch-and-release for native cutthroat trout. Additionally, stocking of rainbow trout in this reach was discontinued. The fish populations will be evaluated in 2007 to determine the impact of these management changes.

In the 1996-2000 period reduction in sediment occurred due to the following projects:

1. Improvement of existing riparian corridor fences.
2. Construction of additional corridor fences.
3. Development of a DEQ/Soil Conservation District project to exclude live stock from and revegetate the outlet canal.
4. Development of a Portneuf-Marsh Valley Canal Company, Idaho Department of Water Resources and Department of Fish and Game project to construct grade control structures in the channelized reach below Chesterfield Reservoir.

Major tributaries to the Portneuf River include Mink, Rapid, Marsh, Dempsey, Fish, Pebble, and Toponce creeks. They may serve as spawning areas for trout from the Portneuf River and nursery areas for fluvial trout. However, trout movement and the importance of these tributaries to the river are unknown. Fish Creek has a population of Yellowstone cutthroat trout, but due to its geological isolation between travertine waterfalls and now between hydroelectric project dams, a fluvial life history for Fish Creek trout is not possible. Toponce Creek is diverted into Chesterfield Reservoir during the non-irrigation months and into irrigation ditches during the summer. There is no ability for native cutthroat trout to have a fluvial life history. Currently Pebble Creek is most functional tributary for Portneuf River fluvial cutthroat trout.

Four irrigation reservoirs are located in this drainage: Hawkins, Wiregrass, Chesterfield, and Twentyfour Mile. The lack of suitable spawning areas precludes the development of wild trout fisheries in these waters. The 1992 chemical renovation of fish remaining in the mostly-drained Chesterfield Reservoir and inlet stream eliminated carp. Unfortunately, Utah chubs are native to the upper basin and rebuild in numbers and size during years when there is adequate carry-over water between irrigation seasons. When a perennial water interval begins, trout

are stocked and grow very rapidly. Trout stocked as 9 inch catchables the first year grow to 18 to 20 inches and 2.5 to 3.5 lbs by the following summer. Concurrent restoration of the Utah chub population causes trout growth to slow in following years. The limit on trout was reduced from six to three in 1998 and to two in 2002. The former reduction was a response to public concern. The latter reduction was for fishing rule simplification. The two trout limit should allow large trout to persist longer in this fishery and provide increased angler satisfaction.

The Pocatello Highway Pond, a 20-40 acre gravel pit south of Pocatello, fills with ground water whenever the water table rises. This pond was mostly dry from the late 1990s through 2005. It filled completely in April 2006 and held water throughout the summer. No fish were stocked during this interval due to unresolved aquifer water quality issues by the Idaho Department of Transportation, which owns the land surrounding the Highway Pond. Multiple agencies will develop a long-term plan for use of the Highway Pond property.

**B. Objectives and Programs**

1. Objective: Improve water quality and trout habitat in Portneuf River from Pocatello upriver to Lava Hot Springs, including Marsh Creek.

Program: Seek participants in NRCS Continuous Signup Conservation Reserve Program. Participate in the Portneuf River Watershed Council to seek new opportunities to make improvements.

2. Objective: Improve conditions for native trout in the Portneuf River from Lava Hot Springs to Chesterfield Reservoir.

Program: Maintain existing riparian corridor fences on private land. Seek additional riparian fencing projects on the river and tributaries. Obtain renewed 10-year access and fence maintenance agreement with King Creek Grazing Association.

Program: Reduce the number of hatchery trout stocked. Trout stocking was discontinued in the reach between the Pebble Area and Kelly-Toponce road bridges in 2004 as part of an effort to improve conditions for native Yellowstone cutthroat trout.

Program: Seek funding for a full-time technician and seasonal aide to maintain riparian corridor fences, seek new fencing projects on private land in coordination with other natural resource agencies and solicit grants for fencing projects.

3. Objective: Attempt to develop a viable urban fishing pond in the Pocatello-Chubbuck area.

Program: Work with the local community and other parties to locate a site and cooperate on funding the development and maintenance of an urban fishery.

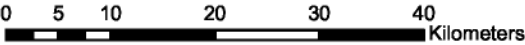
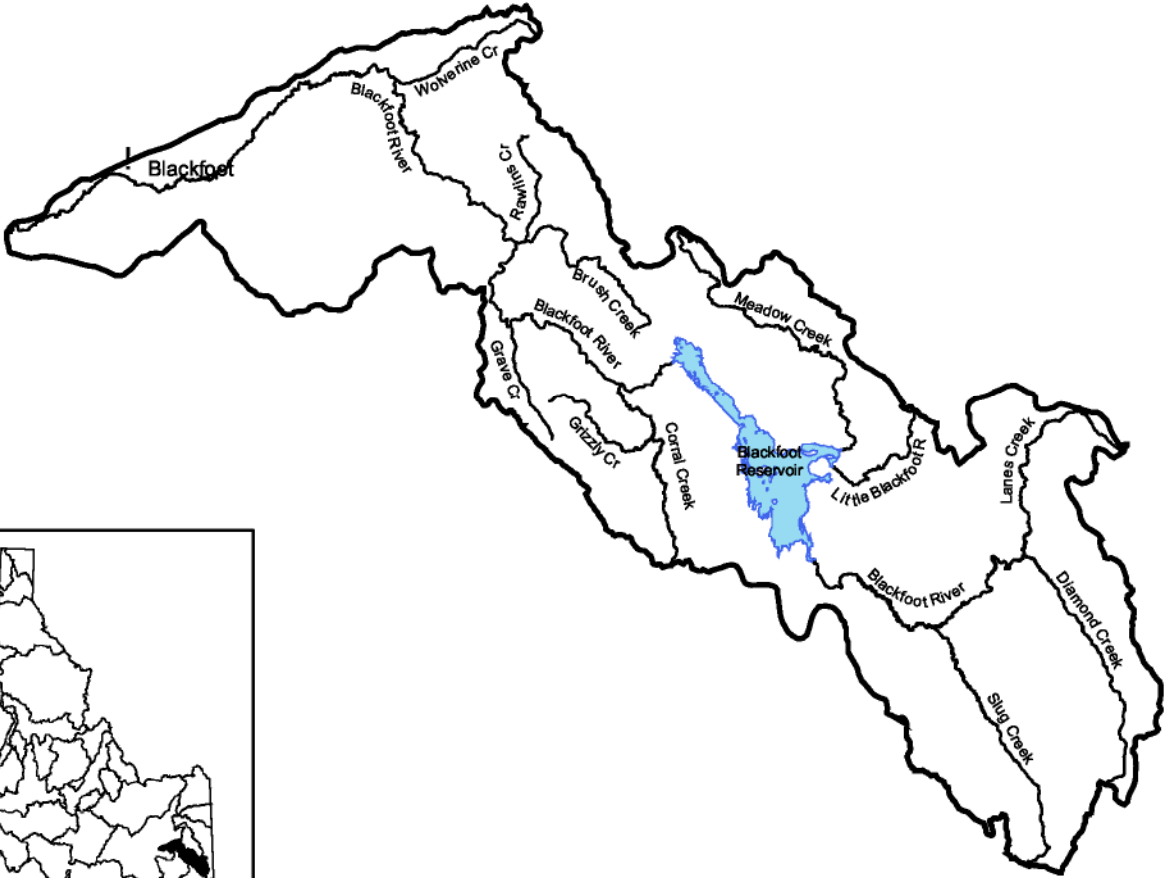


4. Work with the Carriboo Conservancy, Inc to secure storage water rights in Chesterfield Reservoir to maintain a minimum reservoir pool and increase mid-summer flows in the Portneuf River downstream of McCammon.

| Drainage: PORTNEUF RIVER   |            |           |   |  |  |
|--|------------|-----------|---|--|--|
| Water  | Miles/acre | Type      | Fishery   | Management                                 | Management Direction   |
|  |            |           | Species Present   |  |  |
| Portneuf River from American Falls Reservoir to Marsh Creek, including Marsh Creek upstream from the Ft Hall Reservation | 12/        | Coldwater | Rainbow trout<br>Brown trout<br>Cutthroat trout                             | General<br><br>Quality                     | Stock catchable size rainbow trout in the Edson Fichter area upstream of Pocatello when water quality and quantity allow. Pursue better water quality and quantity management.   |
| Portneuf River from Marsh Creek to Marsh Valley Canal diversion  | 20/        | Coldwater | Brown trout<br>Rainbow trout<br>Cutthroat trout                             | General<br><br>Quality                     | Stock catchable rainbow trout.   |
| Marsh Creek  | 40         | Coldwater | Cutthroat trout<br><br>Brown trout<br>Rainbow trout                         | Wild<br><br>General<br>Put-and-take        | Work with landowners to improve habitat. Seek better irrigation return flow quality through NRCS projects and IDEQ regulation.   |
| Hawkins Reservoir  | /54        | Coldwater | Rainbow trout   | General                                    | Stock catchable size rainbow trout in early spring. Water supply is often insufficient for fish survival by the end of the irrigation season in drought years.   |
| Wiregrass Reservoir  | /6         | Coldwater | Rainbow trout   | Put-and-take                               | Stock catchables in early spring. Determine if angler use warrants continuation of the stocking program.   |
| Portneuf River from Marsh Valley Canal to Lava Hot Springs   | 7/         | Coldwater | Rainbow trout<br><br>Brown trout<br>Cutthroat trout                         | Put-and-take<br><br>General<br><br>Quality | Work on access permits with Lava Hot Springs Chamber of Commerce and landowners. Limit hatchery zone to upper three miles near town. Improve riparian habitat.   |
| Portneuf River from Lava Hot Springs to Broxon Road  | 6/         | Coldwater | Rainbow trout<br>Brown trout<br>Cutthroat trout                             | Put-and-take trout<br><br>Quality          | Seek public access from landowners.  |
| Portneuf River from Broxon Road to Kelly Road Bridge   | 8/         | Coldwater | Rainbow trout<br><br>Cutthroat trout  | Quality<br><br>Wild                        | Reduce sediment problems via upstream habitat improvement in canal and tributaries. Maintain riparian corridor fences and access agreements with landowners. Special rules were implemented in 2004 for catch-and-release for native cutthroat trout from the Pebble Area Bridge to Kelly-Toponce Road Bridge. |
| Portneuf River from Pebble Area Road Bridge to Chesterfield Reservoir  | 9/         | Coldwater | Rainbow trout<br>Cutthroat trout  | General<br>Quality                         | Monitor habitat improvement and fish population after canal and stream bank improvements mature. Pursue permanent easements for walk-in public access and maintenance of riparian corridor fences.   |
| Chesterfield Reservoir   | /1,600     | Coldwater | Cutthroat trout<br>Rainbow trout<br>Rainbow trout x cutthroat trout hybrids | General                                    | Stock catchable size rainbow trout when Utah chubs limit survival and growth of fingerlings.   |
| Portneuf River above Chesterfield Reservoir  |            | Coldwater | Cutthroat trout   | Wild                                       | This reach is on the Fort Hall Indian Reservation.   |
| Pebble Creek   | 10/        | Coldwater | Cutthroat trout   | Wild                                       | Seek habitat improvement project Opportunities.  |

|                   |     |           |   |                      |   |
|-------------------|-----|-----------|---|----------------------|---|
|                   |     |           | Rainbow trout   | Put-and-take         |   |
| Toponce Creek     | 12/ | Coldwater | Cutthroat trout<br>Rainbow trout                              | Wild<br>Put-and-take |   |
| 24-Mile Reservoir | /44 | Coldwater | Rainbow trout x<br>cutthroat trout<br>hybrid<br>Rainbow trout | Trophy               | Maintain moderate stocking rate. Stock with fingerling cutthroat trout and rainbow Trout. |

# Blackfoot River Drainage



## 28. BLACKFOOT RIVER AND TRIBUTARIES

### A. Overview

The Blackfoot River and tributaries total 346 miles. Blackfoot Reservoir covers 18,000 surface acres and contains 350,000 acre-feet of water at capacity. The Blackfoot River is the reservoir's major tributary and has a mean annual flow of 168 cfs. The river upstream from the reservoir extends 35 miles to its origin at the confluence of Lane and Diamond creeks. Flow is also diverted from Greys Lake via Meadow Creek for additional storage water. Fish species found in this reach include the following native species: mountain whitefish, Yellowstone cutthroat trout, Utah chub, longnose dace, speckled dace, redbside shiner, Utah sucker, mountain sucker, Paiute sculpin, and mottled sculpin; and the following introduced species: rainbow trout, brook trout, common carp, and yellow perch. The leatherside chub, more recently referred to as the northern leatherside, was reported from Angus Creek, a tributary of the upper Blackfoot River, twenty years ago, but has not been identified in more recent surveys.

Habitat conditions generally are fair in the upper reaches and tributaries, with a few exceptions due to livestock grazing and irrigation diversions. One of the largest phosphate ore reserves in the United States is located in this drainage. Environmental problems associated with phosphate mining have largely been undetermined to date. However, there is an on-going investigation into affects of elevated levels of selenium related to phosphate mining on the fish and wildlife in the upper Blackfoot River drainage.

Most large (over 18-inches long) trout caught downstream from Blackfoot Reservoir probably escaped from the reservoir. Good rearing conditions in tributaries and reduced limits for Yellowstone cutthroat trout have allowed cutthroat trout numbers to increase in the lower river above Wolverine Creek. Mountain whitefish are the dominant gamefish species in the river downstream from Wolverine Creek. Department personnel will encourage the Shoshone-Bannock Tribes to obtain minimum flows for the river during the non-irrigation season. However, increased flows are unlikely in years when the Blackfoot Reservoir is low. After an extended drought such as occurred from 1987 to 1992 and again from 2000 to 2005, at least two consecutive years of above normal precipitation are required to refill Blackfoot Reservoir.

Trout harvest from Blackfoot Reservoir is almost entirely hatchery rainbow trout. Native cutthroat trout must be released. Cutthroat trout made up about 90% of the catch from the river and tributaries upstream from Slug Creek. However, naturally spawning rainbow trout were plentiful in the upper Blackfoot River in 2000. Since then the region has undertaken several rainbow trout removal efforts and only sterile rainbow trout are stocked in Blackfoot Reservoir.

The Blackfoot River, its tributaries, and the Blackfoot Reservoir serve integral roles in the life history and ecology of native cutthroat trout. Mature cutthroat trout from the reservoir ascend the river in April and May and enter upper tributaries or the main river channel to spawn in late May and June. Most of the progeny rear in the

tributaries for varying periods up to two years. Some juvenile cutthroat trout then migrate to Blackfoot Reservoir and remain for a year or more until they are ready to return to the river to spawn.

Studies completed on the reservoir and river in the 1970s and 1980s indicated that the native cutthroat trout population was being over exploited. Size and number of cutthroat trout caught had decreased significantly prior to 1985. Regulations to offset this decline were implemented in 1985 but were ineffective. An evaluation of the cutthroat trout population made in 1988 showed that the river fishery had completely collapsed.

In 1983, the Department began stocking Bonneville cutthroat trout from Bear Lake in Blackfoot Reservoir. These fish were reared for one year in the Grace Hatchery prior to release as five-inch fingerlings. The Bonneville trout were treated with morphaline at the hatchery prior to release, and were planted in the Little Blackfoot River at its mouth. The stream also was treated with morphaline to attract fish at the time of spawning. This planting location and morphaline treatment were attempts to prevent interbreeding of the native Yellowstone cutthroat with the introduced Bonneville cutthroat subspecies. Egg survival from Bonneville cutthroat trout spawners captured in the Little Blackfoot River was poor. Beginning in 1990 the Bonneville cutthroat trout were released in the Blackfoot River. In 1991 the Department attempted to trap all trout ascending the upper Blackfoot River from Blackfoot Reservoir. Trapped Bonneville cutthroat trout were to be removed from the river to prevent them from spawning and possibly interbreeding with wild cutthroat trout. This program failed since the trap was not effective except during low flows. At high flows the weir was over topped by water and all fish passed. Stocking of Bonneville cutthroat trout in the Blackfoot system was terminated in 1995.

A major management planning effort was initiated in 1988 for the entire Upper Blackfoot System. Since 1990 all wild cutthroat trout caught in the reservoir have had to be released. From 1990 through 1997 only two cutthroat trout over 18 inches could be taken per day on the river. Since 1998 all cutthroat trout have had to be released on the upper Blackfoot River and tributaries. No bait fishing is allowed on the river upstream of the reservoir. Computer modeling to simulate the wild trout population indicated that 12 to 15 years would be necessary under these regulations before the wild cutthroat trout fishery could be restored to 1959-60 levels. The 1987-1992 droughts got this program off to a slow start. As of the year 2001, restoration appeared good with large numbers of spawners observed on spawning grounds and upper river anglers reporting good catches of large cutthroat trout. However severe declines occurred from then through 2006. In 2003 predation by fish-eating birds at Blackfoot Reservoir was studied. Although only 3.6% of the fish eaten by birds were trout, birds fed opportunistically on newly stocked trout. During the May through July study, white pelicans and double crested cormorants ate an estimated 6.9 metric tons of trout which was the approximate weight of trout stocked. Pelicans also have a devastating impact on the spawning run of wild Yellowstone cutthroat trout as they attempt to migrate from the reservoir into the river. During the interval from 2001 through 2005, while breeding pelicans increased from 1,600 to 3,000 at Blackfoot Reservoir while the number of cutthroat trout spawners migrating up the Blackfoot River from the reservoir has decreased from nearly 5,000 to only 20. However, this was an

interval of drought such that the reservoir volume progressively decreased to a low of only 4% during the fall of 2004 which likely decreased habitat quality for cutthroat trout and made predation by piscivorous birds easier. The net result has been a sharp decrease in the number of adfluvial cutthroat spawners ascending the Blackfoot River from the Reservoir. In 2005 and 2006 the approximate run size was 20 adfluvial cutthroat spawners per year. Fortunately the density of adolescent and resident cutthroat living in the upper Blackfoot River has increased between 2002 and 2005. Some of these fish will migrate to Blackfoot Reservoir. During years when precipitation is sufficient to increase the volume of Blackfoot Reservoir the number of adfluvial Yellowstone cutthroat spawners should increase. However, without a decrease in the number of piscivorous birds, especially white pelicans, the number of adfluvial cutthroat spawners may not rebuild significantly.

In 2000, anglers and Department biologists observed numerous rainbow trout in the upper reach of the Blackfoot River. Since that time the Department has worked to remove the rainbow trout to prevent them from interbreeding with native cutthroat. The Department's sterile rainbow trout stocking program is a significant effort toward this goal.

Hatchery rainbow trout were typically stocked in spring and summer at 80,000 per year, but the emphasis during the early 1990s was on fingerling stocking. The target release was 2,000,000 rainbow trout annually. However, during the extended drought in 1991, an evaluation demonstrated very poor survival of these fish, with almost no benefit to anglers. With increased precipitation from 1995 through 1999 the Department again planted large numbers of fingerlings as well as an equal dollar value of catchable size rainbow trout. In 2001, the Department evaluated the relative benefits of these two size groups of trout in the angler catch. Size of trout to be stocked in the future will be based on this evaluation.

Only one out of 50 rainbow trout stocked at catchable size and one out of 300 rainbow trout stocked at fingerling size was caught in the 7-month long 2001 creel survey. There is very little fishing on Blackfoot Reservoir during winter so these numbers are close to total annual catch. Because the cost to raise and stock fingerlings is much less than for catchables, the cost per catchable caught was \$32.15 and the cost per fingerling caught was \$8.49. Due to the increase in fish eating birds at Blackfoot Reservoir, all stocking is now done late in the fall, after pelicans and cormorants have migrated south. We are now evaluating the relative survival to the creel of different sizes of trout stocked at this time of year. Fingerlings stocked late in the fall may not survive as well as when stocked in the spring.

Dike Lake (35 surface acres) was created by a barrier across the mouth of a bay on Blackfoot Reservoir to prevent water loss. Dike Lake is extremely productive and known for rapid growth rates of stocked trout. During the winter months, vegetation in the water decays, resulting in oxygen depletion and in most years, a complete fish kill. The Department tried electric aerators but these were damaged when power outages allowed moving parts to become ice-bound. During much of the previous six years, Blackfoot Reservoir water surface was too low to fill Dike Lake. When Dike Lake fills again discussion for improved aeration technology and weed removal will continue.

**B. Objectives and Programs**

1. Objective: Improve migration conditions in spawning tributaries of the Blackfoot River from its mouth upriver to Blackfoot Reservoir.

Program: Repair potential migration barrier on Miner Creek below the highway bridge.

2. Objective: Protect genetic integrity of native Yellowstone cutthroat trout in the Upper Blackfoot River.

Program: Continue stocking only sterile rainbow trout in Blackfoot Reservoir.

Program: Install signs to help anglers distinguish among rainbow trout, cutthroat trout, and their hybrids and inform them of the need to harvest rainbow and hybrids.

3. Objective: Establish an appropriate balance between management goals for Yellowstone cutthroat trout and American white pelicans at Blackfoot Reservoir.

Program: Coordinate with the Department wildlife program and appropriate federal agencies to establish population goals for American white pelicans that will be consistent with Yellowstone cutthroat trout conservation and fishery management goals.

