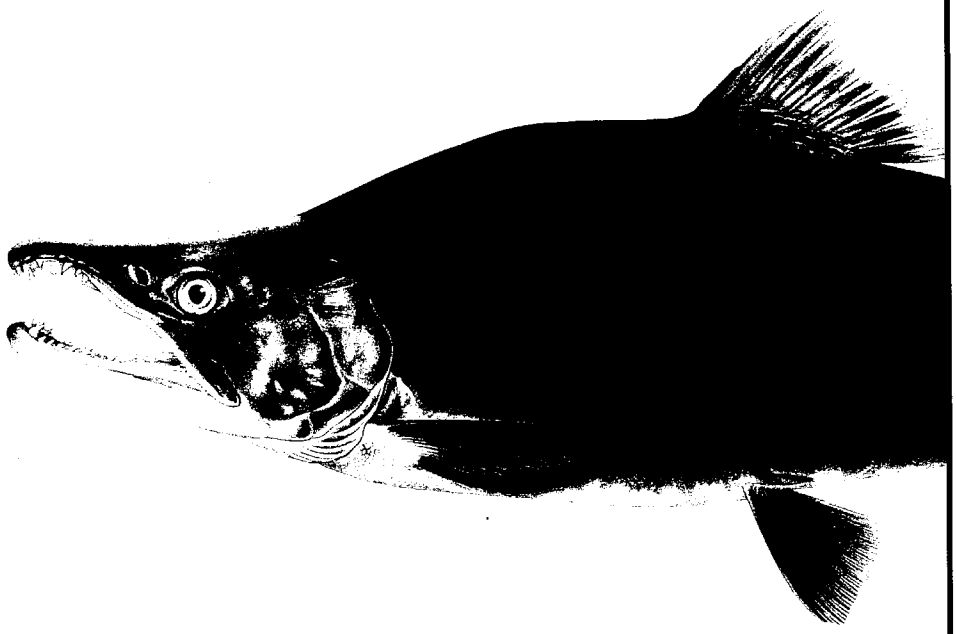
Volume 127
Article 3

Fisheries Management Plan 2001 - 2006



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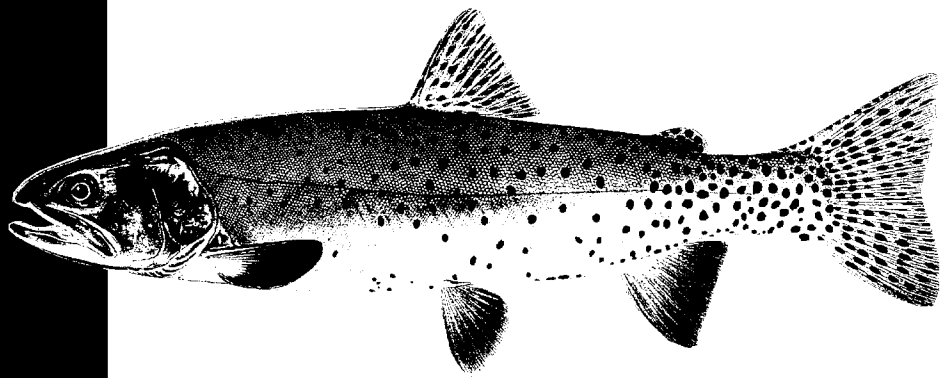

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FISHERIES MANAGEMENT PLAN
2001-2006

INTRODUCTION AND PURPOSE

Title 36 Idaho Code, declares fish and wildlife to be the property of the state of Idaho and mandates the Idaho Fish and Game Commission (Commission) to "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." Under the Commission's guidance, the Idaho Department of Fish and Game (Department) manages the fish and wildlife of the state.

This fishery management plan describes the management direction, which the Department intends to pursue over the next five years in order to provide the continued supplies of fish and fishing opportunity as mandated by law. It describes overall Department and specific fisheries policies and sets forth 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, factors limiting fisheries are identified and corrective measures proposed. After public review and Commission approval, this document will be the guide for management of fishery resources in Idaho from 2001 through 2006. Annual work plans of field and headquarters fisheries managers will be developed within the priorities and framework of the plan.

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 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 $13.4 million in "contract" money to implement and evaluate various mitigation programs, primarily for salmon and steelhead. 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 the previous five-year program goals and accomplishments is included (Appendix A).

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 (Appendix B). Populations of these fish occur throughout the 26,000 miles of rivers and streams, 225,000 acres of lakes, and 239,000 acres of reservoirs found in the state.