4. Monitor escapement of adfluvial cutthroat trout spawners from Blackfoot Reservoir into the upper Blackfoot River

Program: Operate the electric weir in April and May to count adult cutthroat spawners, determine degree of wounds from predaceous birds, and remove rainbow trout and examine for sterility.



| Drainage: BLACKFOOT RIVER   |            |           |  |                                       |   |
|---|------------|-----------|--|---------------------------------------|---|
| Water   | Miles/acre | Fishery   |  | Management                            | Management Direction  |
|   |            | Type      | Species Present  |                                       |   |
| Blackfoot River from mouth to equalizing reservoir                | 14/        | Coldwater | Rainbow trout<br>Mountain whitefish<br>Cutthroat trout | General<br>Quality                    | Survey fish population, habitat, temperature, and water quality relative to potential hatchery trout fishery.   |
| Blackfoot River from equalizing reservoir to Wolverine Creek      | 18/        | Coldwater | Rainbow trout<br>Mountain whitefish<br>Cutthroat trout | General<br>Quality                    |   |
| Blackfoot River from Wolverine Creek to Rawlins Creek             | 14/        | Coldwater | Rainbow trout<br>Mountain whitefish<br>Cutthroat trout | General<br>Quality                    | Assess potential for habitat improvement. Improve fish passage from river into tributaries.   |
| Rawlins and Brush creeks (lower three miles)                      | 3/         | Coldwater | Rainbow trout<br><br>Brook trout<br>Cutthroat trout    | Put-and-take<br><br>General<br>Wild   | Stock hatchery zone in lower three miles of Rawlins and Brush creeks.   |
| Rawlins and Brush creeks (above hatchery zone)                    | 9/         | Coldwater | Cutthroat trout<br><br>Brook trout                     | Wild<br><br>General                   |   |
| Blackfoot River from Rawlins Creek to Cutthroat trout Campground  | 11/        | Coldwater | Rainbow trout<br>Cutthroat trout                       | General<br>Quality                    | Stock sterile rainbow trout at Cutthroat and Sagehen campgrounds.   |
| Blackfoot River from Cutthroat trout Campground to Government Dam | 10/        | Coldwater | Rainbow trout<br>Cutthroat trout                       | Put-and-take<br>Quality               |   |
| Corral Creek  |            | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout        | Put-and-take trout<br>General<br>Wild |   |
| Other Blackfoot River tributaries from mouth to Government Dam    |            | Coldwater | Cutthroat trout  | Wild                                  |   |
| Blackfoot Reservoir   | /18,000    | Coldwater | Rainbow trout<br><br>Cutthroat trout                   | General<br><br>Conservation           | Evaluate benefit to anglers of small fingerlings v catchable size trout. Stock sterile rainbow and maintain cutthroat populations. Determine status of illegally stocked yellow perch.<br><br>Continue to assess impacts of avian predators on cutthroat trout. |
| Blackfoot River and tributaries above the reservoir               | 60/        | Coldwater | Rainbow trout<br>Brook trout<br><br>Cutthroat trout    | General<br><br>Quality                | Develop angler access throughout drainage. Work on habitat improvement, particularly on upper valley tributaries. Remove rainbow trout and rainbow trout hybrids.<br><br>Continue to assess impacts of avian predators on cutthroat trout.                      |

# Willow Creek Drainage



## 29. WILLOW CREEK DRAINAGE

### A. Overview

Major tributaries to Willow Creek are Grays Lake Outlet and Cranes, Meadow, and Tex creeks. Since 1924, up to 20,000 acre-feet of water have been diverted annually from the Willow Creek drainage to Blackfoot Reservoir through Clark's Cut Canal. The construction of Ririe Dam, a rock-face, earth-filled structure, was completed by the Corp of Engineers in 1976. The reservoir has a total capacity of 80,540 acre-feet, a surface area of 1,470 acres, and is managed for priorities of flood control and irrigation water storage. The reservoir is drawn down to 35,000 acre-feet annually by November 1 to provide winter flow storage (flood control).

The 20 miles of Willow Creek below Ririe Dam are controlled for irrigation and flood control. This segment of Willow Creek is annually dewatered to keep ice buildup from causing floods near Idaho Falls. Maintaining a wild fishery in this area is only feasible with minimum year-long releases below Ririe Reservoir, although numerous trout from irrigation ditches which flow into Willow Creek via the South Fork Snake River provide a seasonal fishery. Prior to dewatering lower Willow Creek in 1976, the catch rate was 0.44 trout/hour with 10,500 hours (5,600 angler days) of effort expended annually. No creel survey has been conducted in recent years; however, aside from the reach of Willow Creek immediately below Ririe Dam, the fishery is now largely non-existent

Ririe Reservoir, 20 miles from Idaho Falls, has developed into a popular fishery and it supports one of the most intensive salmonid reservoir fisheries in Idaho. In 2005, angler use was approximately 43,800 hours with a catch rate of 0.9 fish per hour. This fishery is supported primarily through hatchery releases of cutthroat trout and kokanee, and a self-sustaining population of smallmouth bass. In 2001 the trout stocking program was shifted from triploid rainbow trout to fine-spotted Yellowstone cutthroat trout. Evaluation of return-to-creel has indicated the program has successfully replaced the rainbow trout fishery. Kokanee have been stocked since 1990 and the stocking rate was increased in 2002 to improve catch rates. This has been effective, as demonstrated by catch rates for kokanee, which improved from 0.04 fish/hour in 1993 to 0.35 fish/hour in 2005. Much of this is due to an increasingly popular ice-fishery. Twenty-five percent of the effort in 2005 was during the ice-fishery which was non-existent in 1993. Occasional catches of rainbow trout and brown trout also occurred but stocking has been discontinued on these species. Splake were stocked in Ririe Reservoir from 1996 through 1999, but the program was discontinued because of low angler returns. Anglers, however, have harvested two state record splake in recent years (2004 and 2006), demonstrating the program was successful in producing fish in excess of ten pounds over time. Steep banks and limited access restrict bank fishermen to < 5% of the effort.

Smallmouth bass were introduced into Ririe Reservoir from 1984 to 1986. A self-reproducing population has developed from the original introductions. The smallmouth bass fishery in Ririe Reservoir is limited by the short growing season at this latitude and altitude. Smallmouth bass growth will not approach growth

rates in lower elevation, western Idaho impoundments. Because of the limited growth potential in the reservoir, we will not likely achieve proportional stock densities above 20 to 30.

The yellow perch fishery has fluctuated in recent years, largely due to the drawdown of the reservoir and the loss of inundated littoral areas. As the reservoir levels have improved in the past two years, the yellow perch fishery has recovered and large catches of 7-10 inch perch are common.

The 95 miles of streams in the Willow Creek drainage above Ririe Reservoir are mainly in narrow canyons and contain brook trout and genetically pure Yellowstone cutthroat trout. Water flows vary from extremes of several thousand cubic feet per second during runoff to a few cubic feet per second in late summer and winter in Willow Creek. Intense grazing combined with a sustained drought have contributed to poor riparian habitat conditions in the upper watershed. Water quantity and quality has suffered as a result. The Natural Resource Conservation Service (NRCS) has identified the Willow Creek drainage as one of the ten worst soil erosion areas in the United States. A water quality program has been initiated to reduce loss of top soils and improve the water quality of Willow Creek above Ririe Dam. Riparian habitat improvement through improved grazing management is a high priority on both state and private lands. The Department is working with the NRCS, the Eastern Idaho Grazing Association, and other local groups to facilitate improvements in resource management practices.

Cutthroat trout in the mainstem areas of Willow Creek and Grays Lake Outlet are dependent on downstream movement from tributary spawning and nursery areas. Most tributaries of Willow Creek contain native populations of Yellowstone cutthroat trout and/or non-native brook trout. Though brown trout have been stocked and found in the past, none have been collected in population surveys conducted from 2000 through 2005. Native cutthroat trout populations are presently depressed in the drainage but remain viable. Drought conditions since 1987 have impacted many of the smaller headwater tributaries in the Willow Creek drainage. With a return to normal snowpack years the Department will consider supplemental hatchery releases on a case-by-case basis where fish populations have been impacted. This may include those drainages managed as wild trout.

Overharvest of cutthroat trout once contributed to the decline of this species but restrictive harvest regulations have reduced angling exploitation as a threat. Cutthroat trout presently dominate the catch in tributaries; however, angling effort has been minimal in recent years. Hatchery catchable rainbow trout and brown trout fingerlings are no longer stocked in the Willow Creek drainage above Ririe Reservoir. No wild rainbow trout have been found in the Willow Creek drainage and genetic surveys in 1999 and 2000 have documented that Willow Creek cutthroat trout are free of rainbow trout introgression. Beginning in 1990, the Upper Snake Region restricted harvest regulation was enacted for cutthroat trout in rivers and streams. The daily limit is two cutthroat trout none less than 16 inches.

**B. Objectives and Programs**

1. Objective: Restore native fluvial cutthroat trout populations in Willow Creek and tributaries.

Program: Maintain restrictive harvest regulations for cutthroat trout and late (July 1) season openers in principal spawning tributaries.

Program: Work for habitat and stream flow protection and enhancement.

2. Objective: Maintain a satisfactory salmonid fishery in Ririe Reservoir, emphasizing cutthroat trout conservation.

Program: Stock catchable cutthroat trout on a schedule that provides high quality fishing with economic efficiency.

Program: Stock 200,000 kokanee fry annually and continue to evaluate length-at-age and catch rates to optimize the fishery.

Program: Work to improve habitat and stream flow protection and enhancement to provide adequate spawning habitat for reservoir salmonids.

3. Objective: Maintain a satisfactory smallmouth bass and yellow perch fishery in Ririe Reservoir.

Program: Continue to promote the value of the yellow perch fishery during years when reservoir levels create an abundant perch population.

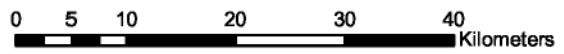
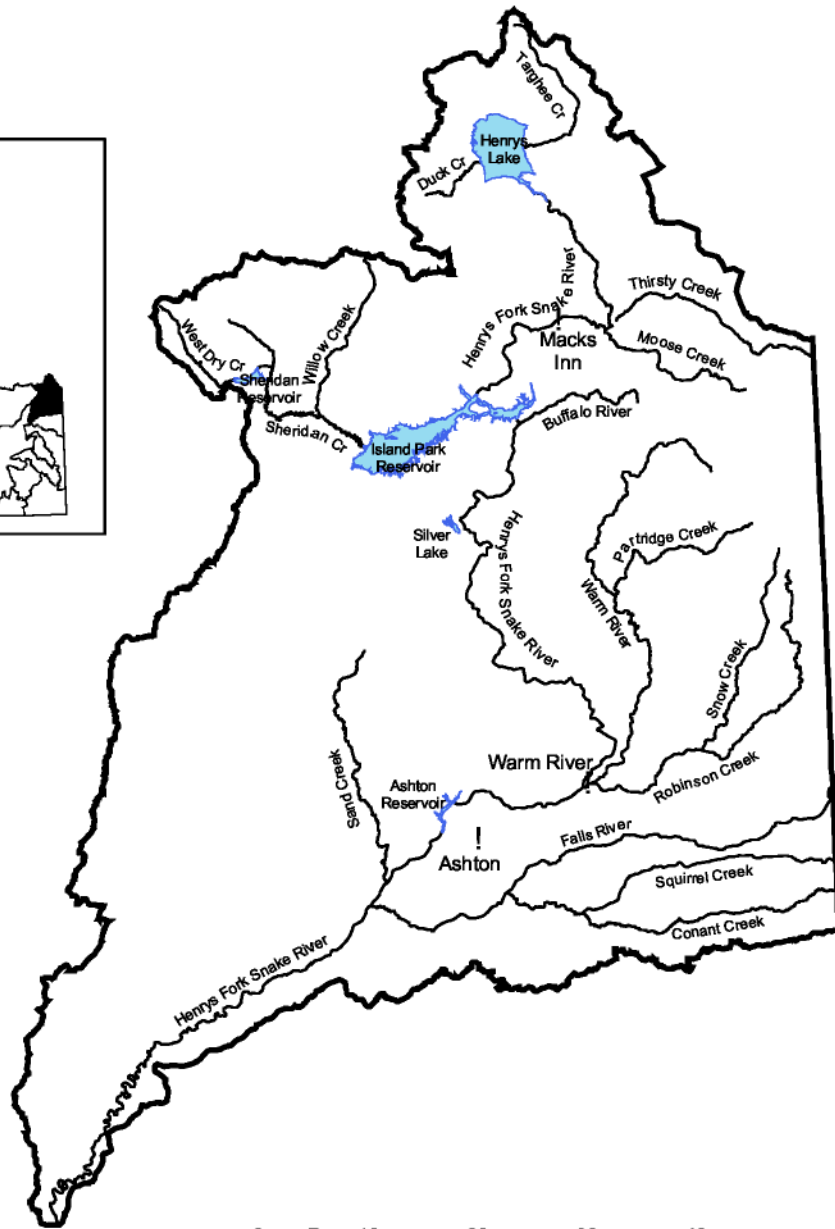
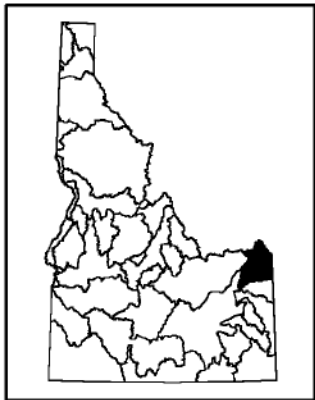
Program: Assess public opinion on the smallmouth bass fishery and determine whether harvest opportunity is more important than attempting to maintain a quality size structure.

4. Objective: Increase use of chubs and suckers by predators.

Program: Consider resuming the splake stocking program.

| DRAINAGE: Willow Creek                                   |             |           |  |                         |  |
|--|-------------|-----------|--|-------------------------|--|
| Water  | Miles/acres | Fishery   |  | Management              | Management Direction   |
|  |             | Type      | Species present  |                         |  |
| Willow Creek from Eagle Rock Canal to Ririe Dam          | 5/          | Coldwater | Rainbow trout<br>Cutthroat trout   | General<br>Quality      | Area seasonally de-watered.  |
| Ririe Reservoir  | /1,470      | Mixed     | Cutthroat trout<br>Kokanee<br>Brown trout<br>Yellow perch<br>Smallmouth bass<br>Splake | Put-and-take<br>General | Cutthroat trout put-and-take fishery Put-and-grow kokanee fishery. Maintain catch rates of 0.6 fish/hr with lengths 10 to 12 inches. Evaluate tradeoff between harvest versus size structure and adjust bass length limits accordingly |
| Willow Creek and Grays Lake Outlet above Ririe Reservoir | 80/         | Coldwater | Cutthroat trout  | Quality                 | Restore wild populations of native cutthroat trout through restricted harvest regulations and habitat enhancement.   |
| All other tributaries                                    | 83/         | Coldwater | Cutthroat trout<br>Brook trout   | Quality<br>General      | Restore wild populations of native cutthroat trout through restricted harvest rules, delayed season openers and habitat enhancement.   |

# Henrys Fork Snake River Drainage



## 30. HENRYS FORK SNAKE RIVER DRAINAGE

### A. Overview

The Henrys Fork drainage provides one of the most important rainbow trout fisheries in the state. Important tributaries include the Buffalo, Warm, Fall and Teton rivers. Major still water fisheries in the drainage are Henrys Lake, Island Park Reservoir and Ashton Reservoir. The Teton River is discussed as a separate drainage.

### Henrys Fork

The Henrys Fork from St. Anthony to Big Springs attracts anglers from throughout the nation. A major part of the fishing pressure is from tourists traveling to Yellowstone National Park. An economic survey conducted in 2004 estimated that anglers spent nearly 170,000 angler days in the Henrys Fork drainage from May through September, and that the fishery generated nearly \$30 million to the local economy. Similarly, a Department economic survey in 2003 showed that Fremont County, which encompasses most of the Henrys Fork drainage, ranked first out of the 44 counties in Idaho in terms of angler spending. This study, which calculated effort for the entire year, estimated that anglers fished nearly 225,000 days in the Henrys Fork drainage and spent nearly \$51 million during angling trips.

Management of the Henrys Fork from the mouth to Island Park Dam will emphasize wild, natural populations without hatchery supplementation. The Henrys Fork Snake River below St. Anthony suffers from impacts of irrigation withdrawals and low flows, which limit salmonid populations, though the channel complexity and diversity between St. Anthony and the confluence with the Teton River is high and offers good seasonal trout habitat. The habitat below the confluence of the Teton River is severely degraded as a result of the Teton Dam failure and flood in 1976.

The section of river from St. Anthony to Mesa Falls is currently producing good numbers of wild rainbow trout, with a lesser number of brown trout. Whitefish are very abundant. The Henrys Fork from Riverside Campground to Island Park Reservoir supports a world famous wild rainbow trout fishery. Catch rates and trout population sizes declined steadily through the 1980s and early 1990s due to changes in Island Park Reservoir water management. Both rebounded significantly in 1993 after the 1992 draining and chemical renovation of Island Park Reservoir. Angler satisfaction has remained high since 1993. Densities of trout declined from 2002 through 2004 as a result of poor snowpack and low winter discharges from Island Park Dam. Research conducted by Montana State University and the Department from 1995 through 2005 verified the importance of winter river flows in the Box Canyon reach. Higher flows from January through March in this reach result in significantly higher overwinter survival of juvenile trout and subsequent recruitment to the fishery below Island Park Reservoir. Implementation of a congressionally mandated Drought Management Plan has improved communications and planning around winter discharges. We will continue to work cooperatively with stakeholders to maximize wild trout production



below Island Park Dam. This reach will remain a wild trout fishery, managed under catch-and-release regulations.

### **Ashton Reservoir**

Ashton Reservoir is annually supplemented with 34,370 catchable rainbow trout as part of a mitigation agreement with PacifiCorp, the operator of Ashton Dam. This reach will continue be designated as a Family Fishing Water and managed for a yield fishery under general regulations.

### **Island Park Reservoir**

Island Park Reservoir is a widely fluctuating irrigation reservoir with a mean surface area of 8,400 acres. Historically, the reservoir has provided an important fishery for rainbow trout and kokanee, with catch rates of up to 0.6 fish/hour. The reservoir has a long history of being chemically renovated to reduce non-game fish (primarily chubs and suckers) abundance and improve the sport fishery. Most recently, the reservoir was chemically treated in 1992. However, the fishery did not benefit as expected. Catch rates for the three years following the 1992 renovation failed to exceed 0.4 fish/hour. Following the 1992 renovation, utilization of alternative species of salmonids were stocked in an effort to identify a piscivorous sportfish that would take advantage of the abundant chub forage base Lahontan cutthroat trout were stocked from 1993 to 1997 and splake were stocked from 1995 through 1998. Subsequent monitoring indicated that both species performed as well as, but no better than rainbow trout and kokanee, and therefore the Lahontan cutthroat trout and splake stockings were discontinued. Considering the poor response of the fishery combined with the delivery of several thousand tons of sediment to the Henrys Fork below Island Park Dam, the social and economical cost of the renovation greatly outweighed the benefits of the 1992 treatment.

The fishery continued to decline through 2005, largely due to the drought and reservoir drawdown. Analysis of gillnet and angler catch rates clearly demonstrate the relationship between winter carryover and fish populations. However, the most important factor influencing angler and gillnet catch rates is the stocking rate in the years prior. The decline in the fishery is likely the result of factors associated with the drought that were concurrent with a decrease in stocking rates. At the same time fish populations were being adversely impacted by the reservoir drawdown, the stocking program was modified, both in terms of number and type of fish. Diploid rainbow trout were replaced with triploid rainbow trout, and the annual fingerling plant was reduced, in part to accommodate the program of supplementing the Henrys Fork above the reservoir with cutthroat trout fingerlings.

Management direction for Island Park will focus on returning to a stocking program consistent with the periods when the fishery achieved maximum angler catch rates. This will include comparable numbers, locations, and time of release. The effectiveness of the supplementation program will be monitored by creel and gillnet surveys. Efforts to suppress the non-game fish population, either by chemical treatment or stocking piscivorous fish will be deferred until after evaluation of the benefits of the enhanced stocking program.

### **Upper Henrys Fork and Henrys Lake Outlet**

From Island Park Reservoir upstream to the Henrys Lake Outlet, the Henrys Fork provides a yield fishery supported primarily by supplemented hatchery catchable rainbow trout, with some additional natural production. Population surveys have indicated the occurrence of good numbers of large rainbow trout in the river above Island Park Reservoir in early May. These fish are presumably spawning migrants from Island Park Reservoir. However, electrofishing surveys in late May suggest the majority of the migrants return to the reservoir prior to the opening weekend of fishing season, and are largely unavailable to anglers in the upper river. Beginning in 2002, the Department began stocking Yellowstone cutthroat fingerlings in this reach of river, with the intent of creating a later run of spawning fish from Island Park Reservoir. Initial monitoring results via electrofishing indicate the program is successful, with the majority of sampled fish being cutthroat trout. We will continue to monitor the abundance of fluvial and migratory cutthroat as a result of this program.

Henrys Lake outlet is a low gradient stream section, which flows through an intensively used, privately owned cattle grazing area. Angler effort is concentrated below Henrys Lake Dam downstream to Highway 20. During years of above normal discharge from Henrys Lake, trout emigration from Henrys Lake supports a very popular fishery. Cutthroat trout spawning in the three miles below Henrys Lake Dam is very obvious, with extensive angler pressure during the early weeks of the season. Depending on outflow from Henrys Lake, flows in mid to late summer flows and water temperatures may result in emigration of trout from the upper reaches of the outlet. Additionally, low winter stream flows result in dewatering in the upper section of Henrys Lake Outlet. Opportunities to negotiate minimum stream flows and fence protective riparian zones will be pursued. Several miles of the Henrys Lake Outlet have been channelized in an effort to improve water conveyance to lower river water users. Efforts by private conservation groups are underway to restore portions of the Henrys Lake Outlet to the natural stream channel, thereby reducing erosion and sediment delivery from the channelized reach.

### **Henrys Lake**

Henrys Lake is a shallow, highly productive lake covering 6,500 acres in the headwaters of the Henrys Fork. It has a long history of supporting an extensive sport fishery for large, native cutthroat trout. Since 1924, hatchery operations at the lake have taken cutthroat trout eggs for use in maintaining cutthroat trout fisheries in many areas of the state, including Henrys Lake.

Henrys Lake has been managed as a quality trout water since 1976. Catch rate goals are 0.7 fish/hour with management goals having a catch rate of about 0.45 fish/hour for cutthroat trout, 0.15 fish/hour for hybrid trout and 0.10 fish/hour for brook trout. Size goals are 20% of hybrid trout over 20 inches, 10% cutthroat trout over 20 inches and 5% of brook trout over 17 inches. Henrys Lake produces large brook trout including the state record of 7.2 lbs. Efforts to improve natural production in tributaries date back to 1981, when cooperative agreements between the Department, the Henrys Lake Foundation, and area ranchers were developed to improve riparian and instream spawning and rearing habitat through protective

fencing of spawning tributaries. A significant contribution to that effort was made in 2005, when marginally passable culverts on Targhee and Howard creeks were replaced with bottomless arch bridges to facilitate fish passage. Results from 2006 trapping efforts have documented significant natural recruitment from Targhee Creek as a result of this effort. Fish losses to irrigation ditches have also been reduced by cooperative diversion screening projects. Riparian fence and screen maintenance will continue on Duck Creek, Howard Creek, Targhee Creek, and Kelly Springs, and evaluations of trout recruitment from these spawning tributaries will continue in future years.

To assess hatchery fish contribution, 10% of all hatchery cutthroat and brook trout are fin-clipped annually. During creel surveys, harvested fish are analyzed for clips, providing a basis to assess whether or not hatchery fish comprise a proportionate percentage of the catch. Based on these annual assessments, the majority of the sport fishery is still maintained by hatchery supplementation despite efforts to improve natural production in Henrys Lake. Analysis of catch rates and fish stocking data from the past 30 years show angler catch rates are driven by the number of fish stocked 2-3 years previously. However, a similar analysis between stocking rate and fish size shows some decrease in growth with very high levels of stocking. The extreme of these relationships was observed from 1981 through 1984 when 2,000,000 or more cutthroat trout fingerlings were released annually. By 1984, cutthroat trout populations had dramatically increased with a total catch rate of 1.7 fish/hour and 163,000 hours of effort. However, increased densities of cutthroat trout depressed growth rates, compromising the management goals of Henrys Lake. Based on the interdependent relationships between stocking rate, angler catch rates, and mean size, the Department identified an annual cutthroat trout stocking goal of 1.3 million fingerlings to optimize the fishery. This was initiated in 2003, and will continue to be evaluated in future gill net and creel surveys.

The Henrys Lake hybrid trout fishery is now supported entirely by the production of sterile hybrid trout to protect the genetic integrity of the cutthroat trout population. Sterile hybrid trout (approximately 200,000) have been stocked since 1998. Development of new sterilization methods that use pressure as opposed to heat, have improved triploidy induction rates to over 99%. Based on angler catch, survival and growth of fingerlings is comparable to diploid hybrids. Recent creel surveys have documented several hundred hybrid trout exceeding ten pounds, suggesting triploid fish may outperform diploid hybrid trout in terms of maximum age and growth. Recent genetic surveys of the Henrys Lake cutthroat trout population have documented a modest level of rainbow trout introgression (14%), low level of back-crossing (10%) and an essentially genetically pure stock of cutthroat trout in the lake. Future hatchery management will emphasize refinement of sterile hybrid production and enhancement of the genetic integrity of the Henrys Lake cutthroat trout population.

Brook trout stocking was discontinued in 1999 as part of a statewide reduction in hatchery production. It was also believed that natural reproduction would be sufficient to maintain the management plan objective of 0.1 brook trout/hour. However, by 2002, the lack of recruitment to the brook trout fishery was evident, and fin-clip analysis demonstrated that the brook trout fishery was based almost entirely on hatchery supplementation. An on-site angler opinion survey in 2002

demonstrated the strong public desire to maintain the brook trout fishery in Henrys Lake. Brook trout stocking was reimplemented in 2003 with the use of sterile triploids. Angler creel and gill net data have demonstrated good survival and recruitment of the triploid fingerlings. Future supplementation will be with triploid brook trout and the fishery will be monitored to identify stocking rates that produce management plan objectives of 0.1 brook trout/hour.

Utah chubs were discovered in Henrys Lake in 1993 during annual gill net surveys. Utah chubs are a serious nuisance species in regulated reservoir impoundments and pose a potential threat to the Henrys Lake fishery. Annual surveys since the 1993 discovery of Utah chubs are indicating an increasing trend in chub numbers. Based on growth rates and condition factor, we have seen no evidence that the chub population, to date, is having any impact on the trout population. Analysis of stomach samples from cutthroat and hybrid trout indicate that chubs do not constitute a major portion of the cutthroat or hybrid trout diet. The Department will continue to assess predation on Utah chubs by brook trout through stomach sample analysis in this planning period.

### **Warm River**

Warm River is a major tributary to Henrys Fork, providing catch rates of 1.0 trout per hour or better. Warm River base flow is provided by large springs six miles upstream from its confluence with the Henrys Fork. Warm River has large sections of good spawning gravel and fairly constant temperatures, which make it ideal for trout spawning. Rainbow trout and brown trout migrate from the Henrys Fork to spawn in Warm River during spring and fall, respectively. Due to the lack of spawning habitat in Henrys Fork between Ashton Dam and Mesa Falls, Warm River is critical to the maintenance of wild rainbow trout and brown trout populations for this section of the Henrys Fork. Warm River from the mouth upstream to the railroad tunnel is closed annually on September 30 for protection of spawning brown trout.

### **Fall River**

The Fall River is the largest Henrys Fork tributary. The Fall River is managed under the wild trout regulation (two trout possession limit) and supports an excellent wild rainbow trout fishery with catch rates of 1.0 fish/hour or better. The lower four miles of the river is seasonally degraded by irrigation water withdrawals. The remainder of the drainage is in good condition. Recent population estimates indicate an abundance of juvenile rainbow trout, and a lack of adults. Anecdotal information from anglers indicates fish over 16 inches are common through early June, suggesting the Fall River supports a run of spawning rainbow trout from the Henrys Fork. Research during this planning period will focus on partnering with the Henrys Fork Foundation and other stakeholders to gain a better understanding of the Fall River fishery, and the role it plays in the lower Henrys Fork.

## **B. Objectives and Programs**

1. Objective: Maintain quality trout fishing in the Henrys Fork from the South Fork confluence upstream to Riverside Campground.

Program: Monitor trout populations in indicator reaches by electrofishing on a regularly scheduled basis and propose regulation changes as biologically or socially necessary.

Program: Work with stakeholders in the lower Henrys Fork to better understand life history and migratory behaviors and to evaluate the impacts of entrainment on the fishery below Chester.

Program: Work with partners and stakeholders to improve fish passage and minimize entrainment as supported by life history and migration assessments.

2. Objective: Sustain high catch rates and a desirable size structure in the Henrys Fork on the catch-and-release section from Riverside Campground upstream to Island Park Dam.

Program: Continue long-term monitoring of trout population and angling success through regularly scheduled sampling surveys.

Program: Work for stream flow protection and enhancement, focusing on winter flow enhancements to optimize juvenile trout over-winter survival.

3. Objective: Manage the Henrys Fork above Island Park Reservoir for satisfactory and diverse angling opportunity, as desired by the public.

Program: Continue long-term monitoring of trout population and angling success through regularly scheduled sampling surveys, and propose regulation changes as biologically or socially necessary.

Program: Evaluate benefits to the Henrys Fork and Island Park Reservoir fisheries associated with the fingerling fine-spotted Yellowstone cutthroat trout stocking program in the Big Springs to Flat Rock reach, and adjust the program accordingly.

Program: Work for habitat and stream flow protection and enhancement.

4. Objective: Produce and maintain a quality, consumptive salmonid fishery in Island Park Reservoir.

Program: Identify rainbow trout and kokanee stocking rates that will provide high quality fishing with economic efficiency.

Program: Work towards reservoir tributary habitat and stream flow protection and enhancement.

Program: Continue to manage Island Park Reservoir for optimum trout production goals to ensure strong escapements of spawning rainbow trout and kokanee upstream through the upper Henrys Fork to Moose Creek, Big Springs, and Henrys Lake Outlet.

5. Objective: Understand the status of Utah chub population and evaluate management strategies to minimize negative impacts of chubs to the trout fishery.

Program: Continue annual spring gillnetting surveys with emphasis on trend chub data.

Program: Continue to evaluate predation on chubs by Yellowstone cutthroat, hybrids, and brook trout.

6. Objective: Conserve and enhance the genetic integrity of the Henrys Lake cutthroat trout population.

Program: Continue to refine and implement the Henrys Lake sterile hybrid program.

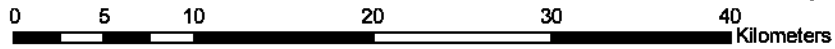
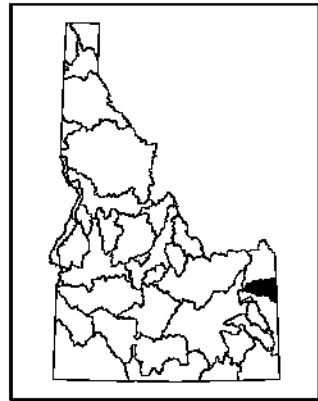
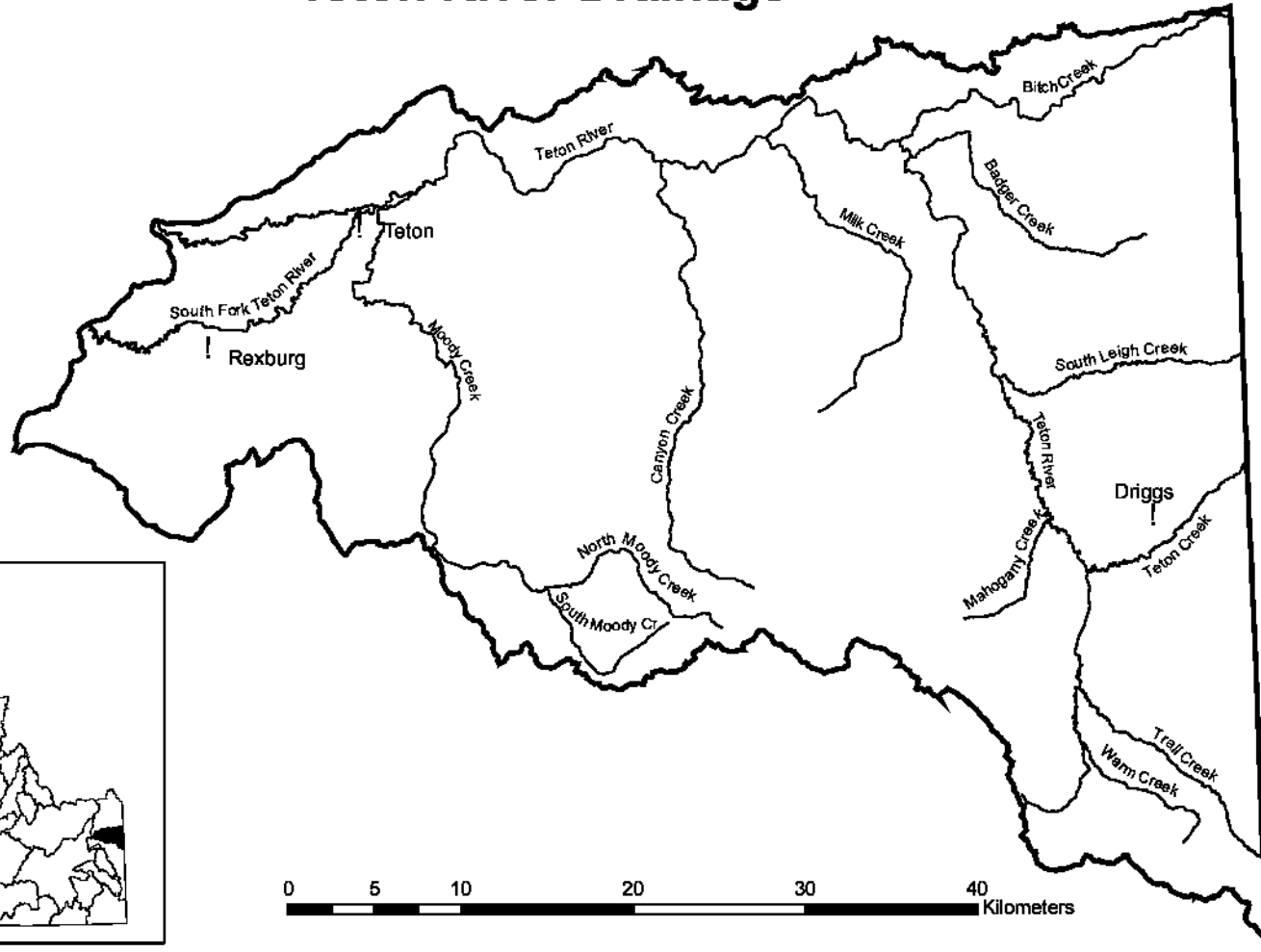
Program: Continue regular genetic monitoring of the Henrys Lake cutthroat trout population.

| DRAINAGE: Henrys Fork Snake River                                   |             |           |   |                        |  |
|---|-------------|-----------|---|------------------------|--|
| Water   | Miles/acres | Type      | Fishery   | Management             | Management Direction   |
|   |             |           | Species present   |                        |  |
| Mouth to St. Anthony  | 30/         | Coldwater | Rainbow trout<br>Brown trout<br>Whitefish<br><br>Cutthroat trout                | General<br><br>Quality | Maintain general regulations and harvest opportunity. Investigate life history and migration patterns in lower Henrys Fork.  |
| St. Anthony to Vernon Bridge  | 10/         | Coldwater | Rainbow trout<br>Brown trout<br>Whitefish                                       | Quality<br>General     | Investigate life history and migration patterns in lower Henrys Fork. Work to improve fish passage and minimize entrainment  |
| Vernon Bridge to Ashton Dam   | 3/          | Coldwater | Rainbow trout<br>Brown trout<br>Whitefish                                       | Quality<br>General     | Spawning season closure for rainbow trout. No motors.  |
| Ashton Dam to U.S. 20 Bridge  | 4/400       | Coldwater | Rainbow trout<br>Brown trout<br>Kokanee<br>Whitefish                            | Family Fishing Water   | Stock catchable rainbow trout to maintain catch rates of 1.0 fish/hr. Kokanee are incidental, originating from Island Park Reservoir.  |
| U.S. 20 Bridge to Riverside Campground                              | 37/         | Coldwater | Rainbow trout<br>Brown trout<br><br>Whitefish                                   | Quality<br><br>General | Maintain as wild trout fishery with year-round season.   |
| Riverside Campground to Island Park Dam, except Harriman State Park | 9/          | Coldwater | Rainbow trout<br><br>Whitefish  | Trophy<br><br>General  | Maintain wild rainbow trout fishery, with 5% of population over 18 inches.   |
| Harriman State Park   | 8/          | Coldwater | Rainbow trout<br><br>Whitefish  | Trophy<br><br>General  | Fly fishing only as access stipulation. Catch-and-release to produce trophy fish and protect spawning population.  |
| Island Park Reservoir (up to McCrea Bridge)                         | /8,400      | Coldwater | Rainbow trout<br>Cutthroat trout<br>Brook trout<br>Kokanee<br>Whitefish         | General                | Put-and-grow fishery for rainbow trout and kokanee. Supplemental catchable rainbow trout stockings. Maintain catch rate of 0.6 fish/hr.  |
| Tributaries to Island Park Reservoir                                | 45/         | Coldwater | Rainbow trout<br>Brook trout<br><br>Cutthroat trout                             | General<br><br>Quality | Work to improve habitat in tributaries as opportunities arise. Upper Snake cutthroat trout restricted harvest rule.  |
| McCrea Bridge to Henrys Lake Outlet                                 | 9/          | Coldwater | Rainbow trout<br>RB x CT hybrids<br>Brook trout<br>Whitefish<br>Cutthroat trout | General<br><br>Quality | Upper Snake cutthroat trout restricted harvest. Put-and-Take fishery on catchable rainbow trout. Put-grow-take fishery on cutthroat trout. Evaluate cutthroat trout fingerling stocking program. |

|  |        |           |   |                         |  |
|--|--------|-----------|---|-------------------------|--|
| Henrys Lake Outlet to Big Springs                            | 2/     | Coldwater | Rainbow trout<br>Cutthroat trout<br>Brook trout<br>Whitefish                    | Conservation            | Total angling closure for spawning, rearing, and fish observation.   |
| Henrys Lake Outlet   | 12/    | Coldwater | Cutthroat trout<br>RB x CT hybrids<br>Rainbow trout<br>Brook trout<br>Whitefish | Quality<br>General      | Work collaboratively to improve habitat and flows that will sustain a perennial fish population.   |
| Henrys Lake  | /6,500 | Coldwater | Cutthroat trout<br>RB x CT hybrids<br>Brook trout                               | Wild/Trophy             | Hatchery supplementation of cutthroat trout and hybrid trout only. Manage to produce catch rates of 0.7 fish/hr with 0.45 cutthroat trout/hr, 0.15 hybrid trout/hr, and 0.10 brook trout/hr. |
| Henrys Lake Tributaries                                      | 13/    | Coldwater | Cutthroat trout<br>Brook trout  | Wild                    | Manage for spawning and rearing of cutthroat trout. Continue irrigation ditch screening and riparian fencing program.  |
| Warm River and tributaries except Robinson Creek             | 92/    | Coldwater | Rainbow trout<br>Brook trout<br>Whitefish<br>Brown trout<br><br>Cutthroat trout | General<br><br>Quality  | Maintain wild trout population. Supplemental put-and-take fishery in heavily fished areas of Warm River. Maintain catch rates of 1.0 fish/hr.  |
| Warm River from mouth of Robinson Creek to Highway 47 Bridge | 0.2/   | Coldwater | Rainbow trout<br>Brown trout<br>Brook trout<br>Whitefish                        | Conservation            | Spawning, rearing, and fish observation area.  |
| Robinson Creek and tributaries                               | 91/    | Coldwater | Rainbow trout<br>Brook trout<br>Whitefish<br>Brown trout<br>Cutthroat trout     | General<br><br>Quality  | Upper Snake cutthroat trout restricted harvest. Maintain wild trout population.  |
| Buffalo River and tributaries                                | 50/    | Coldwater | Rainbow trout<br>Brook trout  | General                 | Manage for high catch rates on wild brook trout and rainbow trout.   |
| Moose Creek and tributaries                                  | 6/     | Coldwater | Rainbow trout<br>Brook trout<br>Kokanee   | General<br>Conservation | Season restriction to protect kokanee spawning run from Island park Reservoir.   |
| Sand Creek WMA   | /167   | Coldwater | Rainbow trout<br>Cutthroat trout<br>Brook trout                                 | General                 | Evaluate put-and-take versus put-and-grow stocking for rainbow trout and cutthroat trout. Maintain catch rate of 0.6 fish/hr   |
| Silver Lake  | /220   | Coldwater | Cutthroat trout   | Conservation            | Administrative closure by Harriman State Park to protect waterfowl and natural features.   |
| Golden Lake  | /220   | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout                                 | Conservation            | Golden Lake and Thurmon Creek drainage upstream managed for native cutthroat trout population  |



# Teton River Drainage



## 31. TETON RIVER DRAINAGE

### A. Overview

The Teton River originates on the west slope of the Teton Mountains and drains 890 square miles to its confluence with the Henrys Fork near Rexburg. The Teton River in eastern Idaho provides an important coldwater fishery to sport anglers. It is one of the few remaining rivers in the greater Yellowstone ecosystem that support native Yellowstone cutthroat trout. Also pursued by anglers are rainbow trout, brook trout, and, to a limited extent, brown trout and mountain whitefish. The fishery enjoys regional, if not national, acclaim that supports a growing tourism economy in the local area.

The Teton River has been managed as a wild trout fishery since the early 1990's. Prior to that date, the fishery was supplemented annually with both fingerling cutthroat trout and catchable rainbow trout. Fingerling supplementation was discontinued in 1992 and catchable rainbow trout supplementation was discontinued in 1994. The cutthroat trout fishery has been managed with increasingly restrictive regulations since 1990, when a slot limit was imposed. In 2006, in response to continuing declines in the Yellowstone cutthroat population, cutthroat harvest was eliminated in the Teton River and its tributaries. All other game fish in the drainage are managed under general regulations.

The most profound anthropogenic factor associated with the Teton River and its fishery was the construction and subsequent collapse of the Teton River Dam. The U.S. Bureau of Reclamation (BOR) built Teton Dam in 1975 to provide irrigation water and for flood control. The reservoir pool inundated 17 miles of the Teton River up through the scenic Teton River canyon as well as several kilometers of lower Canyon Creek, an important cutthroat trout spawning tributary. On June 5, 1976, the dam failed when the reservoir was nearly full, irreversibly altering the fluvial habitat and the fishery through the canyon and lower river.

The Teton River can be described as three separate reaches: the lower river, the canyon reach, and the valley reach. The lower Teton extends from the Henrys Fork Snake River confluence upstream 37 km (via the South Fork) or 52 km (via the North Fork) to the Teton Dam site northeast of Newdale. The river splits into the North and South Forks approximately midway. Both forks flow downstream to a separate confluence with the Henrys Fork Snake River. Fish habitat in the lower Teton has been extensively degraded with agriculture development, with deposition and channelization during and after the Teton Dam collapse, and with post-flood reconstruction of the stream channels and diversion structures. Complete dewatering of the stream channel, as well as fish kills from herbicides flushed from irrigation canals, is common in this section. None of the numerous diversions in the lower river are screened to prevent juvenile or adult fish entrainment. Only one (the Rexburg City Ditch) of the many diversion structures on the lower river now has a fish ladder.

The canyon reach extends from the Teton Dam site upstream to Harrops Bridge. The fishery in the canyon reach was severely and permanently degraded by the collapse of Teton Dam, which resulted in the loss of a unique cottonwood floodplain, of dark timbered hillsides, and of a channel type that was relatively easy to access, float, and fish by the general angler. Prior to the construction and collapse of the Teton Dam in 1976, the river supported a trout fishery with an overall catch rate of 1.31 fish/hour and a total catch of 7,600 fish in 1975. The trout fishery in the Teton canyon has declined markedly in the 25 years following the Teton Dam collapse. Total catch in the Teton canyon had declined to 4,000 fish by 2000. The decline came despite the shift to wild trout management, special protective regulations, and catch and release fly fishing. During the same time period, the harvest rate declined from 0.95 to 0.07 fish/hour, and total harvest declined from about 6,200 to 127 fish. This decline may reflect a decline in the population due to major changes in Teton River hydrology and geomorphology – the primary driver of stream structure and function – that was caused by the dam collapse.

Access to the Teton canyon is difficult. There are limited roads and trails to the river and floating can be difficult because of the lengthy slackwater reaches separated by hazardous whitewater rapids. The Bureau of Reclamation has recently finalized a Resource Management Plan in which they describe their intent to provide only minimal upgrades and improvements to existing access points. For this reason, it is unlikely that the Teton Canyon will see a significant increase in angler use in the near future.

The upper Valley reach extends from Harrops Bridge upstream 43 km to the confluence of Little Pine and Warm creeks west of Victor. The entire section is low gradient and meandering. Although there are no dams or irrigation diversions, habitat quality has declined with livestock grazing, heavy sedimentation, and widening of the stream channel. Teton River Enhancement Program (TREP) activities for the last 15 years have focused on ameliorating these limiting factors, primarily through riparian fencing. Since the implementation of the program the Department has developed cooperative fencing, pasture management, and livestock non-use agreements with landowners to protect and improve riparian habitat in tributaries and river sections.