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. In 1996, 483,459 anglers spent more than 4,411,000 angler days fishing in Idaho waters (Maharaj and Carpenter 1997). These anglers spent about $280 million, which generated an economic output of more than $461 million and supported almost 7,000 full time jobs. Recently, Reading (1999)

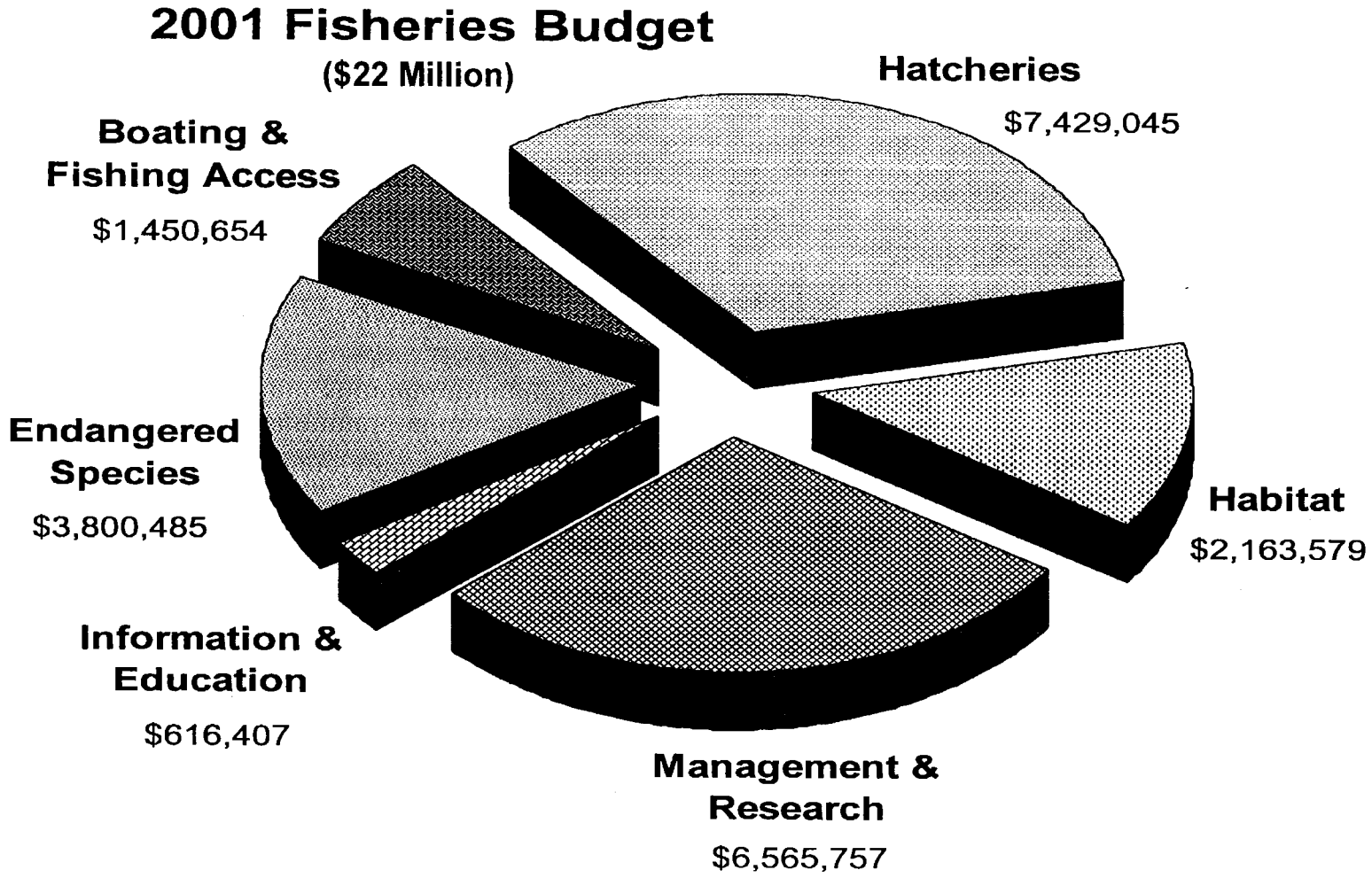


Figure 1. Where fisheries dollars are spent

provided estimates of the existing and potential economic impact of steelhead and salmon fisheries in Idaho. He estimated that restored salmon and steelhead fisheries in Idaho could generate about $170 million annually in Idaho and support about 5,000 jobs. Reading's estimates were based on evaluations of recent fisheries. The 1992/1993 recreational steelhead fishing season, in which nearly 44,000 steelhead were harvested, generated an economic impact of $90 million in expenditures and supported nearly 2,700 jobs -- the latter consisting of 1,000+ jobs directly and another 1,600+ indirect jobs. The 1997 Idaho chinook fishing season alone produced roughly $5.7 million in direct expenditures and a total impact of $14.5 million. Reading estimated that with restored runs, recreational salmon fishing would produce a total of $72 million in economic activity and would support more than 2,100 jobs. Most of the economic impact would be generated in some of the state's smallest communities.

Primary fish species from a management standpoint are native sport fish, including rainbow trout, cutthroat trout, steelhead (rainbow trout), chinook salmon, kokanee salmon, whitefish, and white sturgeon. Two of these, 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, federal, and tribal agencies. Introduced game fish, such as brown trout, lake trout, brook trout, landlocked coho and chinook salmon, bass, sunfish, perch, crappie, catfish, walleye, northern pike, and tiger muskie, provide sport fisheries where habitat conditions are unsuitable for native species and also provide a diversity of angling opportunity. A small group of fish species, including certain species of gamefish and five species of nongame fish, have been designated as "Species of Special Concern" because of limited range in Idaho, low populations, or threats to their existence.

The major responsibility of Department fisheries activities is to provide continued supplies of game fish for sport anglers. A top priority is to manage populations so that sportfishing demands can be met through natural production of fish species. A wide range of research projects and other information-gathering activities supports management activities. In areas where sufficient fish habitat exists but natural production is insufficient to meet demands, fish stocks may be rebuilt through supplementation. Wherever possible, appropriate wild stocks will be evaluated and utilized in suitable habitat. Hatchery put-grow-and-take and put-and-take programs are primarily used in other heavily-fished, altered habitats to provide recreational fishing opportunity, with emphasis on those areas that will allow a high proportion of hatchery-produced fish to be caught by anglers. A variety of rules are used on different waters to provide a mixture of sport fishing opportunities. 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, efforts working toward and promoting improvement of the mainstem Snake River and Columbia River migration route for these fish will continue. These efforts are needed 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 supported.

The Department also has responsibility for management of commercial fisheries in Idaho. Commercial fishing in public waters has been limited to nongame fish species and crayfish. These operations are regulated to minimize the potential for affecting sport fisheries.

The Department's Fishery Program is divided into four areas of activities: (1) resident fisheries management, (2) anadromous fisheries management, (3) hatcheries, and (4) fisheries research. Professionally trained fisheries employees are organized into operations sections to accomplish the tasks of each area of activity.

The primary management responsibility of resident and anadromous fisheries management sections is expressed in a mission statement "to preserve and perpetuate the wild, natural, and hatchery fish resources of Idaho, and to provide sustained angling opportunities which provide optimum benefits for a diverse and changing public." Management activities include manipulation of fish populations, fish habitat protection and enhancement, development of angler access and angler information, coordination with the general fishing public, and development of harvest rules. Most of the management effort involves Department field staff (biologists, technicians, and others) working in coordination with headquarters staff, and also with personnel of state and federal land management agencies and Indian tribes as well.

The hatcheries section raises fish to meet particular fishery management goals. New technologies to raise healthy fish in the most cost-effective manner are developed. The hatcheries have 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.

The fisheries research section serves to enhance management capabilities by providing detailed information on specific fisheries or biological systems to address specific management needs. The mission statement of the section is "to develop and effectively communicate scientifically sound information and tools to enhance the management of Idaho's fisheries." In addition to collecting and analyzing biological data, the fisheries research section aids in the development of management recommendations, development of management methods, and summarizing existing information.

The programmatic function of habitat protection is implemented through the Department's Natural Resources Policy Bureau. Regional fisheries staffs supply data needs and personnel support regional environmental staff biologists and the Natural Resources Policy Bureau.

HOW TO USE THIS DOCUMENT

The plan is divided into two parts:

1. The first part deals with fisheries on a statewide basis, provides Department policies and Bureau of Fisheries policies, outlines general management direction, and describes specific statewide programs.

2. The second part proposes specific management direction for each drainage. A narrative overview describes the location, gives pertinent statistics on use, land management activities, demographics, and describes the habitat and important fisheries. Objectives and programs specific to each drainage are listed. Management direction for important waters in each drainage is presented.

PART 1 – STATEWIDE MANAGEMENT

Department Policies

The Wildlife Policy of Idaho and mission statement for the Department is contained in Idaho Code, Section 36-103, which states:

> All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall be only captured or taken at such times or places, under such conditions, or by such means, or in 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.

In order to accomplish the Department's mission to preserve, protect, perpetuate and manage fish and wildlife resources and to provide for their use by the public, the following guiding principles have been developed:

Management

1. The Department will advocate that fish and wildlife receive equal treatment with all other resources in land and water management decisions.

2. The fish and wildlife resources of Idaho belong to the residents of the state and, while 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 and wildlife management will be designed to provide a variety of consumptive and nonconsumptive recreational opportunities, as well as scientific and educational uses.

4. Fish and wildlife habitat and populations will be preserved, protected, perpetuated, and managed for their intrinsic and ecological values, as well as their direct benefit to man.

5. The Department will support sport fishing, hunting, and trapping as traditional and legitimate uses of Idaho's fish and wildlife resources.

6. The Department will manage wildlife at levels that provide for recreational opportunity but do not result in significant damage to private property.

7. The Department will use the best available biological and sociological information in making resource decisions and supports research efforts to provide state-of-the-art techniques and data.

Public Involvement

8. The Department will involve the public in the decision-making process, using a variety of formats, including public meetings, surveys, and working groups.

9. The Department is the principal government spokesman for Idaho's fish and wildlife resources and habitats and has a responsibility to inform interested citizens of potential threats to those resources.

10. The Department will promote and conduct training and educational programs that emphasize sportsmanship, outdoor skills, ethical outdoor behavior, the needs of fish and wildlife, and the wise use and appreciation of fish and wildlife resources.

11. The Department will provide information on Idaho's hunting and fishing to identify recreational opportunities and to meet specific management goals.

12. The Department will emphasize individual recreational opportunities rather than promoting contests or competitions, or activities that may result in commercialization of fish and wildlife resources.

Rules

13. 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.