The Yellowstone cutthroat trout population in the Teton Valley increased from about 40 to 55 fish/ha after special regulations were implemented in 1990, but then decreased to about 20 fish/ha from 1995 to 2000. By 2003, the population had collapsed to less than 2 fish/ha. Since 2003, Teton Valley cutthroat trout have increased to 7 fish/ha. A strong age-1 year class was observed in 2005, and the population size structure has returned to average, suggesting improved flows in spawning and rearing tributaries have improved recruitment. Conversely, rainbow trout densities have increased in recent years to 112 fish/ha in 2005, compared to a long-term average of 35 fish/ha observed prior to 2003.

A recent hydrologic assessment of the drainage by Idaho State University indicates that the hydrologic regime has shifted with irrigation practices in the past century. Prior to irrigation, the river was a snowmelt dominated system, exhibiting a pronounced peak associated with spring runoff. With the implementation of flood irrigation using surface flows from tributaries, the hydrology shifted to a groundwater dominated system, characterized by the absence of a pronounced peak.

In recent years, a conversion from flood irrigation to sprinkler irrigation has restored some of the natural shape to the hydrograph, however, the system is still groundwater dominated. The hydrologic shift has likely played a significant role in the fish population characteristics. Concurrent research by Idaho State University demonstrates that, in general, native Yellowstone cutthroat trout dominate fluvial systems characterized by their natural snowmelt dominated hydrology, whereas rainbow trout are found in greater abundance in systems with a dominant groundwater influence. Long-term persistence of the fluvial Yellowstone cutthroat population likely depends on successful restoration of the natural hydrology, including a naturally shaped hydrograph and increased magnitude and duration of tributary flows.

The changing demography of the Teton Valley has resulted in decreased habitat degradation associated with traditional land use impacts, such as cattle grazing. However, the rapid pace of development, much of it associated with riparian areas has offset much of the benefit to the ecosystem. Conservation organizations such as the Friends of the Teton River and The Teton Regional Land Trust have been instrumental in developing collaborative efforts to protect and restore important riparian and aquatic habitat in the valley. The Department will continue to work with conservation organizations and partner agencies on such efforts to improve fish access to spawning and rearing habitat, and to restore the natural hydrology to improve the fluvial cutthroat trout population. The Department will continue to monitor the success of the management program in conserving the native cutthroat trout resource and meeting public angling expectations.

## **B. Objectives and Programs**

1. Objective: Preserve genetic integrity and population viability of wild native cutthroat trout.

Program: Do not stock or allow stocking of streams, lakes or ponds with other species of fish that would interbreed or compete with cutthroat trout.

Program: Work to obtain special consideration, protection, and improvement of critical cutthroat trout habitat in land use decisions.

Program: Protect cutthroat trout through catch-and-release regulations.

Program: Continue to monitor genetic status of wild cutthroat trout populations.

2. Objective: Restore connectivity and natural hydrology as possible to improve spawning, rearing and migration success of Yellowstone cutthroat trout

Program: Identify tributaries with minimal risk of invasion by non-native species as candidates for improving connectivity.

Program: Work with conservation organizations, partner agencies, water users, and developers to increase duration and magnitude of surface flows in selected tributaries.

3. Objective: Minimize impacts of land use and development on fish habitat and water quality.

Program: Work with government agencies, private landowners and developers, and conservation groups to make protection and enhancement of fish habitat and water quality a primary concern in land use decisions.

Program: Ensure restoration of habitat or mitigation of habitat loss whenever possible.

4. Objective: Increase consumptive trout fishing opportunity for anglers near population centers.

Program: Continue to stock Family Fishing Water ponds adjacent to the Teton River at a rate to provide high, consistent catch rates

Program: Inform anglers of Family Fishing Water opportunities through maps, brochures, media coverage, and signs.

5. Objective: Minimize loss of juvenile fish to irrigation diversions and tributary de-watering.

Program: Educate and negotiate with local irrigators for minimum stream flows when possible.

6. Objective: Obtain adult fish passage around or through barriers.

Program: Identify and obtain passage around irrigation diversions in cooperation with local irrigators, partner agencies, and conservation organizations.

Program: Continue to operate and maintain the South Fork Teton fish ladder.

Program: Identify barriers and obtain passage through road culverts.

| DRAINAGE: Teton River                                  |             |           |  |                         |  |
|--|-------------|-----------|--|-------------------------|--|
| Water  | Miles/acres | Type      | Fishery  | Management              | Management Direction   |
|  |             |           | Species present  |                         |  |
| North and South Forks, mouth to Felt Dam               | 78/         | Coldwater | Cutthroat trout<br>Rainbow trout<br>Whitefish                | Conservation<br>General | Work to improve fish passage and habitat in North and South forks, and work cooperatively with Department wildlife program to restore native vegetation as possible in Teton Canyon. |
| Felt Dam to Trail Creek                                | 22/         | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Whitefish | Conservation<br>General | Manage as a wild trout fishery emphasizing efforts to improve Yellowstone cutthroat trout population. Work cooperatively to restore connectivity, habitat, and hydrologic regime.    |
| Teton, Fox, Trail, Bitch, Badger, Moody, Canyon creeks | 27/         | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brook trout<br>Whitefish | Conservation<br>General | Work cooperatively to restore connectivity, habitat, and hydrologic regime.  |
| All other tributaries                                  | 84/         | Coldwater | Cutthroat trout<br>Brook trout                               | Conservation<br>General | Protect and/or improve habitat.  |
| Trail Creek Pond, Rexburg City Ponds                   | /2          | Coldwater | Rainbow trout  | Family Fishing Waters   | Maintain catchable plants to provide catch rates of 2.0 fish/hr and 100% return to the creel. Maintain handicapped access.   |
| Packsaddle Lake  | /4          | Coldwater | Cutthroat trout  | General                 | Maintain fingerling plants to provide consistent catch rates of at least 1 fish/hr.  |

# Snake River Drainage South Fork



## 32. SOUTH FORK SNAKE RIVER DRAINAGE

### A. Overview

For the purposes of this management plan, the South Fork Snake River drainage consists of the mainstem and tributaries from its confluence with the Henrys Fork upstream to the Idaho-Wyoming State boundary, including Palisades Reservoir and tributaries as well as the Salt River tributaries that originate in Idaho (including Jackknife, Tincup, Stump, and Crow creeks). Fish species found in this reach include the following native species: mountain whitefish, Yellowstone cutthroat trout, Utah chub, longnose dace, speckled dace, redbreast shiner, Northern leatherside (formerly known as leatherside chub), Utah sucker, Bluehead sucker, mountain sucker, Paiute sculpin and mottled sculpin; and the following introduced species: rainbow trout, brown trout and brook trout.)

From Palisades Dam to the confluence with the Henry's Fork, the South Fork supports a world-renowned fishery and one of the most important Yellowstone cutthroat trout populations in their historical range. Currently, the population of rainbow trout and associated genetic introgression poses the biggest single threat to the long-term persistence of the native cutthroat trout population. Though rainbow trout were a negligible component of the trout population until the late-1980's angler and electrofishing surveys showed a steady increase in the rainbow trout population until 2003, when they were as abundant as cutthroat trout in the upper reaches of the river. This not only has implications to the conservation of a native trout population, but to the popularity of the fishery as well. Wild native cutthroat trout supported 71% of the catch in 1996, but only 35% of the catch in 2005. Consequently, catch rates, which were 1.1 fish/hr in 1996, had declined to 0.84 fish/hr in 2005. Brown trout offer the opportunity to catch a trophy fish, as demonstrated by the current state record brown trout weighing 26.4 lbs, which was caught from the South Fork.

The Department is working on three fronts to protect and maintain the health of the cutthroat trout population. First, weirs and fish collection traps have been constructed on the four main tributaries to allow collection of cutthroat and rainbow trout spawners. Research was initiated in 1996 to determine the status of the rainbow trout and rainbow trout x cutthroat hybrid trout populations and described timing and location of rainbow trout, hybrid, and cutthroat trout spawning activity. Whereas rainbow trout and hybrid trout used mainstem side channel habitat almost exclusively for spawning, cutthroat trout used both mainstem side channel and tributary habitat. Following these results, permanent trapping facilities were constructed to allow regional personnel to block escapement of rainbow trout and hybrid spawners and allow passage of genetically pure cutthroat trout spawners. Based on phenotypic examination, cutthroat trout are passed upstream, whereas rainbow and hybrid trout are transported to catch-out ponds.

Second, IDFG has been working with Idaho State University and the Bureau of Reclamation to identify and implement flow regimes that are beneficial to cutthroat trout and detrimental to rainbow trout. A comprehensive analysis suggests the magnitude and shape of the spring runoff flows may have a



significant effect on the ratio of rainbow to cutthroat trout recruits. In summary, years where a spring time maximum peak to low winter flow ratio exceeds 15:1 tend to favor Yellowstone cutthroat over rainbow trout. Conversely, years with a ratio of less than 10:1 resulted in greater recruitment of rainbow trout relative to cutthroat trout. Shaping of winter and spring flows to maximize benefits to cutthroat trout will continue, and will be refined based on results from annual population surveys.

Finally, the Department implemented an aggressive program combining regulation changes and public outreach in 2003 to encourage harvest of rainbow trout. Regulation changes included catch-and-release for cutthroat trout in the South Fork and the main tributaries and removal of the limit on rainbow and hybrid trout. Additionally, the year-round season was extended from the Heise Cable to Palisades Dam to allow anglers an opportunity to target spawning rainbow trout. The rule changes were accompanied by a public awareness effort and distribution of identification aids to help anglers recognize rainbow and hybrid trout. By 2005, rainbow trout harvest, which had been negligible prior to the effort, had increased to over 6,000 fish annually. Efforts will continue to inform angling publics of the risk to the cutthroat trout fishery posed by rainbow trout and to encourage rainbow and hybrid trout harvest.

Habitat in the South Fork main-stem is generally in good condition. The lower 20 miles of the river is impacted by low water during late fall and winter due to irrigation diversions and reduced flows from Palisades Reservoir. Loss of fish from the river to these irrigation diversions often creates good seasonal fisheries in the canals. The largest diversion, an old side channel of the river called the Great Feeder or Dry Bed, is 20 miles in length and provides adequate habitat to support a trout fishery. However, de-watering of the Dry Bed annually in the spring for head-gate maintenance results in a loss of fish and a two-week annual salvage season is in effect.

Palisades Reservoir is managed as a Family Fishing Water with general regulations and hatchery supplementation. Jackson National Fish Hatchery cutthroat trout are stocked as catchables and sub-catchables. Palisades Reservoir provides fishing opportunity for bank, boat and ice fishermen. Fishing effort was 22,500 angler hours during 1993. Lake trout and kokanee have been introduced, but only small natural populations have developed. Large fluctuation in water levels (up to 80 vertical feet) may affect these open water species.

Tributary streams to the South Fork can benefit from habitat restoration and modified grazing management for riparian restoration. Trout Unlimited has worked with landowners, the US Forest Service, the Department and other partner agencies to reconnect and improve habitat on Garden and Pritchard creeks, and is currently working to restore perennial flows on Rainey Creek. The Department will continue to support reconnect efforts where isolated cutthroat trout populations are not put at risk to rainbow trout invasion.

Salt River (Wyoming) tributaries, which originate in Idaho include Jackknife, Tincup, Stump, and Crow creeks. These tributaries will be managed for restricted cutthroat trout harvest to protect and/or restore populations. Fisheries interaction

between the Salt River and its tributaries and Palisades Reservoir is not clearly understood. Idaho is cooperating with Wyoming to define fish movements to better manage this system.

Tin Cup Creek receives 2,000 catchable size finspot cutthroat trout from Wyoming Game and Fish Department's Auburn Hatchery. These are the only hatchery fish stocked in Idaho's Salt River tributaries.

Phosphate mining in tributaries that flow into Crow and Stump creeks has altered habitat and in some cases exposed flow to oxidized seleniferous rock. Investigations by state and federal agencies and industry are ongoing to determine the potential effect of elevated selenium on the fish community, with special emphasis on Yellowstone cutthroat trout.

**B. Objectives and Programs**

1. Objective: Preserve genetic integrity and population viability of wild native cutthroat trout.

Program: Do not stock or allow stocking of streams, rivers, reservoirs or ponds with other species of fish that will interbreed or compete with cutthroat trout.

Program: Continue to refine and evaluate effectiveness of fish trapping weirs on Burns, Pine, Rainey, and Palisades creeks and operate as possible to manage those tributaries strictly for cutthroat trout spawning and production.

Program: Continue to monitor genetic status of wild cutthroat trout populations.

Program: Protect cutthroat trout through catch-and-release restrictions.

2. Objective: Decrease population of rainbow and hybrid trout and maintain at no more than 10% of species composition as indexed by the Conant monitoring site.

Program: Continue outreach effort to emphasize importance of rainbow trout suppression through angling and flow management.

Program: Work with Bureau of Reclamation and Idaho State University to provide a release from Palisades Dam characterized by a spring maximum to winter minimum flow ratio of 15:1.

3. Objective: Minimize loss of juvenile fish to irrigation diversions and stream dewatering.

Program: Operate and maintain the Palisades Creek and Burns Creek screens in cooperation with local irrigators.

Program: Negotiate with local irrigators for maintenance flows when possible.

Program: Evaluate costs and feasibility associated with screening large canals on lower mainstem of the South Fork, and pursue funding as appropriate.

4. Objective: Minimize impacts of land use and development on fish habitat and water quality.

Program: Work with government agencies, private landowners, developers, and interested conservation groups to make protection and enhancement of fish habitat and water quality a primary concern in land use decisions.

Program: Ensure restoration of habitat or mitigation of habitat loss whenever possible.

5. Objective: Maintain a satisfactory salmonid fishery in Palisades Reservoir.

Program: Continue stocking hatchery cutthroat trout from Jackson National Fish Hatchery of a variety and size and on a schedule, which provides high quality fishing with economic efficiency.

Program: Maintain restrictive harvest rules for cutthroat trout and consider late season openers in principal spawning tributaries if monitoring and/or public desires indicates need for doing so.

Program: Work with partner agencies and conservation groups to restore habitat and connectivity in tributaries.

6. Objective: Determine effects of phosphate mining on the fish community in Crow and Stump creeks.

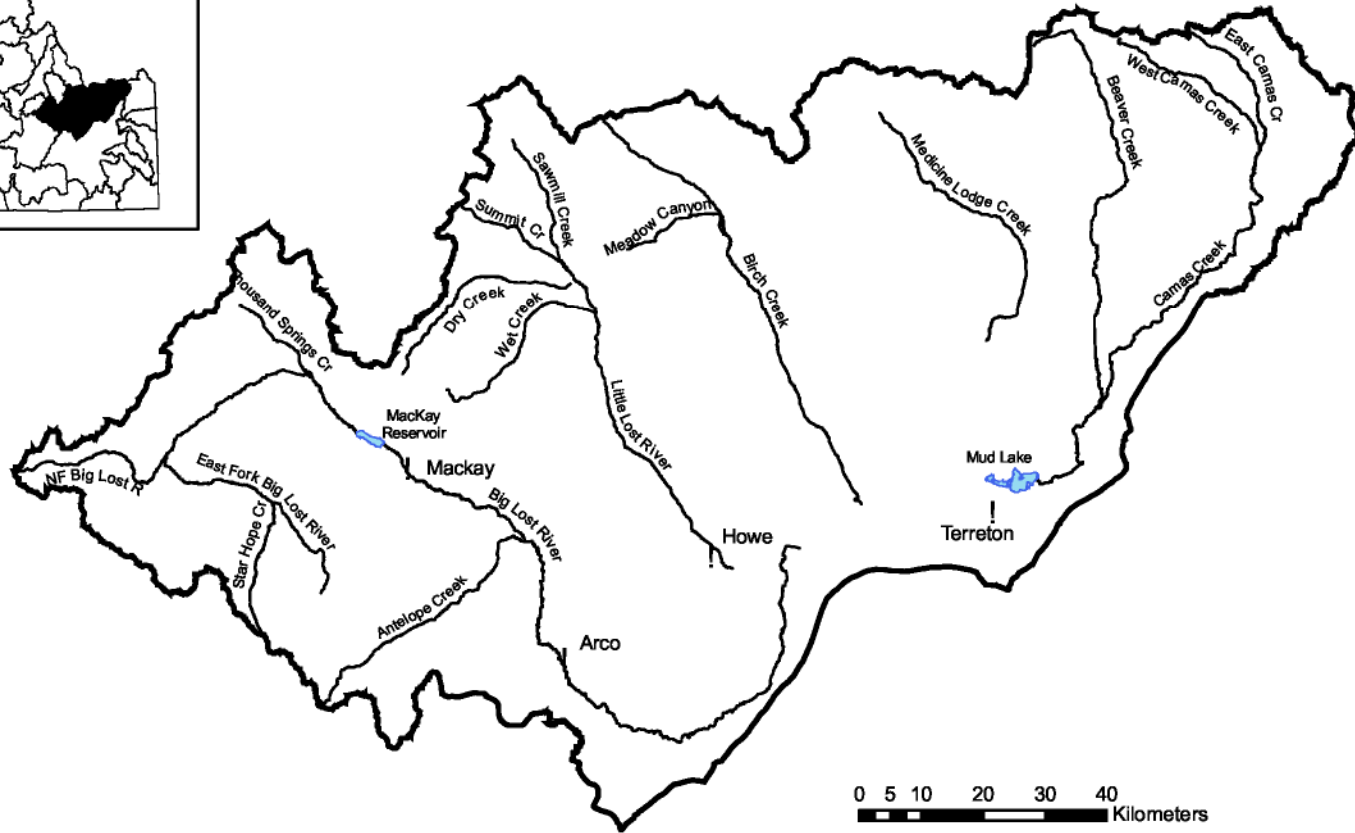
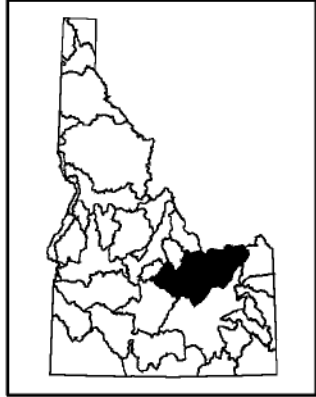
Program: In cooperation with other natural resource agencies and industry, develop statistically valid protocols for sampling water quality and fish populations

Program: Monitor fish populations in impacted and control streams within the "Phosphate Patch" which includes headwaters of the Blackfoot River as well as Salt River headwaters.

| DRAINAGE: South Fork Snake River                  |             |           |  |   |   |
|---|-------------|-----------|--|---|---|
| Water   | Miles/acres | Type      | Fishery  | Management  | Management Direction  |
|   |             |           | Species present  |   |   |
| Mouth to Palisades Dam                            | 63/         | Coldwater | Cutthroat trout<br>Brown trout<br>Rainbow trout<br>Whitefish | Conservation<br>Quality<br>Unlimited harvest<br>General | Maintain and restore Yellowstone cutthroat trout population through rainbow trout harvest, flow management, and tributary management.   |
| Dry Bed Canal                                     | 32/         | Coldwater | Cutthroat trout<br>Rainbow trout<br>Brown trout<br>Whitefish | General<br>(not protected in canals)                    | April salvage season Lewisville to Ririe. Minimize de-watering through agreements with irrigation districts.  |
| Burns, Pine, Rainey, and Palisades creeks         | 38/         | Coldwater | Cutthroat trout<br>Rainbow trout                             | Conservation<br>General                                 | Conserve resident cutthroat trout populations. Use weirs to block escapement of rainbow trout. Enhance stream habitat and cutthroat trout recruitment with riparian livestock management and diversion screening. |
| McCoy Creek and tributaries                       | 35/         | Coldwater | Cutthroat trout<br><br>Brown trout                           | Quality<br><br>General                                  | Delayed opener to protect cutthroat trout spawning.   |
| Tincup Creek from Idaho line to Highway 34 Bridge | 12/         | Coldwater | Cutthroat trout<br><br>Brown trout                           | Quality<br><br>General                                  | Maintain finespot cutthroat stocking program.   |
| Tincup Creek from Highway 34 Bridge to Headwater  | 8/          | Coldwater | Cutthroat trout<br><br>Brown trout                           | Quality<br><br>General                                  | Maintain 'semi-primitive' access to the fishery.  |
| Stump Creek and tributaries                       | 12/         | Coldwater | Cutthroat trout<br><br>Brown trout<br>Brook trout            | Quality<br><br>General                                  | Work with federal agencies and industry on habitat rehabilitation and selenium studies.   |
| Crow Creek and tributaries                        | 25/         | Coldwater | Cutthroat trout<br>Brown trout                               | Quality<br>General                                      | Work with other agencies to ensure that phosphate mining does not lead to selenium toxicity to aquatic organisms  |
| Jackknife Creek and tributaries                   | 12/         | Coldwater | Cutthroat trout<br>Brown trout                               | Quality<br>General                                      | Assess needs for habitat improvement program.   |

|                                    |        |           |   |         |  |
|------------------------------------|--------|-----------|---|---------|--|
| All other tributaries              | 354/   | Coldwater | Cutthroat trout   | Quality | Upper Snake restricted cutthroat trout harvest regulations.<br>Enhance habitat with riparian livestock management. |
| Palisades Reservoir                | 16,100 | Coldwater | Cutthroat trout<br>Brown trout<br>Lake trout<br>Kokanee | General | Put-and-grow fishery for cutthroat trout.  |
| Upper and Lower Palisades<br>Lakes | 138    | Coldwater | Cutthroat trout   | Wild    | Manage for wild trout benefits.  |

# Sinks Drainages



### 33. SINKS DRAINAGES

#### A. Overview

The Sinks drainages include the Big Lost and Little Lost rivers, Birch, Camas, Beaver and Medicine Lodge creeks drainages, all of which sink into the upper Snake River Plain aquifer. Rainbow trout, of generally small size, are the predominant fish throughout the drainages, except for some headwaters and a few minor tributaries where brook trout and cutthroat trout are dominant. Native bull trout and cutthroat trout are maintaining fishable populations in some limited areas. Whitefish are found only in the Big Lost River drainage. Stream quality and fish populations vary from excellent to poor where streams alternately intersect and perch above the groundwater table or enter irrigation ditches. Streams become marginal where they flow into the Snake River Plain due to diversion and freeze out. Where groundwater inflow is lacking, wintertime air temperatures often cause streams to become icebound and leave their channels. Severe habitat degradation has occurred to most streams due to past and/or present grazing practices on private and public range land. Natural flood events have also severely impacted some drainages such as Wildhorse Creek in the Big Lost River drainage.

Irrigation diversions often dewater the lower segment of most drainages, yet productivity is generally high due to large amounts of groundwater input. Drought conditions since 1987 have impacted many of the smaller headwater tributaries in the Sinks drainages. With a return to normal snowpack years the Department will consider supplemental hatchery releases on a case-by-case basis where fish populations have been impacted. This may include those drainages managed for wild trout. In these instances, only sterile trout will be used.

#### Big Lost River

The Big Lost River is the largest of the Sinks Drainages covering 5,159 km<sup>2</sup>. The Big Lost River originates in the Pioneer, Boulder, Lost River, and White Knob mountain ranges and flows down the Big Lost River Valley and then onto the Snake River Plain where it terminates at the Big Lost River Sinks. Major tributaries include East Fork, Star Hope Creek, Wildhorse Creek, North Fork, Thousand Springs Creek, Alder Creek, Pass Creek, and Antelope Creek.

Twelve species of fish have been documented in the basin. Common game fish found in the drainage are rainbow trout, cutthroat trout, brook trout, and mountain whitefish. Alpine lakes in the drainage are also stocked with or have naturally reproducing populations of golden trout and grayling, and Mackay Reservoir supports a reproducing population of kokanee. Mountain whitefish are the only game fish native to the drainage. Based on micro satellite DNA analysis, the population is believed to have been isolated in the Sinks Drainages for over 150,000 years. It is likely that a large volcanic eruption associated with the Yellowstone Hot Spot eliminated all fish life in the Sinks Drainages about 600,000 years ago. Historical accounts indicate that mountain whitefish were widely distributed and relatively abundant in the Big Lost River basin. Recent declines in the distribution and abundance of the mountain whitefish population

have led to the development of a conservation and management plan for the Big Lost population. It seems evident that the single greatest factor associated with the decline is dewatering exacerbated by the sustained drought. Key elements of the conservation and management plan are restoring passage over irrigation diversions, identifying opportunities for increasing surface flows in currently dewatered reaches, assessing impacts of entrainment and prioritizing opportunities for screening. Additionally, the Department instituted no harvest regulations for mountain whitefish in the Big Lost River drainage in 2006.

Mackay Reservoir, built in 1916, is an irrigation supply reservoir having a maximum capacity of 44,500 acre-feet and a minimum pool of 125 acre-feet. Pool levels below 4,600 acre-feet occur during dry years, causing flushing of most trout and kokanee through the outlet structure of the dam into the Big Lost River. This limits the ability to manage Mackay Reservoir for a wild trout fishery or to effectively supplement with fingerlings. Catchable rainbow trout comprise the majority of fish caught with some brook trout and wild rainbow trout present. Kokanee comprise a significant component of the reservoir fishery in years with sufficient carryover and winter pool. The kokanee population is and will continue to be naturally sustained without hatchery supplementation.

The 60 miles of the Big Lost River below Mackay Reservoir has been extensively modified by numerous irrigation diversions and channelized for flood control, which has destroyed about 25% of the channel. Drought conditions have affected the Sinks drainages from 1987 through 2004. During that period, water storage and natural stream flows did not meet irrigation demand, which resulted in extensive development of wells in the area from Mackay to the Idaho National Laboratory boundary. Well development combined with lower natural flows has reduced or eliminated most salmonid populations downstream from the Moore Diversion. From 2001-2004 the river was dewatered near the Blaine Diversion, essentially eliminating an additional 10 miles of perennial stream flow. In years of normal or above-normal precipitation, restoration of a fishery is possible below the Moore Diversion, and a collaborative effort is underway to evaluate the feasibility of restoring the stream channel through the "Darlington Sinks". This has the potential to eliminate or minimize the practice of dewatering the river between the Moore and Blaine diversions.

From the Blaine Diversion to Mackay Reservoir, the Big Lost River supports wild rainbow trout, brook trout and whitefish populations. The fishery in the 5-10 miles below Mackay Dam is exceptional in terms of rainbow trout growth rates and densities. Not surprisingly, this fishery has grown in popularity in recent years, and access has become an issue. The Department has worked, and will continue to work with partner agencies and landowners to provide access to the public through easements, purchases, and landowner agreements. Fishery assessments in recent years indicate the majority of rainbow trout in this reach are of wild origin, and that the fishery is not based on entrainment from Mackay Reservoir. Despite the increasing popularity of the fishery, exploitation appears to be minimal based on tag returns and catch curves. The prevalence of catch-and-release anglers and the limited access to the river, limit the need for restrictive regulations.

The Big Lost River from Mackay Reservoir upstream to Chilly Bridge is annually dewatered for irrigation and has suffered from long-term stream alteration activity.



From Chilly Bridge upstream, the river and tributaries support wild rainbow trout, brook trout, and whitefish populations. The mainstem and East Fork of the Big Lost River were managed under a quality trout regulation of two trout over 14 inches from 1988 until 2000. However, the population did not improve as a result of the regulation change, and the reach was returned to general regulations after it became apparent that angling exploitation was not suppressing the population. The causes and magnitude of the rainbow trout population decline in the upper drainage are not clear. Indeed, the evidence that the historical population above Mackay Reservoir was much greater than present is largely anecdotal. However, evidence does suggest that drought; loss of connectivity with Mackay Reservoir, and whirling disease may be associated with a decline in the trout population. The Department has been involved in collaborative efforts to provide fish passage around impassable diversions, and to refine our understanding of the population level impacts of whirling disease. An additional program of stocking Snake River Yellowstone cutthroat trout, which appear to survive in the wild at higher rates than rainbow trout or brook trout, was implemented in 2000. Stocking of cutthroat trout will continue with monitoring and evaluation to determine the success and utility of this strategy.

Thirty-six of the 46 actively managed alpine lakes in the Upper Snake Region are located in the Big Lost River drainage. Guidelines for regional mountain lake management were jointly established with the Mackay Ranger District of the Salmon Challis National Forest. The goals of the program are to maximize the effective use of hatchery introductions, manage for a diversity of species within given drainages, maintain catch rates of one fish per hour or better, and maintain lakes in each drainage as fishless to benefit native non-game aquatic species. Beginning in 2003, the Department began collecting data that will be used to develop an alpine lakes management plan for the region. This document will be finalized in this planning period and will be used to guide management actions on all regional alpine lakes. The Department will continue to work cooperatively with the Forest Service to survey lakes and ensure the goals of the program are being met.

### **Little Lost River**

The Little Lost River drainage contains primarily wild rainbow trout and bull trout, although brook trout are abundant in some of the headwater areas. Highest densities of bull trout are present in Sawmill Creek and the upper Little Lost River. Catch rates have averaged 1.2 to 1.3 trout/hour in recent years. The Little Lost River has been managed on wild trout production since 1983, and under wild trout regulations (two trout possession limit) since 1993. Bull trout harvest has been closed (concurrent with the state-wide bull trout harvest closure) to protect this important population. As a result of the Threatened status of bull trout, the Department has worked cooperatively on a recovery plan for the Little Lost drainage. Accomplishments and restoration activities in the past three years include reconnection of Badger Creek, construction of fish friendly diversions and ladders on three mainstem diversions that functioned as passage barriers, and replacement of impassable culverts. Efforts to increase public awareness of the presence and identification of bull trout have been effective and will continue. The Department will continue to monitor the fish populations throughout the drainage.

### **Birch Creek**

Birch Creek provides a high catch rate fishery supported primarily by hatchery supplementation, with additional contribution from a moderately abundant wild rainbow trout population. Birch Creek is a popular destination fishery for consumption oriented anglers, and has been managed as a Family Fishing Water since 2002. This designation changed the season from a general stream season to year-round, though the majority of the angling and camping activity still begins on Memorial Day weekend. The fishery is supplemented regularly from early May through September. The fishery will continue to be monitored to provide high catch rates consistent with Family Fishing Water management.

### **Medicine Lodge Creek**

Electrofishing surveys of the Medicine Lodge drainage have found good populations of cutthroat trout and brook trout present in several tributaries, although wild rainbow trout are the dominant species. Native Yellowstone cutthroat trout are also found in several Medicine Lodge Creek tributaries. The Medicine Lodge drainage has been managed on wild trout production since 1983 and under the wild trout regulation (two trout possession limit) since 1998. Opportunities to restore native cutthroat to portions of the drainage through eradication of non-native species will be identified.

### **Beaver/Camas Creek**

The Beaver/Camas Creek drainage includes Mud Lake, Beaver and Camas creeks as important waters. High density populations of wild cutthroat, rainbow and brook trout exist in most streams in the headwater areas. However, allopatric populations of native cutthroat trout (those without brook trout or rainbow trout) are limited. Despite the broad distribution of rainbow and brook trout, there are a limited number of streams where non-native species can likely be eradicated and subsequently prevented from recolonizing. The Department will work to identify such candidate streams and work with stakeholders to restore native cutthroat trout populations where feasible and supported by the public. Water conditions limit trout populations in the lower ends of these streams.

Fish populations in Beaver Creek have declined in recent years as a result of the drought. Hatchery supplementation has continued annually through early summer, however, flows and water temperatures have limited the ability to stock throughout the season. Based on anecdotal accounts, angling effort has declined along with the fish populations. The Department will conduct angler use surveys and return-to-creel evaluations to determine whether the Beaver Creek fishery warrants continued supplementation. Paul Reservoir, which lies in the Beaver Creek drainage, is managed as a Family Fishing Water. The reservoir is stocked annually with fingerling cutthroat trout. The program continues to be very successful, with anglers reporting high catch rates and a quality fishing experience.

Mud Lake originally contained large numbers of cutthroat trout, but high summer temperatures, fluctuating water levels and low winter dissolved oxygen have greatly decreased the suitability for trout. Mud Lake has lacked a coldwater fishery since water management changes in the early 1960s impacted Camas Creek and

Mud Lake water quality. Experimental introductions of Lahontan cutthroat trout began in 1990 to evaluate this subspecies potential under existing high alkalinity and temperature conditions. Since introduction, Lahontan cutthroat trout have provided a limited fishery, primarily during the winter ice season. The Department will evaluate the benefits of this program in this planning period.

Presently, the Mud Lake fishery is primarily supported by warmwater species including yellow perch, largemouth bass, brown bullhead and tiger muskie. Nongame fish are still abundant with Utah chubs and Utah suckers the major species. In recent years the lake has suffered frequent (though not complete) winterkills. This is likely the result of low winter pool combined with a probable decrease in spring and surface water inflow. A variety of species have been stocked in an effort to establish fisheries in Mud Lake. Bluegill were introduced from 1983-1985, but no population developed and black crappie were planted from 1987-1989, however this effort was also unsuccessful. Introductions of tiger muskie were made into Mud Lake to create a trophy fishery while utilizing the abundant nongame biomass. Tiger muskie were planted as fingerling releases every three years, however, a target fishery did not develop, and few anglers benefited from the program. The slow growth rates combined with the frequent winterkills greatly limit the potential to develop a successful tiger muskie program. Smallmouth and largemouth bass have been stocked in small numbers in an effort to jump start the population following winter kills. The Department will continue to opportunistically supplement Mud Lake with species that will provide an acceptable fishery.

## **B. Objectives and Programs**

1. Objective: Restore mountain whitefish distribution and abundance in Big Lost River drainage to levels sufficient to ensure long-term population viability and provide a sport fishery.

Program: Work collaboratively with partner agencies, water users, and conservation groups to restore fish passage, install diversion screens, and minimize habitat loss associated with dewatering.

Program: Collect life history and ecology information on mountain whitefish to better understand factors limiting population.

Program: Complete a management plan for Big Lost River mountain whitefish.

2. Objective: Maintain and improve angling opportunities in the Big Lost River drainage.

Program: Continue stocking of fine-spotted Yellowstone cutthroat trout, monitor and evaluate for success.

Program: Evaluate impacts of whirling disease and develop management alternatives as necessary.

Program: Work with partner agencies, landowners, and conservation groups to secure perpetual public access to the Big Lost River.

3. Objective: Provide a variety of fishing opportunities in the Sinks drainages for native and non native game fish ranging from quality to harvest oriented, remote to highly accessible fishing.

Program: Protect isolated cutthroat trout populations and identify opportunities to restore cutthroat trout populations.

Program: Continue to manage many small streams in the Sinks drainages for brook trout and rainbow trout.

Program: Manage Paul Reservoir and Birch Creek as Family Fishing Waters with high catch rates supported by hatchery supplementation. Evaluate utility of catchable trout stocking in Beaver Creek.

4. Objective: Effectively use hatchery and wild trout to provide diverse and satisfactory fishing opportunities in alpine lakes.

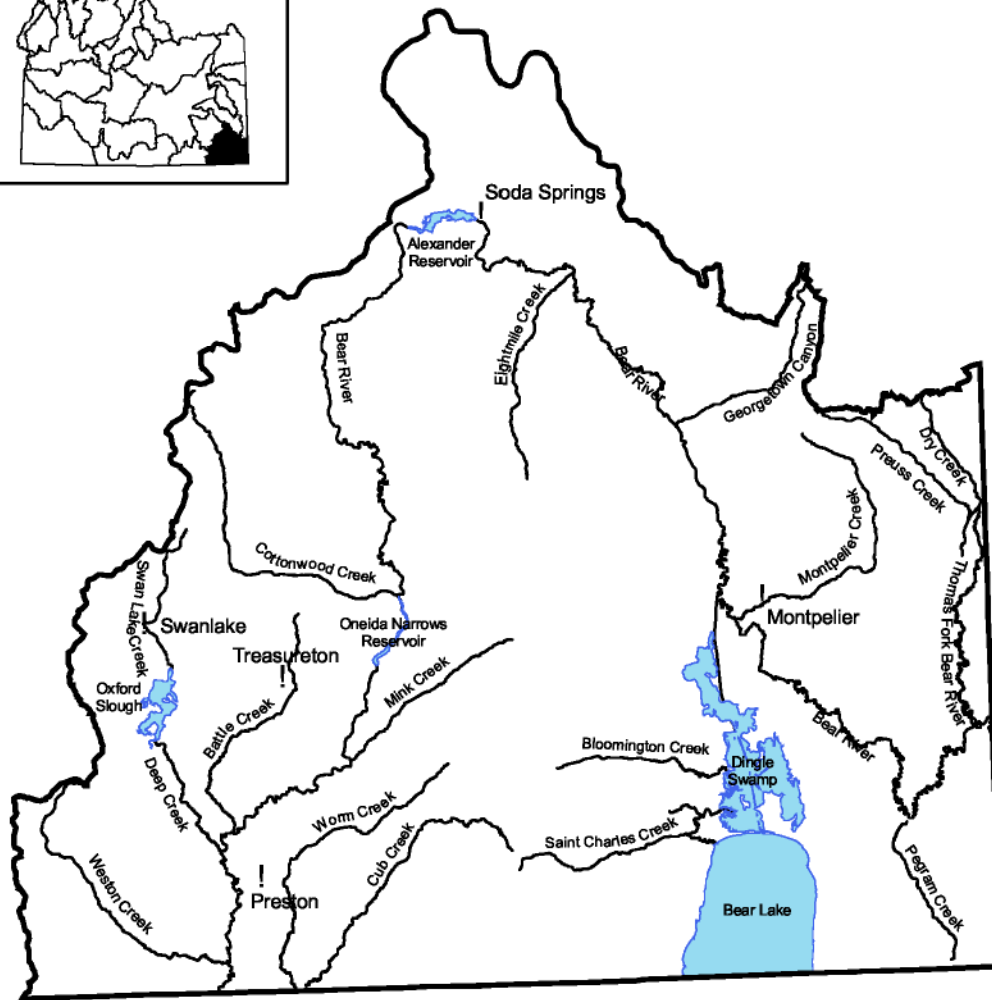
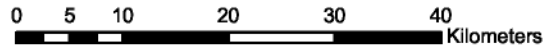
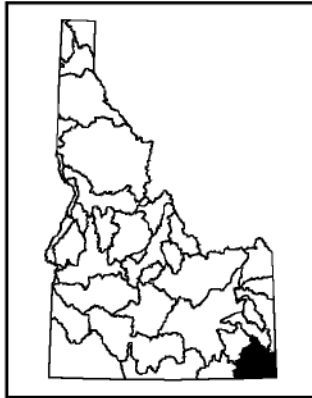
Program: Complete regional alpine lakes management plan.

Program: Discontinue stocking mountain lakes where natural production is sufficient to meet catch rate objectives.

| DRAINAGE: Sinks - Big and Little Lost rivers, Birch, Medicine Lodge and Camas creeks        |             |           |                              |                      |  |
|---|-------------|-----------|------------------------------|----------------------|--|
| Water   | Miles/acres | Type      | Fishery                      | Management           | Management Direction   |
|   |             |           | Species present              |                      |  |
| Big Lost River within Idaho National al Laboratory (INL) property                           | 5/          | Coldwater | none                         | Closed               | All access and fishing closed by INL.. System annually de-watered.   |
| INL boundary to Moore Diversion   | 22/         | Coldwater | none                         | General              | System de-watered regularly in recent years. Good fishery potential during sustained wet years.  |
| Moore Diversion to Mackay Dam   | 20/         | Coldwater | Rainbow trout<br>Brook trout | General              | Maintain wild trout populations. Secure public access. Manage under general rules with a Winter Stream Season.                                   |
|   |             |           | Whitefish                    | Conservation         | Closed to harvest.   |
| Mackay Reservoir  | /1,000      | Coldwater | Rainbow trout<br>Kokanee     | General              | Put-and-take fishery for rainbow trout.  |
| Mackay Reservoir to Chilly Bridge   | 15/         | Coldwater | Rainbow trout<br>Brook trout | General              | Seasonally de-watered through diversions and natural sinks. Improve fish passage and work to restore perennial flows.                            |
|   |             |           | Whitefish                    | Conservation         | Closed to harvest.   |
| Chilly Bridge upstream to West Fork   | 45/         | Coldwater | Rainbow trout<br>Brook trout | General              | Restore fish passage. Evaluate natural reproduction of cutthroat trout and use supplementation accordingly.                                      |
|   |             |           | Cutthroat                    | Quality              |  |
|   |             |           | Whitefish                    | Conservation         | Closed to harvest.   |
| Tributaries: including North Fork, West Fork, Upper East Fork, Wildhorse, and Summit creeks | 232/        | Coldwater | Rainbow trout<br>Brook trout | General              | Use supplemental put-and-take stocking in areas of high use. Evaluate success of cutthroat trout supplementation.                                |
|   |             |           | Cutthroat trout              | Quality              |  |
|   |             |           | Whitefish                    | Conservation         | Closed to harvest.   |
| Little Lost River and tributaries   | 110/        | Coldwater | Rainbow trout<br>Brook trout | Wild<br>General      | Manage bull trout population under statewide no-harvest regulation. Cooperatively monitor bull trout populations. Encourage brook trout harvest. |
|   |             |           | Bull trout                   | Conservation         | Closed to harvest  |
| Birch Creek and tributaries   | 32/         | Coldwater | Rainbow trout<br>Brook trout | Family Fishing Water | Put-and-take rainbow trout fishery to supplement wild trout populations.   |

|   |        |           |   |                            |  |
|---|--------|-----------|---|----------------------------|--|
| Medicine Lodge Creek and tributaries                      | 64/    | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout                             | Wild<br>General<br>Quality | Maintain populations of wild trout. Upper Snake restricted harvest for cutthroat trout.  |
| Mud Lake  | /7,000 | Mixed     | Yellow perch<br>Largemouth bass<br>Tiger muskie<br>Lahontan cutthroat trout | General                    | Provide warmwater fishery primarily supported by perch. Evaluate Lahontan cutthroat trout supplementation. Stock smallmouth and largemouth bass as opportunities permit to improve the fishery.  |
| Camas National Wildlife Refuge<br>(Camas Creek and ponds) | 9/600  | Warmwater | Yellow perch<br>Largemouth bass   | Closed                     | Closed for waterfowl sanctuary.  |
| Remainder of Camas Creek and<br>tributaries               | 70/    | Coldwater | Rainbow trout<br>Brook trout  | General                    | Identify opportunities to restore native cutthroat to isolated streams. Implement with public support.   |
| Beaver Creek from mouth to Spencer                        | 22/    | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout                             | General<br>Quality         | De-watered seasonally.   |
| Beaver Creek and tributaries above<br>Spencer             | 18/    | Coldwater | Rainbow trout<br>Brook trout<br>Cutthroat trout                             | General<br>Quality         | Evaluate catchable supplementation.  |
| Alpine Lakes  | /290   | Coldwater | Rainbow trout<br>Cutthroat trout<br>Brook trout<br>Golden trout<br>Grayling | General                    | Maintain present fishery by use of hatchery fry where needed to achieve 1.0 fish/hr. Adjust stocking rates and frequency to correspond to lake size, productivity, natural production and public use. Discontinue stocking where natural reproduction is sufficient to produce catch rates of 1.0 fish/hr. |

# Bear River Drainage



## 34. BEAR RIVER AND TRIBUTARIES

### A. Overview

The Bear River and its major tributary streams comprise 524 river and stream miles. There are a number of irrigation storage reservoirs in the drainage. Bear Lake, the largest lake in the drainage, covers 70,000 surface acres of which 32,000 are in Idaho and 38,000 are in Utah. Fish species found in this reach include the following native species: mountain whitefish, Bear Lake whitefish, Bonneville cisco, Bonneville whitefish, Bonneville cutthroat trout, Utah chub, longnose dace, speckled dace, reaside shiner, Utah sucker, Bluehead sucker, mountain sucker, Paiute sculpin, mottled sculpin, and Bear Lake sculpin; and the following introduced species: rainbow trout, brown trout, brook trout, tiger muskie, green sunfish, bluegill, smallmouth bass, largemouth bass, black crappie, white crappie, yellow perch, walleye, common carp, and channel catfish.