14. Rules will be designed for ease of understanding and will include only those restrictions necessary to meet desired management objectives.

Access

15. On land open to the public, the Department will advocate access that provides a variety of fish- and wildlife-associated recreational opportunities while achieving habitat and population management goals.

16. 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 wildlife-associated recreation.

17. The Department will actively pursue acquiring easements, leasing, 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.

Importations and Introductions

18. Maintaining self-perpetuating populations of fish and wildlife will receive priority over stocking programs.

19. Introduction of fish and wildlife species may be considered when (1) substantial benefits are anticipated; (2) sufficient and suitable habitat is available; (3) impacts to native species

are acceptable; and (4) where necessary, approval is obtained from appropriate agencies or private landholders.

20. The Department will advocate strict controls on the importation and introduction of exotic fish and wildlife.

Land Acquisition

21. The Department will focus land acquisition efforts on critical habitats, particularly wetlands, access to waterways, and land adjacent to existing Wildlife Management Areas.

22. The Department will support payment of a fee in lieu of taxes for unimproved real property it owns or holds.

23. The Department will control noxious weeds on Department-owned lands.

Cooperation with other Agencies

24. Agreements with other governing agencies will be developed to insure cooperative management of fish and wildlife resources shared in common.

25. The Department will advocate land management practices that protect, restore, and enhance fish and wildlife habitat, especially habitats such as wetlands and riparian areas that benefit a wide variety of fish and wildlife species.

26. Cooperation and assistance will be provided in the development of fish and wildlife management plans and educational programs where benefits accrue to the general public.

Native Americans

27. Native American treaty rights will be recognized in the management of fish and wildlife.

Outfitting

28. The Department will oppose the issuance of outfitting licenses and special use permits where the impacts to fish and wildlife resources are unacceptable or the opportunity for non-guided recreation is significantly impaired.

29. 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.

30. The Department will not place additional fishing restrictions on outfitters that are not already required of the public, without specific Commission approval.

Habitat Protection

31. The Department will actively support and participate in efforts to protect or enhance the quality of water in Idaho's lakes, rivers, and streams.

32. The Department will oppose legislation, land and water use activities, policies or programs that result in significant and unwarranted loss of fish and wildlife habitat or populations and will advocate project designs that minimize or eliminate such losses.

33. The Department will advocate strictly-controlled use of pesticides and other substances that can result in direct or indirect mortality to fish or wildlife and their replacement with less toxic materials or elimination wherever possible.

Mitigation

34. Whenever unavoidable fish and wildlife 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 and wildlife 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 and wildlife 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 and wildlife 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 and wildlife mitigation, participating entities will share mitigation credit proportional to their contribution.

Enforcement

35. The Department will seek to reduce illegal activities that result in the taking of fish or wildlife or which damage fish or wildlife habitat.

Fisheries Policies

1. Idaho waters will be managed to provide optimum sport fishery benefits.

2. Protection and restoration of fish habitat and water quality will be a top priority in the management program.

3. Wild native populations of resident and anadromous fish species will receive priority consideration in management decisions.

4. Management decisions will emphasize maintenance of self-sustaining populations of fish.

5. The Department will oppose any activity that results in significant loss or degradation of habitat capable of supporting self-sustaining fish populations.

6. Factors affecting downstream smolt survival will receive priority attention in anadromous fish management.

7. Hatchery-reared fish will be stocked as appropriate to preserve, establish, or reestablish depleted fish populations and to provide angling opportunity to the general public.

8. The Department will strive to maintain genetic integrity of wild native stocks of fish (resident and anadromous) and naturally managed fish when using hatchery supplementation.

9. Non-native species of fish will be introduced only in waters where they are not expected to adversely impact stocks of wild native fish.

10. 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.

11. The Department's actions and responses for salmon and steelhead will be guided by the following, based on available information (IFGC Policy May 8, 1998):

- The mainstem dam and reservoir system in the lower Snake and Columbia rivers is the primary factor limiting recovery of Idaho's wild salmon and steelhead;

- Smolt transportation has not compensated for the dams;

- The natural river option (removal of the earthen portion of the four lower Snake River dams in Washington to create a free-flowing segment of the Snake River) is the best biological choice among the options for recovery of Idaho's wild salmon and steelhead. The Department will support continued state and regional consideration of the natural river option so that a fully informed, recovery decision can be made by the region;

- The Department will assess the "next best" strategies in the event the natural river option is not adopted as a recovery measure;

- Social and economic concerns must be also considered, and if necessary mitigated, for any recovery decision to be successful.

Natural Resources Policy Bureau Policies Relating To Fisheries

1. The Department will provide timely reviews of projects that affect Idaho's fish and wildlife resources, based solely on potential effects on those resources and their recreational use and will suggest means of eliminating or reducing adverse impacts.

2. The Department will maintain effective channels of communication with others concerned with management of Idaho's land and water resources, to insure that fish and wildlife resources are considered in planning activities.

3. The Department will support and participate in efforts to eliminate non-point sources of pollution to Idaho waters, restore water quality where needed, and to protect or restore beneficial uses.

4. The Department will work with developers and the Federal Energy Regulatory Commission to insure that hydroelectric development on Idaho waters will have benign impacts to aquatic resources.

5. The Department will strive to insure that adequate flows remain in Idaho streams to protect aquatic and riparian resources and provide for fish- and wildlife-oriented recreation.

6. The Department will oppose hydroelectric development on rivers designated as "protected" by the Northwest Power Planning Council unless the project has a benign impact on fish and wildlife resources, or provides an exceptional benefit to fish and wildlife.

7. The Department will support and participate in efforts to develop a State Protected River System and the inclusion of important fish and wildlife habitats into that system.

8. The Department will develop cooperative agreements for the management and enforcement of road closure areas involving both public and private lands.

Statewide Fisheries Management Goals

1. Increase sport-fishing opportunities in Idaho.

2. Provide a diversity of angling opportunities of types desired by the public.

3. Maintain or enhance the quality of fish habitat.

4. Fully utilize fish habitat capabilities by increasing populations of suitable fish species to carrying capacity of the habitat.

5. Maintain or improve angler success rates for fishable species.

6. Maintain or restore wild native populations of fish in suitable waters.

Idaho Anglers And Their Preferences

To obtain anglers' input for development of the 2001-2006 Fisheries Management Plan, the Department conducted a mail survey of 10,800 resident Idaho anglers and 1,200 non-resident anglers in 1999. Similar surveys were conducted in 1967, 1977, 1987, and 1994. Names were selected at random from a list of all types of fishing license buyers, resident and non-resident. A total of 12,000 fishing license buyers were selected to ensure statistically valid estimates from a minimum of 600 respondents for each of the Department's seven regions.

Angler Characteristics

As in previous surveys, residents constitute about two-thirds of the anglers who fish in Idaho. The greatest numbers of resident anglers live in the Southwest (38%) and Panhandle (14%) regions and the least live in the Salmon Region (1%). This is a significant shift from 1994 when 22% resided in the Southwest Region and 4% resided in the Salmon Region (Table 1). The majority of non-residents came from Utah (22%), Washington (21.5%), and California (14.6%).

Table 1. Percent Of Fishing License Holders By Region

Region	1994	1999
Panhandle	13.2	13.7
Clearwater	14.8	9.6
Southwest	22.2	38.0
Magic Valley	16.0	13.4
Southeast	14.6	12.3
Upper Snake River	15.6	11.7
Salmon	3.6	1.3

Total number of licenses sold 446,726.

Nation-wide, participation in fishing by youths has been declining. As our daily lives become increasingly hectic, competing recreational activities have reduced the level of participation in fishing activities. However survey respondents said that 72% 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. In the next five years the Department will continue it's efforts to educate our youths by providing fishing clinics, in-classroom education, expansion of the rod-loaner program and providing additional family fishing opportunities.

Fishing Habits

With the vast majority of Idaho's population living almost within sight of the Snake River, it was the body of water that was most frequently listed by anglers when asked to name their three most frequently fished waters. The Salmon, Henrys Fork Snake, Clearwater, and Boise rivers ranked 2, 4, 7, and 9 while Henrys Lake, Lake Coeur d'Alene, Cascade Reservoir, C.J. Strike Reservoir, and Chesterfield Reservoir were the most popular lakes and reservoirs. They finished 3, 5, 6, 8 and 10 respectively, as the most frequently fished waters.

Trout remain the bread and butter fish of Idaho (Table 2). When asked what three species they most preferred to fish for, just over 50% of anglers listed "trout" as one of the three. Other top preferred species (and the percent of anglers listing them) were bass (15%), steelhead (9%), rainbow trout (6%), salmon (6%), cutthroat trout (4%), catfish (4%), crappie (4%), brown trout (3%), and perch (3%).

In 1997, anglers fished an average of 9.2 days per year and anglers reported fishing an average of 18.4 days in 1994. In 1999, the average number of days fished was 18.84,slightly higher than our previous survey. This is a trend that has been projected nationwide.

Six out of ten angler days in 1999 were spent on lakes or reservoirs, up somewhat from previous surveys. Half of the angling effort in 1999 was specifically directed toward "trout." About 10% of the effort was directed toward other coldwater species such as steelhead, kokanee, whitefish, and landlocked chinook. Similar to results of the 1994 survey, about 30% of angler days in 1999 were spent pursuing warmwater species.

Table 2. Most preferred species of fish sought by anglers in Idaho, 1999.

Coldwater	79.2%	Warmwater	20%
Any trout	50.7	Any bass	8.0
Rainbow trout	7.6	Walleye	2.6
Steelhead trout	7.5	Crappie	2.3
Cutthroat trout	4.1	Catfish	1.7
Anadromous chinook	3.2	Perch	1.3
Brown trout	2.5	Smallmouth bass	1.1
Kokanee	1.9	Largemouth bass	1.0
Brook trout	1.2	Bluegill	1.0
Lake trout	0.5	Sturgeon	1.0

Fish Management

Idaho has roughly 26,000 miles of fishable streams and 202 major lowland lakes and reservoirs. Basic habitat conditions have the greatest influence on what kinds and how many fish aquatic habitat will support. Lowland lakes and reservoirs generally support many kinds of fish from warmwater to trout species. Different management strategies involving stocking and special fishing rules are used to best provide the diversity of fishing that anglers want.