Habitat for trout in the Bear River is marginal due to high, turbid irrigation flows in summer and marginal flows during winter when water is being stored in Bear Lake. Power facilities have been detrimental to fishing because reservoirs associated with them have rapid turn over, are vertically unstable, and block spawning migrations. In addition, PacifiCorp's Soda Point (Alexander) and Oneida Narrows facilities alter flows frequently and this causes significant fluctuations in the river below. The Bear River receives the heaviest fishing pressure in the tail waters of Alexander and Oneida dams and in the Black Canyon area. Sediments settle out in these two reservoirs so that water transparency is relatively high in the tailrace reaches. About 1/3 of the flow in the Black Canyon comes from springs. A new minimum flow of 62 cfs below Grace Dam adds to these spring flows. The only time when flow could be less than the 62 cfs is in drought years after flow from Bear Lake has been curtailed if natural flow is insufficient to meet irrigation demand at the Last Chance Diversion upriver from Grace Dam. Harvest in these areas is primarily hatchery rainbow trout and naturally produced brown trout. The Department has stocked walleye into Oneida Reservoir since 1974. Walleye disperse both up and down river and have created locally popular fisheries, especially during spawning migrations. The Department would consider terminating walleye stocking in this reservoir when and if walleye inhibit restoration of native Bonneville cutthroat trout and after discussion with the angling public

Smallmouth bass were introduced into the Bear River in the tailwater reach of Alexander Dam in 1990. Bass dispersed downriver and established populations in Oneida Reservoir and the adjacent reaches of the Bear River. Smallmouth bass now contribute regularly to the reservoir and river fisheries.

Brown trout were stocked in several reaches of the Bear River up until 1998. Stocking was terminated to assist with restoration of Bonneville cutthroat trout. Brown trout were most successful as a put-and-grow fishery downriver from Oneida Dam. A residual population of naturally spawning brown trout remains in this reach, but at a much lower density than before stocking was ended.



Bonneville cutthroat is the only native trout in the Bear River system. Abundance of this species is low in the Bear River and in many of its tributaries. When the Federal Energy Regulatory Commission issued a new federal license in 2003 for PacifiCorp to continue operating the Bear River Hydroelectric Project, they required PacifiCorp to fund numerous projects to aid in the restoration of Bonneville cutthroat trout. Projects implemented so far include collection and analysis of trout from tributaries and reaches of the mainstem Bear River for genetic analysis, radio telemetry of fluvial Bonneville cutthroat trout and some riparian fencing and diversion screening projects. One of the PacifiCorp projects, Cove Hydroelectric Project, was decommissioned to restore 1.3 miles of the Bear River and to connect the Bear River from Oneida Dam upriver to Grace Dam. There may be opportunity to capture wild Bonneville cutthroat trout from Bear River tributaries and raise them in ponds to be used as a brood stock. Progeny from the brood stock could be used to repopulate Bear River tributaries once habitat problems have been solved. Tributaries in the Thatcher reach of the Bear River and the tributaries to Deep Creek Reservoir in the Malad River drainages are currently being considered for such restoration measures.

In 2005 an Idaho State University graduate student electrofished most of Idaho's reach of the Bear River to collect Bonneville cutthroat trout for a radio telemetry study. Cutthroat trout were rare in most reaches and absent in others. Reaches where cutthroat trout were present were from the Wyoming border downriver to Stewart Dam and from the Bear Lake outlet downriver to Alexander Reservoir. Reaches where no cutthroat trout were found were from Cove Dam to Oneida Dam and downriver from Oneida Dam to near the Utah border. There is an interest by anglers to restore brown trout below Oneida Dam.

Main tributaries to the Bear River include the Malad and Cub rivers, Thomas Fork, Bloomington, Paris, Montpelier, Georgetown, Stauffer, Skinner, Eight-Mile, Whiskey, Trout, Williams, Cottonwood and Mink creeks. Although most of the Cub River is in Idaho, Cub River enters the Bear River in Utah where water and substrate quality are marginal for trout and is most of the fish present are non-game species, channel catfish, and walleye.

St. Charles Creek is a major spawning stream for cutthroat trout from Bear Lake. Many of the trout in St. Charles Creek are lost into irrigation diversions. In recent years the Department, working in coordination with a multi agency and private landowner/water user working group has cost shared with USFWS grants to install fish screens on major diversions. This work is ongoing. Also, the USFWS constructed dikes in the Bear Lake Refuge to isolate a branch of St. Charles Creek to prevent cutthroat trout from being lost into Mud Lake and the Bear River. Because a naturally spawning population of rainbow trout is causing serious hybridization problems for native cutthroat trout in St. Charles Creek, anglers may now harvest six rainbow, hybrid or cutthroat trout in St. Charles Creek and the Department is attempting to remove rainbow and hybrid trout. The Department is considering a rotenone renovation of St. Charles Creek to remove all trout and then restock with native cutthroat trout from Swan Creek, a Bear Lake tributary in Utah. Chemical renovation would also greatly reduce or remove brook trout which compete with native cutthroat trout and likely prey on cutthroat fry. An alternate plan being considered and currently tested is to actively remove rainbow and hybrid trout and increase the number of cutthroat spawners by trapping and

transporting them from the mouth of Fish Haven Creek into St. Charles Creek. Because of the July 1 fishing opener on lower St. Charles Creek where most cutthroat spawn, and because adfluvial cutthroat trout migrate to Bear Lake before they become large enough to be caught by anglers, fishing in St. Charles Creek, has a minimal impact on the adfluvial cutthroat population. Since most Bear Lake adfluvial cutthroat spawn only once, harvest of post spawn cutthroat trout has minimal population impact. Further modification to the cutthroat trout rules on St. Charles Creek will likely be necessary if selective rainbow trout removal becomes the plan rather than chemical renovation of the stream.

Fish Haven Creek should also be a significant spawning tributary to Bear Lake, but most, and frequently all, of the water is diverted for irrigation through much of the summer. Additionally, the lower 150 feet of Fish Haven Creek has been confined within a covered cement flume. This section has high velocity, especially during spring runoff when adfluvial cutthroat trout from Bear Lake attempt to migrate up the stream. In most cases this flume is a barrier to upstream migration of the cutthroat trout. The working group now meets twice annually to continue the cooperative efforts on St. Charles and Fish Haven creeks to benefit native cutthroat trout in ways that do not impact traditional water uses.

Bonneville cutthroat trout was petitioned for listing under the Endangered Species Act in February 1998. The USFWS determined that the petition was not warranted in part because of the new information that genetically pure cutthroat were present in numerous tributaries of the Bear River and because of numerous planned projects to improve conditions for Bonneville cutthroat trout.

Headwater tributaries of the Thomas Fork contain populations of Bonneville cutthroat trout that were identified in 1979 and 1981. From 1993 through 2005 Bonneville cutthroat trout were documented in approximately 65% of Bear River tributaries. The upper ten miles of the Cub River contain wild cutthroat trout and receives heavy fishing pressure. Wild cutthroat trout harvest decreased with initiation of a two-cutthroat trout limit on streams and a two-cutthroat trout over 16-inches limit on rivers in the early 1990s. Beginning in 2006, all cutthroat trout caught in the mainstem Bear River must be released and harvest of cutthroat trout in the tributaries opens July 1, after cutthroat trout have spawned.

Most tributaries to the Bear River support populations of self-sustaining cutthroat, brook, brown and/or rainbow trout. Highest concentrations of trout are found in the middle and upstream sections. Trout in the lower sections are affected by low summer flows and high temperatures resulting from irrigation withdrawal and riparian degradation. Catchable size sterile rainbow trout are planted in accessible streams where habitat conditions and returns to anglers are favorable and there is a recent history of fish stocking. Beginning in 1999, the Department phased in stocking of sterile rainbow trout. Since 2001, all rainbow trout stocked in the Bear River system had been treated to induce sterility.

A number of irrigation reservoirs support gamefish populations in the Bear River drainage and if sufficient water remains at the end of an irrigation season excellent growth and overwinter survival occur. Most are stocked with hatchery rainbow trout. In addition, several also contain spiny-rayed game fish such as bluegill, yellow perch and largemouth bass. These reservoirs provide the majority of fishing opportunity in the Bear River drainage. Irrigation storage reservoirs in the Bear River basin include Condie, Crowthers, Daniels, Deep Creek, Devil Creek, Foster, Glendale, Johnson, Lamont, Little Valley, Montpelier, Oxford, Pleasantview, Treasureton, Twin Lakes, Weston, and Winder reservoirs. St. John Reservoir near Malad has been drained since about 2002 because the dam leaks.

Condie, Devil Creek, Foster, Glendale, Johnson, Lamont, Twin Lakes, Weston and Winder reservoirs contain largemouth bass. All these reservoirs except Devil Creek Reservoir contain warmwater prey species of bluegill, yellow perch or crappie. In recent years, largemouth bass were illegally stocked in Devil Creek Reservoir and a fishery for these fish began in 2005 as progeny of the stocked fish became large enough to catch. In the 2006 Angler Opinion Survey, anglers were asked if they wanted the bass removed or managed as part of the fishery. Of those anglers from the Southeast Region who had an opinion, most wanted the bass removed. If the bass are not removed the Department would consider managing this reservoir as a Family-Fishing-Water with no size limit on the bass.

The Deep Creek Irrigation Company drained Deep Creek Reservoir in 2004 to make needed repairs to their outlet structure. This eliminated a fishery for largemouth bass that had begun with an illegal introduction. No bass have been restocked and the trout fishery appears more robust because of that change. Tributaries to Deep Creek Reservoir contain genetically pure "southern" Bonneville cutthroat trout. This is the northern most location where the southern Bonneville has been documented. The Department, in coordination with the Caribou National Forest, will take measures toward protecting stream habitat and increasing use of Deep Creek Reservoir by cutthroat trout.

Condie Reservoir is managed for trophy bass, with a 20-inch minimum size limit. Yellow perch were illegally stocked in Condie Reservoir in the late 1980s, which decreased bluegill growth. The Department stocked tiger muskie at Condie Reservoir in 1995, 1997, and 2000 to increase predation on perch and provide an additional trophy species. In a 2003 lowland lake survey, it appeared that the abundance of catchable size bass and bluegill had decreased. Possible causes considered were decrease of nutrients in the inflow as local dairies reduced the flow of effluents into local streams and direct predation by large tiger muskie. Tiger muskie have not been restocked at Condie Reservoir. According to anglers, the bass and panfish fishery had improved by 2006.

Quality bass rules are in effect at Glendale and Weston reservoirs. Due to slow growth rates of bass in southeast Idaho, some protection of bass 12 to 16 inches long is necessary to maintain populations of quality size bass that can be enjoyed on a catch-and-release basis.

Trophy and quality trout rules are in effect at Daniels and Treasureton reservoirs, respectively. These waters are very popular with catch-and-release anglers who enjoy the opportunity to catch large trout.

Bear Lake historically contained cutthroat trout that matured at a large size, some exceeding 20 pounds. Due to over fishing, irrigation diversion, and other factors, this population was reduced to a low level as early as the 1930s. As a restoration measure, Utah Department of Natural Resources takes eggs from mature fish which ascend Swan Creek, rears young fish in a hatchery for one year, and then releases them back in Bear Lake. The Department is protecting and restoring habitat in St. Charles Creek for Bear Lakes Bonneville cutthroat trout spawners. Three fish screens have been constructed and approximately two miles of heavily grazed stream banks have been protected with riparian corridor fences. The Department stocks 50,000 lake trout fingerlings on a three year rotation. Utah and Idaho agencies agreed to this program since very few naturally produced lake trout occur in the lake. Due to concern that stocked lake trout might eventually form self-sustaining populations and negatively impact the lake's four endemic species, the Department developed a technique to produce sterile lake trout that would be stocked into Bear Lake. The process took three annual spawning seasons from 2002 through 2004, the first two, mostly unsuccessful years using temperature shock to the eggs and the third and successful year using pressure treatment.

As mitigation for damage caused to Bear Lake fisheries by diverting Bear River water into Bear Lake, and by the sedimentation associated with failures of the causeway dike in 1993, Utah Power and Light connected the Big Creek Branch of St. Charles Creek to Bear Lake in 1995. This was intended to increase the spawning and rearing habitat for Bear Lake cutthroat trout and reduce loss of juvenile cutthroat trout to irrigation diversions. A graduate student study in 2001 documented that cutthroat trout migrating into the Big Creek branch of St. Charles Creek would then escape through into Mud Lake and then into the Bear River through breaches in the stream channel. These fish and their spawn were then lost to the Bear Lake system. In 2004 through 2006 the Fish and Wildlife Service closed the breaches. This effort was part of the work initiated through the St. Charles and Fish Haven watersheds working group that was initiated in 2002.

This working group has resulted in better working relations between agencies and irrigators, more consideration for the needs of fish, and to construction of a fish screen on the North Field Diversion Ditch.

In addition to Bonneville cutthroat trout, Bear Lake contains four endemic fish species. These are Bear Lake whitefish, Bonneville whitefish, Bonneville cisco, and Bear Lake sculpin. Annual studies by Utah State University and the Utah Division of Wildlife Resources have determined that populations of these species are large and relatively stable.

## **B. Objectives and Tasks**

1. Objective: Increase number of wild Bonneville cutthroat spawners and fry production in St. Charles Creek.

Program: Build fish screens on all significant St. Charles Creek diversions

Program: Seek cooperative ways to divert less water from St. Charles Creek.

Program: Reduce numbers of brook and rainbow trout in St. Charles Creek through chemical renovation or by active removal and liberal fishing limits.

2. Objective: Improve habitat for Bonneville cutthroat trout.

Program: Cooperate with PacifiCorp and other interested parties to implement and monitor FERC license conditions to protect and enhance Bonneville cutthroat trout in the Bear River system.

Program: Seek participants in NRCS Continuous Signup Conservation Reserve Program to protect stream banks from impacts of livestock grazing.

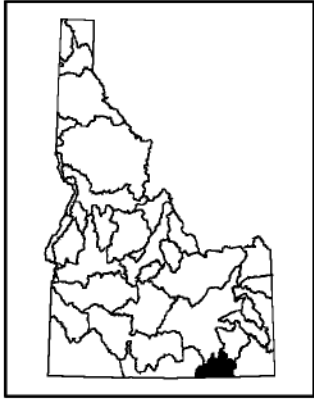
| Drainage: BEAR RIVER  |            |           |  |                                    |   |
|---|------------|-----------|--|------------------------------------|---|
| Water   | Miles/acre | Type      | Fishery  | Management                         | Management Direction  |
|   |            |           | Species Present  |                                    |   |
| Bear River from Utah state line upstream to Highway 91            | 30/        | Mixed     | Channel catfish<br>Brown trout<br>Walleye  | General                            | Consider re-establishment of a brown trout stocking program if native cutthroat habitat and a resulting cutthroat population can not be restored.   |
|   |            |           | Cutthroat trout  | Conservation                       | Seek opportunities to improve spawning habitat for Bonneville cutthroat trout.  |
| Bear River from Highway 91 to Oneida Dam                          | 2.5/       | Coldwater | Cutthroat trout  | Conservation                       | Seek opportunities to improve conditions for native Bonneville cutthroat trout. Re-establish brown trout stocking program if cutthroat population can not be restored.  |
|   |            |           | Rainbow trout<br>Walleye<br>Mountain whitefish<br>Brown trout<br>Smallmouth bass | General                            |   |
| Oneida Reservoir  | /500       | Mixed     | Yellow perch<br>Walleye<br>Smallmouth bass                                       | General                            | Assess angler support for removing limits on walleye and or for terminating the walleye stocking program to reduce predation on native cutthroat trout in the Bear River above and below Oneida Reservoir if and when cutthroat trout numbers increase. |
| Bear River from Oneida Narrows Reservoir headwaters to Grace Dam. | 31/        | Mixed     | Cutthroat trout  | Conservation                       | Work with landowners and water users on tributaries to restore native cutthroat populations.  |
|   |            |           | Rainbow trout<br>Walleye<br>Mountain whitefish<br>Brown trout<br>Smallmouth bass | General                            | Assess angler support for removing limits on walleye and smallmouth bass to reduce predation on cutthroat trout.  |
| Condie Reservoir  | /117       | Mixed     | Rainbow trout<br>Yellow perch<br>Bluegill<br>Largemouth bass<br>Tiger muskie     | General                            | Monitor community structure of largemouth bass, bluegill and yellow perch once tiger muskie decline in the fish community.  |
|   |            |           |  | Trophy                             |   |
| Foster Reservoir  | /146       | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Crappie<br>Yellow perch          | General                            | Evaluate percentage return-to-creel at least once this planning period, and document status of warmwater fish community now that the irrigation company leaves more water in the reservoir at the end of the irrigation season.                         |
| Glendale Reservoir  | /230       | Mixed     | Rainbow trout<br>Bluegill<br>Crappie<br>Largemouth bass<br>Yellow Perch          | Put-and-take<br>General<br>Quality | Evaluate percent return-to-creel at least once this planning period. Document status of crappie populations. Consider trophy management to see if larger bass can be produced.  |
| Johnson Reservoir   | /50        | Mixed     | Rainbow trout<br>Bluegill<br>Yellow perch  | Put-and-take<br>General            | Evaluate percent return-to-creel at least once this planning period. Determine impact to fishing of tiger muskie.   |

|   |        |           |  |   |   |
|---|--------|-----------|--|---|---|
|   |        |           | Largemouth bass<br>Tiger muskie  |   |   |
| Lamont Reservoir  | /92    | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Yellow perch<br>Tiger muskie | Put-and-take<br>General                 | Evaluate impact of tiger muskie on the over all fishing   |
| Oxford Reservoir  | /20    | Coldwater | Rainbow trout  | General                                 | Determine rainbow trout growth rate and over winter survival.   |
| Treasureton Reservoir   | /143   | Coldwater | Rainbow trout  | Quality                                 | Add Bonneville cutthroat trout when available.  |
| Twin Lakes Reservoir  | /446   | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Yellow perch                 | Put-and-take<br>General                 | Work with the Twin Lakes Canal Company to maintain pubic access with minimal access fee.  |
| Weston Reservoir  | /112   | Mixed     | Rainbow trout<br>Yellow perch<br>Largemouth bass                             | General<br>Quality                      | Assess community status 10 years after largemouth bass rule change. Pursue rule to allow all non-motorized craft rather than just float tubes |
| Winder Reservoir  | /94    | Mixed     | Rainbow trout<br>Largemouth bass<br>Bluegill<br>Yellow perch                 | Put-and-take<br>General                 | Change rule to allow all non-motorized craft rather than just float tubes   |
| Bear River from Grace Dam, to Soda Point Dam  | 5/     | Mixed     | Rainbow trout<br>Mountain whitefish<br>Smallmouth bass<br>Cutthroat trout    | Put-and-take<br>General<br>Conservation | Evaluate fishery and monitor minimum flow.  |
| Alexander Reservoir   | /1,165 | Mixed     | Cutthroat trout<br>Yellow perch<br>Channel catfish<br>Rainbow trout          | General                                 | Seek increased channel catfish stocking rate of 20 large fingerlings/acre/year. Decrease bank erosion.  |
| Bear River from Alexander Reservoir to Bear Lake  | 79/    | Coldwater | Rainbow trout<br>Mountain whitefish<br>Cutthroat trout                       | Put-and-take<br>General<br>Conservation | Reduce turbidity. Cooperate with PacifiCorp and others on fishery mitigation and in NRCS projects to achieve this goal.                       |
| Montpelier Reservoir  | /120   | Coldwater | Rainbow trout<br>Cutthroat trout   | Put-and-take<br>General                 | Consider developing Bonneville cutthroat trout brood stock  |
| Bloomington Lake  | /10    | Coldwater | Cutthroat trout  | General                                 | Stock 2,000 Bonneville cutthroat trout/year.  |
| Little Valley Reservoir   | /60    | Coldwater | Rainbow trout<br>Cutthroat trout   | General<br>General                      | Stock with Bonneville cutthroat trout when available.   |
| Cub River   | 15/    | Coldwater | Cutthroat trout<br>Rainbow trout   | Quality<br>Put-and-take                 | Stock rainbow trout only at Willow Flats camp ground  |
| Other Bear River tributaries that are stocked with rainbow trout catchables: Trout, Whiskey, Eight Mile, Georgetown, Paris and Bloomington. | 44/    | Coldwater | Rainbow trout<br>Brook trout<br>Brown trout                                  | Put-and-take<br>General                 | Stock rainbow trout near established campgrounds. Encourage harvest of brook and brown trout.   |