Fishing rules are one of the main tools used to "manage" fish populations and provide different types of angling experiences, but they can also be very controversial. Figure 2 shows a distribution to catch-and-release waters, general season waters, and special rule waters.

To help the Department manage Idaho fisheries, the survey asked a number of questions about what types of fishing Idaho anglers want and how they feel about special rules.

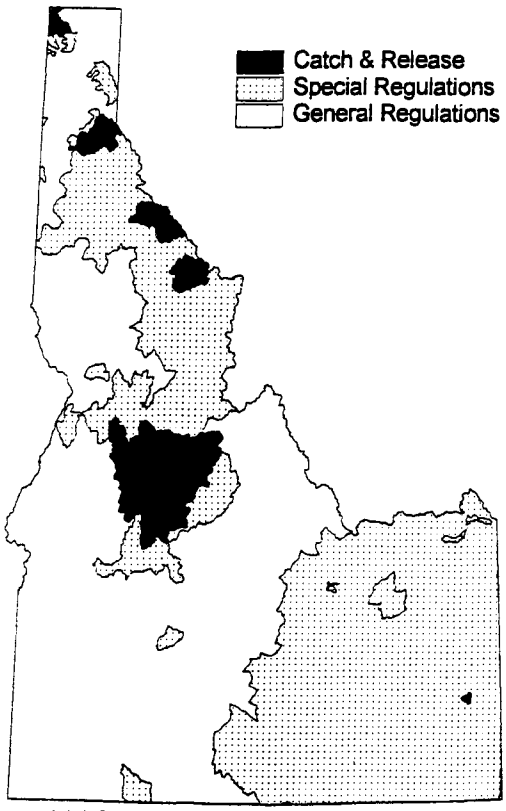


Figure 2. Special Rules Area – 2000-2001

Quality and Trophy Size Management

Anglers were asked if they would like more, fewer, or the same number of waters managed with special rules that require some sizes of fish to be released in order to have more and larger fish to catch, but not harvest. Forty-seven percent of the anglers said they wanted more waters managed this way for trout, 33% wanted no change and 20% had no opinion. In a follow up question, 60% of the anglers said they supported restrictive rules if they would result in increase in numbers and sizes of trout, a few supported restrictive rules even if they did not change the fish population, and 25% did not support restrictive rules at all unless the trout population was in danger of overharvest. In response to the same question concerning bass management, 42% wanted more waters managed this way, 24% wanted no change and 34% had no opinion

Funding

Anglers were asked how they would spend $100 on improving Idaho's fishing and protecting the resource. Respondents indicated that hatchery trout for streams and habitat protection should receive the most, $17.82 and $17.73 respectively. Hatchery trout for lakes ($17.29), protection and enhancement of wild trout ($17.02), salmon and steelhead fisheries ($12.74), enforcement ($12.03) and warmwater fisheries ($5.36) received lesser amounts.

Fishing Information

By a margin of nearly two to one, anglers indicated that they would like to get more information from the Department. When asked how they would like to receive this information, they indicated that they would like more brochures (49%) and 26% said that they wanted information via the Internet. In a related question, 66% of the respondents have access to the Internet and the Department has seen a dramatic increase in the number of Internet inquiries it now receives.

Other Items

Anglers around the state make many suggestions to the Department on things they would like to see in the fisheries management program. Many decisions are made primarily based on what is best for the resource. Other decisions are made almost entirely as a matter of public 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 our random mail survey, gives an unbiased picture of the angling public as a whole.

On-going Angler Direction

The previous five-year plan was guided by angler input, which set the stage for continuing that direction in the current plan. Several of the major directions are listed below:

- The general Idaho angler seems quite satisfied with the quality of the Department's hatchery trout product. However, 57% of respondents said that they would not favor reducing the number of 9-inch fish the Department stocks in favor of larger fish.

- The average size of bass, which anglers indicated was acceptable to keep if not restricted was 12 inches. A 16-inch bass was the size most often considered as quality size for both largemouth and smallmouth bass.

- Forty-seven percent of the anglers indicated that the Department should spend about the same effort on managing wild/native species, while 43% thought the Department should be spending more.

- Anglers feel the current limit of six trout is adequate.

Program Direction

Based on the 1999 Idaho Angler Opinion Survey and angler input through other means, the following are the major areas of concern and program directions desired by Idaho anglers and approaches proposed to meet them. The underlying theme for the next six years is the most frequent comment received: support for current programs and direction. Continue that course.

1. Increase emphasis on habitat protection.

2. Provide a diversity of angling opportunities.

3. Provide increased family fishing opportunities and manage as consumptive fisheries with simple fishing rules.

4. Continue quality and trophy fishing opportunities.

5. Continue emphasis on protection and enhancement of wild/native trout.

6. Continue emphasis on hatchery trout programs in streams, lakes, and reservoirs.

7. Continue emphasis on protection and enhancement of salmon and steelhead.

8. Provide additional angling information to the public.

9. Provide increased access, particularly for bank anglers.

10. Provide educational programs to encourage youths to fish.

11. Simplify and standardize fishing rules.

1. Increase Emphasis on Habitat Protection.

The angling public surveyed consistently says the Department should increase emphasis on habitat protection. We will work with land management agencies (U.S. Bureau of Land Management, U.S. Forest Service, Idaho Department of Lands), water management agencies (U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, Idaho Department of Water Resources), Idaho Department of Environmental Quality, private landowners, and regulatory agencies (Idaho Department of Health and Welfare, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Federal Energy Regulatory Commission) to reduce impacts of land-disturbing activities, improve management practices, and enforce water quality standards. Biologically meaningful minimum flows will be sought to maintain healthy fisheries or to restore fisheries degraded by insufficient flows.

The 1989 Legislature created antidegradation legislation and established two positions for the Department to address this issue. These positions have helped to address immediate habitat concerns, particularly degradation. The Department established environmental staff biologists in six of the seven regions during the 1990s to help with these processes and to assist landowners with habitat related issues. The level of support will continue during this plan.

Environmental staff biologists contribute to greater public awareness of habitat issues and education of the public on how to prevent or minimize problems. Additionally, they provide fishery input needed to develop and implement programs to correct past problems. The coordinators provide recommendations and assistance for programs such as use of grazing systems, fencing of key streams to prevent grazing impacts, streambank stabilization projects, revegetation projects, and best management practices for logging and farming. Such programs improve fish habitat.

Expansion of volunteer help in habitat protection or rehabilitation programs will be pursued during this planning period. This has increased public awareness of habitat importance and expanded the public's feeling of ownership in the programs.

2. Provide a Diversity of Angling Opportunity.

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, may invite greater use and increased angler satisfaction.

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 introductions.

3. Provide Increased Family Fishing Opportunity and Manage as Consumptive Fisheries with Simple Fishing Rules.

Providing information on available fishing areas and increasing angler access will serve to increase family fishing opportunities. During the past five years the Department developed or renovated several fishing ponds. 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.

4. Continue Quality and Trophy Fishing Opportunities.

As the Angler Opinion Survey points out, the quality of an angling experience is affected by many factors. Within this plan, however, the terms "quality" and "trophy" are used to refer to the size of fish being managed. (See Quality and Trophy Fish Management Program Descriptions for definitions.) A quality or trophy fishery is one specifically managed to limit harvest in some way to provide enhanced catch rates and/or larger fish.

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. 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.

5. Continue Emphasis on Protection and Enhancement of Wild Trout.

During this six-year period, the Department will continue to emphasize protection and enhancement of wild trout in several ways. The program measures described in the habitat protection section will be one of the most important. These measures strive to both maintain existing habitat quality and enhance habitat to improve wild trout populations. The Department will continue a major program of "wild trout management" which is described in more detail in a following section.

Under this program, the Department will manage for wild trout in streams and lakes with the potential to support acceptable fisheries on wild trout alone. This may involve varying levels of harvest regulation necessary to maintain catch rates and protect wild/native trout.

The Department will also strive to control overharvest and mortality of wild trout through nonregulatory means. Public information materials and programs will be used to promote nonconsumptive values of wild trout and educate anglers on release methods to minimize hooking mortality.

Additional measures to protect spawning wild trout or young fish in rearing streams where they are especially vulnerable to overharvest may be necessary. Harvest restrictions or catch-and-release rules should be utilized where possible, with fishing closures used only where biologically necessary.

The Department continues to undertake measures to restore wild trout access to streams where culverts, diversions, and other manmade structures have blocked passage. The Department will advocate that agencies responsible for road construction and development of water resources utilize state-of-the-art irrigation techniques, incorporate fish passage criteria, and reconnect interrupted stream segments to restore wild trout habitat and access to it. The Department will require passage facilities and screens on new structures and will work with owners of existing structures to provide and maintain wild trout access.

6. Continue Emphasis on Hatchery Trout Programs in Streams, Lakes, and Reservoirs.

The Department proposes to maintain current emphasis on hatchery trout programs in streams where there is convenient angler access, the 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 sterile unless there is a need to supplement wild/native fish with hatchery stocks. 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.

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 may enhance hatchery trout programs in lakes and reservoirs. Put-and-grow fisheries are expected to return 100% of the weight stocked to the angler catch.

Where harvest restrictions are necessary to maintain or restore wild/native trout populations in streams, lakes, and reservoirs, harvest opportunity may be provided by marked hatchery fish. A more in-depth description of hatchery trout programs is provided in a following section.