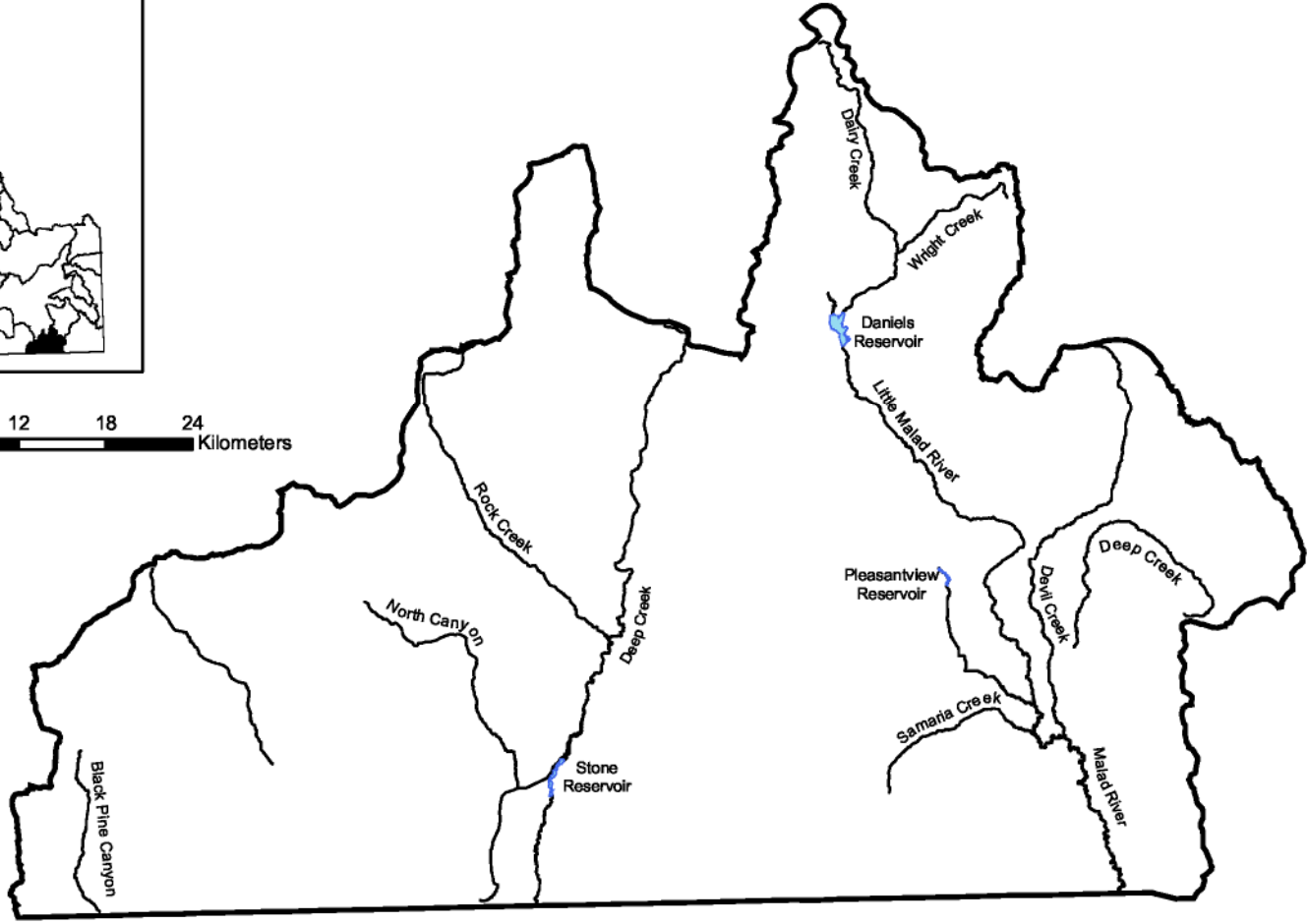
|   |         |           |  |                         |  |
|---|---------|-----------|--|-------------------------|--|
|   |         |           | Cutthroat trout  | Wild                    | Work with private landowners on upper Trout and Whiskey creeks to restore habitat and Bonneville cutthroat trout.<br><br>Manage for cutthroat trout with two fish limit.   |
| All other Bear River tributaries (not stocked) and are managed for wild cutthroat trout with some feral brown, rainbow and brook trout. | 44/     | Coldwater | Cutthroat trout<br>Brook trout<br>Brown trout<br>Rainbow trout                                       | Wild<br><br>General     | Manage for wild cutthroat trout with 2-cutthroat trout limit.<br>Encourage harvest of other trout species.   |
| St. Charles Creek.  | 20/     | Coldwater | Cutthroat trout<br>Brook trout<br>Rainbow trout  | Conservation<br>General | Continue to improve habitat and fish passage conditions in St. Charles Creek. Look for ways to increase natural spawning success, and to minimize losses into irrigation canals. Selectively remove rainbow and brook trout. Allow harvest of all trout species after spawning season is over to encourage removal of rainbow and hybrids and to encourage support for this program. |
| Bear Lake   | /70,000 | Coldwater | Cutthroat trout<br>Lake trout<br><br>Bonneville cisco<br>Bear Lake whitefish<br>Bonneville whitefish | Quality                 | Coordinate with Utah DWR to optimize conditions for native species. Stock sterile lake trout to provide trophy fishery.<br><br>Bear Lake endemics managed with exceptions to general bag limits and/or special rules   |
| Fish Haven Creek  | 10/     | Coldwater | Brook trout<br>Cutthroat trout   | General<br>Quality      | Improve fish passage conditions in Fish Haven Creek for adfluvial Bonneville cutthroat trout. Look for ways to increase natural spawning success, provide a sustainable minimum flow and minimize losses into irrigation canals.   |
| Thomas Fork Creek   |         | Coldwater | Cutthroat trout  | Conservation            | Participate in USFS and NRCS habitat improvement programs. .   |
| Preuss Creek  |         | Coldwater | Cutthroat trout  | Conservation            | Monitor new allotment management plan.   |
| Dry Creek   |         | Coldwater | Cutthroat trout  | Conservation            | Monitor new allotment management plan.   |
| Giraffe Creek   |         | Coldwater | Cutthroat trout  | Conservation            | Monitor new allotment management plan.   |
| Bear River from Stewart Dam to Wyoming border   |         | Coldwater | Cutthroat trout<br>Mountain whitefish<br>Brown trout   | Conservation<br>General |  |



# Malad River Drainage



0 3 6 12 18 24 Kilometers



## 35. MALAD RIVER DRAINAGE

### A. Overview

Streams in the Malad River drainage total 83 miles and cover 86 surface acres. Fish species found in this reach include the following native species: Bonneville cutthroat trout, Utah chub, longnose dace, speckled dace, Utah sucker, mountain sucker, and mottled sculpin; and the following introduced species: rainbow trout, common carp, brown bullhead, channel catfish, green sunfish, and largemouth bass.

The Malad River has excessive suspended sediment, mostly silt substrate, and eroded banks. Irrigation withdrawals in summer and storage in winter limit flows. These conditions inhibit restoration of native fluvial trout fisheries. Most fishing in the Malad River drainage occurs within Daniels, Deep Creek, Devil Creek, Crowthers, and Stone reservoirs. Stream surveys in the 1990s and 2000 documented the presence of Bonneville cutthroat trout in First, Second, and Third creeks that are tributaries to Deep Creek Reservoir east of Malad City. Efforts may begin in this management cycle to manage Deep Creek Reservoir and its tributaries for native Bonneville cutthroat trout.

Daniels Reservoir has trophy trout rules, i.e., a limit of two trout, which must be at least 20 inches long and use of bait is prohibited. In 1994, anglers fished an estimated 29,555 hours (80 h/acre) on 375 acre Daniels Reservoir. Boat and tube anglers accounted for 78% of fishing effort and 74% of the catch. Catch rates averaged 0.7 trout/hr. Anglers harvested an estimated thirty-nine trout or 0.1% of their catch. Harvested trout averaged 20 inches. May through September were the most heavily fished months; however, best catch rates occurred early in the ice-fishing season, December when anglers averaged 0.7 trout/h. If the ice-fishing season roughly corresponded to the months of January, February, March, and December, then ice fishing would have accounted for 18% of effort and 27% of the catch for 1994. Natural reproduction of trout occurs in the Little Malad Spring that flows into Daniels Reservoir.

Devil Creek Reservoir (142 acres) is a popular hatchery-trout and kokanee fishery less than a mile from, and within view of Interstate Highway 15. Non-game fish over populated this reservoir in the late 1990s. Department personnel renovated Devil Creek Reservoir with rotenone in 1999 and restocked with rainbow trout and kokanee in 2000. Crowthers and Pleasantview (47 acres) Reservoirs are managed for put-and-take trout. St. Johns Reservoir (48 acres) was permanently drained in 2003 when a significant leak in the dam occurred. This was a loss of a popular fishery for bluegill, yellow perch, crappie and largemouth bass.

Stone Reservoir is located on Deep Creek in Curlew Valley approximately six miles north of Snowville, Utah. It is stocked with rainbow trout annually and has self-sustaining populations of largemouth bass and crappie.

## **B. Objectives and programs**

1. Objective: Maintain the trophy trout fishery at Daniels Reservoir. Consider stocking Bonneville cutthroat trout.

Program: Obtain Bonneville cutthroat trout eggs from First, Second and Third creeks in the Deep Creek drainage rear these for brood stock and produce young for Daniels Reservoir and Deep Creek Reservoir.

Program: Seek improved riparian and stream bed conditions on the Little Malad Spring.

2. Objective: Improve fish passage for Bonneville cutthroat in tributaries of Deep Creek Reservoir.

Program: Alter the outlets of road culverts to decrease difference in water height below and within the culverts.

Program: Capture Bonneville cutthroat trout from First, Second and Third creeks in the Deep Creek drainage and rear them to brood stock size. Rear fingerlings and stock them into First, Second and Third creeks and into Deep Creek and Daniels Reservoirs.

3. Objective: Decrease population of Utah chubs in Pleasantview Reservoir

Program: Renovate the reservoir the next time a severe drought occurs. It may be impossible to remove 100% of the chubs because of springs in the inlet stream.

4. Objective: Restore the quality of the Crowthers Reservoir rainbow trout fishery.

Program: Renovate Crowthers Reservoir to eliminate green sunfish

5. Objective: Improve the quality of the game fish fishery in Stone (Curlew Valley) Reservoir.

Program: Work with the local irrigation district to see if common carp can be eliminated in the reservoir. If necessary, consider using triploid grass carp to control vegetation.

| Drainage: MALAD RIVER                               |            |           |   |            |  |
|---|------------|-----------|---|------------|--|
| Water   | Miles/acre | Fishery   |   |            | Management Direction   |
|   |            | Type      | Species Present   | Management |  |
| Malad River from Utah border upstream to Malad City | 15/        | Warmwater | Brown Bullhead<br>Channel catfish<br>Green sunfish                | General    | Improve riparian conditions  |
| Malad River tributaries                             | 65/        | Coldwater | Cutthroat trout   | Wild       | Improve riparian conditions and inspect culverts to ensure that there are no problems for upstream passage   |
| Daniels Reservoir                                   | /375       | Coldwater | Bonneville cutthroat trout<br>Sterile Rainbow trout               | Trophy     | Add Bonneville cutthroat to the stocking program when available  |
| Pleasantview Reservoir                              | /47        | Coldwater | Rainbow trout   | General    | Renovate to mitigate for Utah chubs  |
| Crowthers Reservoir                                 | 33         | Coldwater | Rainbow trout   | General    | Survey and renovate to remove non-game species during next severe drought.   |
| St. Johns Reservoir                                 | /48        |           |   |            | Encourage Malad Valley Irrigation Company to rebuild the dam   |
| Stone (Curlew Valley) Reservoir                     | /304       | Mixed     | Rainbow trout<br>Black crappie<br>Largemouth bass<br>Yellow perch | General    | Do standard lowland lake sampling to evaluate fishery status. Provide catch rate of 0.5 fish/hour. Consider additional forage fish for bass if crappie disappears. |

## ACKNOWLEDGMENTS

Cover illustrations of fish provided by artist Joseph Tomelleri. Cover photos provided by IDFG staff. Front cover designed by Renai Brogdon.

IDFG Fisheries Bureau staff were responsible for the development of the 2007-2012 Fisheries Management Plan. We especially want to thank our regional fishery management staff for all their hard work in developing this document. Technical assistance and advice was provided by the IDFG Natural Resources Policy Bureau. The IDFG Communications Bureau was instrumental in providing website support. Former Fisheries Bureau Chief Virgil Moore provided leadership and support in this effort prior to becoming Director of the Oregon Department of Fish and Wildlife. Finally we thank all of the anglers who buy fishing licenses and support IDFG management programs, those who filled out and returned the angler opinion survey, and the many anglers who provided comments on this plan.

How to Cite this Document:

Idaho Department of Fish and Game. 2007. Fisheries Management Plan 2007 – 2012. Boise, ID.

## APPENDIX 1: COMMON AND SCIENTIFIC NAMES OF IDAHO SPECIES OF GREATEST CONSERVATION NEED.

*How to Read the Lists.* Within these lists, species are listed phylogenetically by class. In cases where phylogeny is incompletely understood, taxonomic units are arranged alphabetically.

Listed below are definitions for interpreting NatureServe conservation status ranks (GRanks and SRanks). These ranks reflect an assessment of the condition of the species rangewide (GRank) and statewide (SRank). Rangewide ranks are assigned by NatureServe and statewide ranks are assigned by the Idaho Conservation Data Center.

- GX or SX Presumed extinct or extirpated: not located despite intensive searches and virtually no likelihood of rediscovery.
- GH or SH Possibly extinct or extirpated (historical): historically occurred, but may be rediscovered. Its presence may not have been verified in the past 20–40 years. A species could become SH without such a 20–40 year delay if the only known occurrences in the state were destroyed or if it had been extensively and unsuccessfully looked for. The SH rank is reserved for species for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
- G1 or S1 Critically imperiled: at high risk because of extreme rarity (often 5 or fewer occurrences), rapidly declining numbers, or other factors that make it particularly vulnerable to rangewide extinction or extirpation.
- G2 or S2 Imperiled: at risk because of restricted range, few populations (often 20 or fewer), rapidly declining numbers, or other factors that make it vulnerable to rangewide extinction or extirpation.
- G3 or S3 Vulnerable: at moderate risk because of restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors that make it vulnerable to rangewide extinction or extirpation.
- G4 or S4 Apparently secure: uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 or S5 Secure: common, widespread, and abundant.

*Other ranks and rank qualifiers:*

- GNR or Unranked: conservation status not yet assessed.  
SNR

- GU or SU Unrankable: currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
- GNA or SNA Not applicable: a conservation status rank is not applicable because the species is not a suitable target for conservation activities.
- G#G# or S#S# Range rank: a numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty about the status of the species. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).
- B Breeding: conservation status refers to the breeding population of the species.
- N Nonbreeding: conservation status refers to the non-breeding population of the species.
- M Migrant: migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species.
- ? Inexact or uncertain: denotes inexact or uncertain numeric rank (e.g., S2?).
- Q Questionable taxonomy: taxonomic distinctiveness of this entity at the current level is questionable; resolution of this uncertainty may result in change from a species to a subspecies or hybrid, or the inclusion of this taxon in another taxon, with the resulting taxon having a lower conservation priority.
- T# Intraspecific taxon (trinomial): the status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks. For example, the global rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1. A T-rank cannot imply the subspecies or variety is more abundant than the species as a whole; for example, a G1T2 cannot occur. A vertebrate animal population, such as those listed as distinct population segments under the U.S. Endangered Species Act, may be considered an infraspecific taxon and assigned a T-rank; in such cases, a Q is used after the T-rank to denote the taxon's informal taxonomic status.

The column titled "Endangered Species Act Status Codes" indicates the status under the Endangered Species Act of 1973 (16 *U.S.C.* §1531–1543; P.L. 93–205, as amended) based on categories defined by the U.S. Fish and Wildlife Service.

- E Listed Endangered: species in danger of extinction throughout all or a significant portion of its range.
- T Listed Threatened: species likely to become endangered within the foreseeable future throughout all or a significant portion of its range.
- XN Experimental Population, Non–essential: a population (including its offspring) of a listed species designated by rule published in the Federal Register that is wholly separate geographically from other populations of the same species. An experimental population may be subject to less stringent prohibitions than are applied to the remainder of the species to which it belongs. An experimental “non–essential” population is a population whose loss would not appreciably reduce the prospect of survival of the species in the wild.
- PE Proposed Endangered: species that is proposed in the Federal Register to be listed as endangered under section 4 of the Endangered Species Act.
- PT Proposed Threatened: species that is proposed in the Federal Register to be listed as threatened under section 4 of the Endangered Species Act.
- C Candidate Taxon (candidate), Ready for Proposal: species for which FWS or NOAA Fisheries has on file sufficient information on biological vulnerability and threats to support a proposal to list as endangered or threatened.

The column titled “USDA Forest Service Northern Region (R1) and Intermountain Region (R4)” indicates species designated sensitive. The Forest Service Manual (FSM 2670.22) directs the development of Sensitive Species lists. The Regional Forester (Northern Region and Intermountain Region) designates Sensitive Species on National Forest lands in Idaho. This designation applies only on USFS–administered lands.

S Sensitive Species: animal species identified by the Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or significant current or predicted downward trends in habitat capability that would reduce a species’ existing distribution.

The column titled “USDI Bureau of Land Management” indicates designations assigned by that agency. National policy directs State Directors to designate BLM sensitive species in cooperation with the State fish and wildlife agency (BLM manual 6840). The Idaho State BLM Office updated these designations in 2003. The sensitive species designation is normally used for species that occur on BLM public lands and for which BLM has the capability to significantly affect the conservation status of the species through management.



- Type 1 Threatened, endangered, proposed and candidate: species listed by the FWS or NMFS as threatened or endangered, or proposed or candidates for listing under the Endangered Species Act of 1973.
- Type 2 Rangewide/Globally imperiled: species that are experiencing significant declines throughout their range with a high likelihood of being listed in the foreseeable future due to their rarity and/or significant endangerment factors. This includes species ranked by the NatureServe heritage program network with a Global rank of G1–G3 or T1–T3 or recent data indicate that the species is at significant rangewide risk and this is not currently reflected by heritage program global ranks.
- Type 3 Regional/ State imperiled: species that are experiencing significant declines in population or habitat and are in danger of regional or local extinctions in Idaho in the foreseeable future if factors contributing to their decline continues. This includes Idaho BLM sensitive species that (a) are not in Type 2, (b) have an S1 or S2 State rank (exception being a peripheral or disjunctive species), or (c) score high (18 or greater) using the Criteria for Evaluating Animals for Sensitive Species Status or (d) other regional/national status evaluations (e.g., Partners in Flight scores) indicate significant declines.
- Type 4 Peripheral: species that are generally rare in Idaho with the majority of their breeding range largely outside the state (Idaho Conservation Data Center 1994). This includes sensitive species that have an S1 or S2 state ranking, but are peripheral species to Idaho.
- Type 5 Watch list: these species are not considered BLM sensitive species and associated sensitive species policy guidance does not apply. Watch list species include species that may be added to the sensitive species list depending on new information concerning threats, species' biology or statewide trends. The Watch List includes species with insufficient data on population or habitat trends or the threats are poorly understood. However, there are indications that these species may warrant special status species designation and appropriate inventory or research efforts should be a management priority.

Designations assigned by the State are indicated in the column titled "Idaho Department of Fish and Game." The Idaho Fish and Game Commission is authorized under Sections 36–104(b) and 36–201, Idaho Code, to adopt rules concerning the taking of wildlife species and the classification of all wildlife in the state of Idaho. These rules are cited in full as IDAPA 13.01.06.000, et seq., Rules of the Idaho Fish and Game Commission, IDAPA 13.01.06, "Rules Governing Classification and Protection of Wildlife." These rules were last updated in 2005.

Endangered: any native species in danger of extinction throughout all or a significant portion of its Idaho range.

Threatened: any native species likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of its Idaho range.

Game Species: those species of wildlife classified as Big Game Animals, Upland Game Animals, Game Birds, Migratory Birds, Game Fish, Crustacea, or Furbearing Animals may be taken only in accordance with Idaho law and rules established by the Idaho Fish and Game Commission.

Protected Nongame and Threatened or Endangered Species : no person shall take or possess those species of wildlife classified as Protected Nongame, or Threatened or Endangered at any time or in any manner, except as provided in Sections 36–106(e) and 36–1 107, Idaho Code, by Commission rule, or IDAPA 13.01.10, “Rules Governing the Importation, Possession, Release, Sale, or Salvage of Wildlife,” Subsection 100.06.b. Protected Nongame status is not intended to prevent unintentional take of these species, protection of personal health and/or safety, limit property and building management, or prevent management of animals to address public health concerns or agricultural damage.

Unprotected and Predatory Wildlife: those species of wildlife classified as Unprotected Wildlife and Predatory Wildlife may be taken in any amount, at any time, and in any manner not prohibited by state or federal law, by holders of the appropriate valid Idaho hunting, trapping, or combination hunting and fishing licenses, provided such taking is not in violation of state, county, or city laws, ordinances, or regulations.

**APPENDIX 2. 2006 Angler Opinion Survey mailed to a subset of resident  
and non-resident anglers.**



# 2006 IDAHO ANGLER OPINION SURVEY



## Section 1. Your Fishing Background and Participation in Idaho

1. In which of the past 5 years have you fished in Idaho? *Check all that apply.*

- 2001     
  2002     
  2003     
  2004     
  2005

2. About how many years have you fished in Idaho?

- 1-5 years   
  6-10 years   
  11-15 years   
  16-20 years   
  more than 20 years

3. Over the last 5 years, how often have you fished for the following types of fish?

| Type of fish                   | Never                    | Occasionally             | Often                    |
|--------------------------------|--------------------------|--------------------------|--------------------------|
| Bluegill/perch/crappie         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bass                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Walleye                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Catfish/bullhead               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Steelhead                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chinook salmon                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Trout                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Kokanee                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Whitefish                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Sturgeon                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Carp/sucker/other nongame fish | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Tiger muskie/pike              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Anything that bites            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4. Over the last 5 years, how often have you fished using the following methods?

| Method of fishing    | Never                    | Occasionally             | Often                    |
|----------------------|--------------------------|--------------------------|--------------------------|
| Shore/bank           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Wade                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Float tube/kick boat | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-motorized boat   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Motor boat           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ice Fishing          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

5. Over the last 5 years, how often have you used the following types of fishing gear?

| Type of Gear | Never                    | Occasionally             | Often                    |
|--------------|--------------------------|--------------------------|--------------------------|
| Lures        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Flies        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bait         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

6. Please tell us your GENERAL feeling about the type of fishing experiences you have had over the last 5 years by checking one box per type of fishing experience.

| Type of Fishing Experience            | Excellent                | Good                     | Fair                     | Poor                     | Did Not Participate      |
|---------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <i>Mountain lakes...</i>              |                          |                          |                          |                          |                          |
| ...for trout/grayling                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>Ponds, lakes and reservoirs...</i> |                          |                          |                          |                          |                          |
| ...for anything that bites            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for trout                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for bass                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for bluegill/ perch/crappie        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for walleye                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for Chinook salmon                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for kokanee                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for catfish/bullhead               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>Rivers and streams...</i>          |                          |                          |                          |                          |                          |
| ...for anything that bites            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for trout                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for whitefish                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for steelhead                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for Chinook salmon                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for bass                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ...for catfish/bullhead               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <i>Rivers and reservoirs...</i>       |                          |                          |                          |                          |                          |
| ...for sturgeon                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

7. Please tell us HOW IMPORTANT each of the following items are when deciding where to fish by checking one box per factor.

| Possible Factors                              | Very Important           | Somewhat Important       | Not Sure/No Opinion      | Somewhat Unimportant     | Very Unimportant         |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Solitude                                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chance to catch native or wild fish           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chance to catch a lot of fish                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Avoid other types of recreationists           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chance to catch big fish                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chance to catch a variety of fish             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chance to keep some fish                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Boat ramps and marina facilities present      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Presence of favorite kind of fish             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Availability of information on fishing        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nearness to camping facilities                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Opportunity for activities other than fishing | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Availability of licensed fishing guides       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Special regulations                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Vehicle access                                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Nearness to home or cabin                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A place my family likes                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Natural beauty of area                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Hatchery fish stocked                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Section 2.

### Activities of the Department's Fisheries Management

8. Please tell us HOW IMPORTANT the following Department fisheries management activities are to you by checking one box for each activity.

| Management Activity   | Very Important           | Somewhat Important       | Not Sure/No Opinion      | Somewhat Unimportant     | Very Unimportant         |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Developing new fishing access sites and boat ramps  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Protecting and improving fish habitat   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Steelhead fishing in rivers   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy bass fisheries  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for native trout fisheries (cutthroat, bull trout, native rainbow trout)           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chinook salmon fishing in rivers  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing places for family fishing   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy trout in rivers and streams                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing catch-and-keep trout fisheries   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy trout in lakes and reservoirs                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for warm water fisheries (bass, yellow perch, bluegill, crappie, catfish, walleye) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Enforcing fishing regulations   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Maintaining/improving existing fishing access sites and boat ramps                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Conducting classes on how to fish   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing fisheries information on the Department website                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing fisheries information   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

9. Please tell us HOW WELL YOU THINK THE DEPARTMENT IS DOING in each of the following fisheries management activities by checking one box for each activity.

| <b>Management Activity</b>  | <b>Excellent</b>         | <b>Good</b>              | <b>Fair</b>              | <b>Poor</b>              | <b>No Opinion</b>        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Developing new fishing access sites and boat ramps  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Protecting and improving fish habitat   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Steelhead fishing in rivers   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy bass  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for native trout fisheries (cutthroat, bull trout, native rainbow)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chinook salmon fishing in rivers  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing places for family fishing   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy trout in rivers and streams                                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing catch-and-keep trout fisheries   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for quality/trophy trout in lakes and reservoirs                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Managing for warm water fisheries (bass, yellow perch, bluegill, crappie, catfish, walleye) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Enforcing fishing regulations   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Maintaining existing fishing access sites and boat ramps                                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Conducting classes on how to fish   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing fisheries information on the Department website                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Providing fisheries information   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



## Section 3. Special Regulations in Fisheries Management

*Special regulations* are most often used to protect wild fish populations. *Special regulations* such as restrictions on species, size or number harvested, or fishing tackle can provide *quality/trophy* fisheries. They are also used to provide fishing experiences desired by anglers. The Department wants your opinion about using *special regulations* to provide *quality/trophy* fishing opportunities to produce more fish 16 inches or greater in length.

**10.** If the Department changed regulations on a stream or lake requiring you to release all of the fish you caught (not including salmon or steelhead), how likely are you to fish that stream or lake?

- Very Likely     Somewhat Likely     Neutral/No Opinion     Somewhat Unlikely     Very Unlikely

**11.** If a stream or lake was managed by the Department to provide the opportunity to catch trophy size fish, how likely would you fish that stream or lake even if you had to release all of the fish you caught?

- Very Likely     Somewhat Likely     Neutral/No Opinion     Somewhat Unlikely     Very Unlikely

**12.** If the Department stocked hatchery trout into an existing trout population to provide more desirable size fish to catch or improve catch rates, how likely are you to fish there?

- Very Likely     Somewhat Likely     Neutral/No Opinion     Somewhat Unlikely     Very Unlikely

**13.** Do you favor or oppose fishing regulations that produce quality/trophy size fish if it means reducing the number of fish you can keep?

- Strongly Favor     Somewhat Favor     Neutral/No Opinion     Somewhat Oppose     Strongly Oppose

14. Harvesting too many trout in rivers and streams can reduce their numbers, decrease average size, and reduce catch rates. To what degree do you support or oppose the following methods to reduce harvest?

| Methods to Reduce Harvest                     | Strongly Support         | Somewhat Support         | Neutral/No Opinion       | Somewhat Oppose          | Strongly Oppose          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Restrict angler use                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Restrict the number of trout that can be kept | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Restrict the size of trout that can be kept   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Restrict the type of gear that can be used    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Shorten the fishing season                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

15. To what degree do you support or oppose the following possible management actions designed to reduce conflict and fairly allocate fishing opportunities among anglers?

| Methods to Reduce Conflict  | Strongly Support         | Somewhat Support         | Neutral/No Opinion       | Somewhat Oppose          | Strongly Oppose          |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Use limited entry permits (like a controlled hunt) to allow very limited harvest of trophy size fish where no harvest is currently allowed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use limited entry permits (like a controlled hunt) on specific waters to reduce crowding.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use limited entry permits (like a controlled hunt) as an alternative to harvest restrictions to maintain fish populations.                  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use special regulations (catch and release, no motors, no bait, fly fishing only) to reduce crowding.                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Use special regulations (catch and release, no motors, no bait, fly fishing only) to maintain fish populations.                             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Do not improve public access as a way to avoid large increases in angler use.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



23. To what extent do you agree or disagree that the Department should manage additional waters for harvest opportunities for bass species with no bait or size restrictions?

- Strongly Agree       Somewhat Agree       Neutral/No Opinion       Somewhat Disagree       Strongly Disagree

**Section 5.**  
**Fishing Contests and Tournaments in Idaho**

24. Do you belong to a fishing club?

- Yes     No

*If you answered no to question 24, please SKIP to Question 29*

25. What type of fishing club(s) do you belong to? *Please check all that apply.*

- Bass                       Walleye                       Steelhead                       Fly Fishing  
 Trout                       Chinook (lake)                       Chinook (river)                       Other

26. Are you a member of a fishing club that sponsors fishing contests/tournaments with prizes based on the number or size of fish caught?

- Yes                       No                       Do not Know

*If you answered no to question 26, please SKIP to Question 28.*

27. In which of the past 5 years have you participated in a fishing contest/tournament in Idaho sponsored by your fishing club(s)? *Please check all that apply.*

- 2001                       2002                       2003                       2004                       2005

28. Over the past 5 years, did you participate in *any* fishing contest/tournament in Idaho that offered a prize based on the number or size of fish caught?

- Yes                       No

*If you answered yes, what type of event did you participate in? Please check all that apply.*

- Bass                       Walleye                       Steelhead                       Other  
 Trout                       Chinook (lake)                       Chinook (river)

**29.** Have you fished in Idaho while a fishing contest/tournament was taking place that you were not participating in?

- Yes       No

If you answered yes, to what extent did the event positively or negatively effect your fishing experience?

- Very Positive Effect       Somewhat Positive Effect       Neutral/No Effect       Somewhat Negative Effect       Very Negative Effect

**30.** If you knew that a fishing contest/tournament or contest was going to take place on a body of water when you were planning on fishing, please tell us how likely or unlikely you would be to do the following:

| <b>What Would You Do?</b>  | <b>Very Likely</b>       | <b>Somewhat Likely</b>   | <b>Neutral/No Opinion</b> | <b>Somewhat Unlikely</b> | <b>Very Unlikely</b>     |
|--|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| Continue your trip as planned  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Fish somewhere else  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Change your fishing time to avoid an organized event                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Change your fishing time to observe tournament anglers or fish weigh-ins | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Adjust your boat ramp location or timing to avoid event activities       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Cancel your fishing trip   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |

**31.** To what extent do you agree or disagree that fishing tournaments are appropriate for the following types of fisheries in Idaho?

| <b>Types of Fisheries</b>                        | <b>Strongly Agree</b>    | <b>Somewhat Agree</b>    | <b>Neutral/No Opinion</b> | <b>Somewhat Disagree</b> | <b>Strongly Disagree</b> |
|--|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| Steelhead on large rivers using boats            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Steelhead on small rivers                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Chinook salmon on large rivers using boats       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Chinook salmon on small rivers                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Catch-and-release trout waters using float boats | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Catch-and-release trout waters by wading         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Quality trout waters using float boats           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Quality trout waters by wading                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Backcountry trout waters                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Bass in rivers                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Bass in lakes/reservoirs                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Trophy fishing in large lakes                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |

**32.** The Department now allows the harvest of non-native trout during a fishing tournament on rivers and streams where there would be a conservation benefit to native trout (such as cutthroat trout). To what extent do you agree or disagree with the following statements?

| <b>Do you agree or disagree that...</b>   | <b>Strongly Agree</b>    | <b>Somewhat Agree</b>    | <b>Neutral/No Opinion</b> | <b>Somewhat Disagree</b> | <b>Strongly Disagree</b> |
|---|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| The Department should allow <u>non-profit</u> fishing tournaments that are designed to benefit native trout fisheries.            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| The Department should allow <u>for-profit commercial</u> fishing tournaments that are designed to benefit native trout fisheries. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |



38. How likely would you go fishing for steelhead if the daily bag limit was...?

| Daily Bag Limit |                        | Very likely              | Somewhat Likely          | Neutral/No Opinion       | Somewhat Unlikely        | Very Unlikely            |
|-----------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 0 steelhead     | Catch and Release only | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 steelhead     |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 steelhead     |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 steelhead     |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

39. How important is the daily bag limit when deciding whether or not to fish for Chinook salmon?

- Very Important     
  Somewhat Important     
  Neutral/No Opinion     
  Somewhat Unimportant     
  Very Unimportant

40. How likely would you go fishing for Chinook salmon if the daily bag limit was...?

| Daily Bag Limit  |                        | Very likely              | Somewhat Likely          | Neutral/No Opinion       | Somewhat Unlikely        | Very Unlikely            |
|------------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 0 Chinook salmon | Catch and Release only | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 Chinook salmon |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2 Chinook salmon |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Chinook salmon |                        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

41. Do you fish the Clearwater River steelhead fishery during the catch and release season (July 1 to October 14)?

- Yes       No

42. Currently, the Clearwater River from the mouth to the Memorial Bridge at Lewiston allows harvest of steelhead from August 1 to April 30. To what extent are you satisfied or dissatisfied with this season framework?

- Highly Satisfied     
  Somewhat Satisfied     
  Neutral/No Opinion     
  Somewhat Dissatisfied     
  Highly Dissatisfied



**43.** Currently, the Clearwater River steelhead fishery above the Memorial Bridge at Lewiston includes a catch and release season from July 1 to October 14. To what extent are you satisfied or dissatisfied with this season framework?

- Highly Satisfied       Somewhat Satisfied       Neutral/No Opinion       Somewhat Dissatisfied       Highly Dissatisfied

**44.** Currently, the Clearwater River steelhead fishery above Memorial Bridge also includes a harvest season from October 15 to April 30. To what extent are you satisfied or dissatisfied with this season framework?

- Highly Satisfied       Somewhat Satisfied       Neutral/No Opinion       Somewhat Dissatisfied       Highly Dissatisfied

**45.** Currently it is unlawful to fish for steelhead from a motorized boat in the Clearwater River upstream of the Orofino Bridge. To what extent are you satisfied or dissatisfied with this rule?

- Highly Satisfied       Somewhat Satisfied       Neutral/No Opinion       Somewhat Dissatisfied       Highly Dissatisfied

**46.** To what extent do you agree or disagree that the Department should manage additional areas for non-motorized steelhead fishing.

- Strongly Agree       Somewhat Agree       Neutral/No Opinion       Somewhat Disagree       Strongly Disagree

**47.** How important did you believe it was to recover Chinook salmon in Idaho *before* the record Chinook salmon fisheries that occurred in Idaho in 2001 and 2002?

- Very Important       Somewhat important       Neutral/No Opinion       Somewhat Unimportant       Very Unimportant

**48.** How important do you believe it is to recover Chinook salmon *now* considering the record Chinook salmon fisheries we experienced in Idaho?

- Very Important       Somewhat important       Neutral/No Opinion       Somewhat Unimportant       Very Unimportant

## Section 7. Regional Water Specific Questions

Questions 49 to 65 relate to specific regional waters. If you are unfamiliar with or do not have an interest in the specific water, please feel free to skip that question.

1.

### Panhandle Region

#### Priest Lake and Upper Priest Lake

**49.** The increase in the lake trout population since 1990 has resulted in replacing the native bull trout and westslope cutthroat trout fisheries. Current Department management is for a lake trout fishery in Priest Lake and to maintain a non-consumptive native cutthroat and bull trout fishery in Upper Priest Lake by aggressively trying to reduce numbers of lake trout. We are seeking your input on the type of fishing experience you want us to manage for at Priest and Upper Priest lakes. To what extent do you agree or disagree with the following potential management options?

| Potential Management Options   | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Manage Upper Priest Lake for native cutthroat and bull trout, and manage Priest Lake for a lake trout fishery.                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Attempt to restore native cutthroat and bull trout and a kokanee fishery by aggressively suppressing lake trout in both lakes. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

#### Bonner Lake

**50.** The Department seeks your opinion on the type of fishing experience you want us to manage for at Bonner Lake. It is currently managed as a quality trout fishery with a 2 trout limit with no harvest of fish under 14 inches long. To what extent do you agree or disagree with the following potential management options?

| Potential Management Options   | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Continue current management. I like it just the way it is.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage for a harvest trout fishery which will result in small trout on average.                      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage for a diverse warmwater fishery (perch, crappie, bass, bluegill) and a harvest trout fishery. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Mirror Lake

51. The Department seeks your opinion on the type of fishing experience you want us to manage for at Mirror Lake. It is currently managed as a harvest trout fishery with a 6 fish limit and year-round season. Anglers can use only electric motors on their boats. To what extent do you agree or disagree with the following potential management options?

| Potential Management Options  | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Continue current management. I like it just the way it is.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage the lake to produce larger trout. I understand limited size and/or harvest regulations will be needed. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Lowland Lakes

52. The Department seeks your opinion on options for managing other lowland lakes for larger trout in Idaho's panhandle. To what extent do you agree or disagree with the following potential management options?

| Potential Management Options  | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| I want more lowland lakes managed for larger trout even if it means more restrictive fishing regulations and/or periodic removal of other fish species. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I do not have a preference for species. I just want to catch fish.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Magic Valley Region

### Salmon Falls Creek Reservoir

**53.** Over the last six years, did you fish at Salmon Falls Creek Reservoir?

- Yes       No

If you answered yes, what **one** species of fish did you primarily fish for? *Please check only one box.*

- Rainbow trout     Smallmouth bass     Yellow perch     Anything that bites  
 Walleye             Kokanee             Crappie

**54.** How would you rate your fishing experience at Salmon Falls Creek Reservoir for the following fish species?

| Species of Fish     | Excellent                | Good                     | Fair                     | Poor                     | Did Not Fish<br>for this<br>Species |
|---------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Rainbow trout       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Walleye             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Smallmouth bass     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Kokanee             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Yellow perch        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Crappie             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| Anything that bites | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |

**55.** Salmon Falls Creek Reservoir is managed as a harvest fishery with the general season and bag limits for all species. Some anglers want the Department to manage portions of the fishery as quality or trophy. While fishing rules are not the only method used to control the number of large fish in a fishery, restrictions on the size and number of fish harvested is commonly used as a way to produce more large fish. To what extent do you agree or disagree with the following possible fishery management direction?

| Possible Fishing Rules  | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Manage rainbow trout for harvest under the existing general regulations.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage for quality or trophy rainbow trout. I understand that limitations on fish size and/or bag limits will be necessary. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage walleye for harvest under the existing general regulations.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Manage for quality or trophy walleye. I understand that limitations on fish size and/or bag limits will be necessary.       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**56.** How likely would you be to continue to fish at Salmon Falls Creek Reservoir for rainbow trout if the bag limit was reduced?

- Very Likely   
 Somewhat Likely   
 Neutral/No Opinion   
 Somewhat Unlikely   
 Very Unlikely

**57.** How likely would you be to continue to fish at Salmon Falls Creek Reservoir for rainbow trout if the fishery was managed with size limit restrictions?

- Very Likely   
 Somewhat Likely   
 Neutral/No Opinion   
 Somewhat Unlikely   
 Very Unlikely

**58.** How likely would you be to continue to fish Salmon Falls Creek Reservoir for walleye if the bag limit was reduced?

- Very Likely   
 Somewhat Likely   
 Neutral/No Opinion   
 Somewhat Unlikely   
 Very Unlikely

**59.** How likely would you be to continue to fish Salmon Falls Creek Reservoir for walleye if the fishery was managed with size limit restrictions?

- Very Likely   
 Somewhat Likely   
 Neutral/No Opinion   
 Somewhat Unlikely   
 Very Unlikely

## Southeast Region

### Devil Creek Reservoir

**60.** Illegal introductions of fish into Idaho waters hamper efforts to manage many lowland lakes as trout fisheries. Largemouth bass were illegally stocked into Devil Creek Reservoir in Oneida County. Largemouth bass young compete with trout for food and adult bass will eat small trout reducing the quality of the trout fishery. The Department is seeking your opinion on the type of fishing experience you want us to manage for at Devil Creek Reservoir. To what extent do you agree or disagree with the following potential management options?

| <b>Potential Management Options</b>                              | <b>Strongly Agree</b>    | <b>Somewhat Agree</b>    | <b>Neutral/No Opinion</b> | <b>Somewhat Disagree</b> | <b>Strongly Disagree</b> |
|--|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| Manage for both largemouth bass and a reduced trout fishery.     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| Eradicate largemouth bass and manage for hatchery rainbow trout. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |

### Snake River - Lake Walcott to American Falls Dam

**61.** The Department wants to know what sort of smallmouth bass fishing experience you are seeking in the Snake River below American Falls Dam downriver to Lake Walcott. Fishing effort is increasing and harvest may cause a decline in the average size of bass caught by anglers under current general bass management. Much of this bass population is inaccessible to boat anglers due to access restrictions on the National Wildlife Refuge. The Department is working to open some of the boat closure areas on the refuge at appropriate times of the year when waterfowl population management goals allow. With more boating access and angling effort, harvest of bass could increase and average size of bass could decline under the current fishing regulations. To what extent do you agree or disagree with the following potential management options?

| <b>Potential Management Options</b>   | <b>Strongly Agree</b>    | <b>Somewhat Agree</b>    | <b>Neutral/No Opinion</b> | <b>Somewhat Disagree</b> | <b>Strongly Disagree</b> |
|---|--------------------------|--------------------------|---------------------------|--------------------------|--------------------------|
| The Department should manage for a quality bass fishery. I understand this may require further size and harvest restriction.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |
| The Department should continue current management for smallmouth bass which allows harvest opportunity of 6 fish with a 12 inch minimum length. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/> | <input type="checkbox"/> |

# Upper Snake Region

## Island Park Reservoir

**62.** Island Park Reservoir is managed primarily for irrigation storage and the trout fishery is primarily limited by drawdown. Historically the Department managed the fishery by extensive fish stocking as well as occasional chemical treatment to reduce the non-game fish population. A chemical treatment is costly and during past treatments has resulted in the unexpected release of sediment into the Henrys Fork below Island Park Reservoir. However, chemically treating Island Park Reservoir will result in improved fishing in the reservoir over what currently exists. THE DEPARTMENT is evaluating a range of management options including using chemical renovation. To what extent do you agree or disagree with the following potential management options for Island Park Reservoir?

| Potential Management Options   | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| I am comfortable with the Department chemically treating Island Park Reservoir to kill unwanted fish species to improve the fishery of the reservoir.                | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I support chemically treating Island Park Reservoir to kill unwanted fish species but it makes me nervous that sediment was passed into the Henrys Fork in the past. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I do not support a chemical treatment of Island Park Reservoir.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| I support stocking predator fish species such as cutthroat trout, splake, or tiger muskie to help control non-game fish.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Continue stocking trout at current levels but the fishing at Island Park Reservoir will not be as good as in the past.   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Yellowstone Cutthroat Waters

- 63.** Yellowstone cutthroat trout are currently found in 40 to 60% of their historic range. Additionally, they have been petitioned for listing under the Endangered Species Act. One measure the Department is considering to help improve the long-term survival of this species is to remove brook trout in small, isolated streams and then restock them with Yellowstone cutthroat trout. To what extent do you agree or disagree with the following potential management options?

| Potential Management Options   | Strongly Agree                      | Somewhat Agree                      | Neutral/No Opinion                  | Somewhat Disagree                   | Strongly Disagree                   |
|--|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Remove brook trout and restore Yellowstone cutthroat trout in all streams possible.        | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |
| Remove brook trout and restore Yellowstone cutthroat trout in a limited number of streams. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Do nothing. I like the opportunity to fish for brook trout in streams.                     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            |

### Mountain Lakes

- 64.** The Upper Snake Region has 40 mountain lakes that offer a range of fishing experiences. These lakes are all managed to allow harvest. We want to know what type of fishing experience you want us to manage for in mountain lakes in the region. To what extent do you agree or disagree with the following potential management options for mountain lakes?

| Potential Management Options  | Strongly Agree           | Somewhat Agree           | Neutral/No Opinion       | Somewhat Disagree        | Strongly Disagree        |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Manage a few lakes to produce larger trout. I am willing to give up some harvest opportunity. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Do nothing. I like the way things are currently.  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

### Snake River - Idaho Falls Area

- 65.** White sturgeon are native to the Snake River below Shoshone Falls. An experimental population was introduced below American Falls Dam that now provides a fishery. The Department is interested in your opinion regarding further experimental introductions of white sturgeon in the Snake River near Idaho Falls. To what extent do you support or oppose introducing an experimental population of white sturgeon to produce a fishery?

Strongly Support     
  Somewhat Support     
  Neutral/No Opinion     
  Somewhat Oppose     
  Strongly Oppose



## Section 8. Questions about You

We understand this information is personal. However, it helps us better understand current anglers and those who may be interested in fishing in the future. The information you provide will not be used with any identifying information and is for statistical purposes only.

**66.** How often do you use the following sources of information to find out where to go when you are planning a fishing trip? *Please check all that apply.*

| Source of Information | Never                    | Occasionally             | Often                    |
|-----------------------|--------------------------|--------------------------|--------------------------|
| Tackle shops          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Newspapers            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Department Offices    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Department website    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other websites        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Friends/Family        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Radio                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Television            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**67.** Do you use the Internet at home to research information on fishing?  Yes  No

**68.** In what type of community do you live?

- Large city (more than 100,000 people)       Small town (less than 10,000 people)  
 Small city (between 10,000 and 100,000 people)       Rural/farm

**69.** What was your age on your last birthday?  years

**70.** What is your gender?  Male  Female

**71.** How many children under age 14 are there living in your home?

How many of them fish?

**72.** Who do you fish with in priority order (1=most often 9=least often)?

|               |   |              |   |                      |   |
|---------------|---|--------------|---|----------------------|---|
| Grandchildren | <input style="width: 30px; height: 20px;" type="text"/> | Grandparents | <input style="width: 30px; height: 20px;" type="text"/> | Spouse               | <input style="width: 30px; height: 20px;" type="text"/> |
| Children      | <input style="width: 30px; height: 20px;" type="text"/> | Friends      | <input style="width: 30px; height: 20px;" type="text"/> | Coworkers            | <input style="width: 30px; height: 20px;" type="text"/> |
| Mother        | <input style="width: 30px; height: 20px;" type="text"/> | Father       | <input style="width: 30px; height: 20px;" type="text"/> | Other Family members | <input style="width: 30px; height: 20px;" type="text"/> |

Thank you for completing this survey! Your opinions are very valuable to us and will help guide the Department's Fisheries Management for the next six years.