7. Continue Emphasis on Protection and Restoration of Salmon and Steelhead.

The range (Figure 3) and abundance (Figure 4) 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 estimated as capable of producing up to 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. 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, has decreased from 1,575 (1957 - 1961) to 142 (1995 - 1999), a 91% decline. A primary factor in the decline of Idaho's once productive anadromous fish stocks has been development of the Snake and Columbia rivers' hydroelectric system. Direct and delayed mortality associated with adverse migration conditions through federal hydropower dams and reservoirs has reduced fish survival. Transportation of juvenile salmon and steelhead has failed to reduce direct and delayed mortality associated with the hydrosystem enough to avoid population declines. Habitat degradation and mixed-stock fisheries for some stocks of salmon and steelhead have also contributed to the decline. 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 1991, almost all of Idaho's naturally produced anadromous fish have been listed (see section on Federally Listed Species). Some hatchery populations are also listed. 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 National Marine Fisheries Service (NMFS) is the federal authority in charge of Snake River salmon and steelhead recovery as listed species. 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's regulatory authority is limited to hatchery, harvest, and fish management activities to enhance listed salmon and steelhead. The Department's goal is to preserve Idaho's salmon and steelhead runs and to recover them to provide benefit for all users. Efforts to achieve improved survival of Snake River salmon and steelhead intensified during the 1990s, including the regional, collaborative, scientific process, termed "Plan for Analyzing and Testing Hypotheses", PATH (Marmorek et al. 1998). Such effort will remain 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 (IFGC Policy, May, 1998). Priorities will continue to be directed at using the Department's technical expertise to improve survival associated with juvenile and adult migration through the federal hydroelectric system. The role of the Department is to help strengthen the scientific foundation from which various management alternatives are considered and assess these alternatives from a biological and

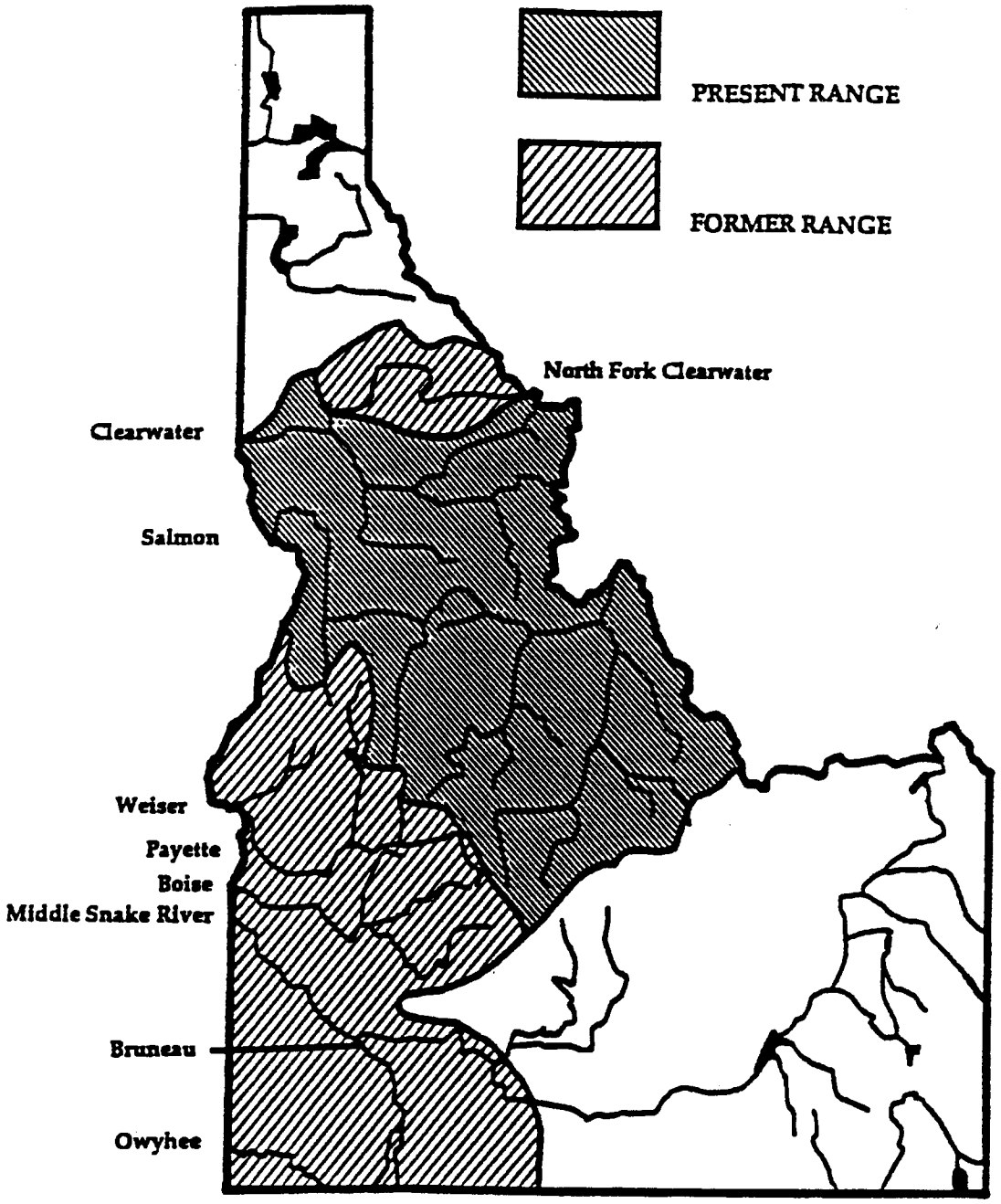


Figure 3. Former and present range of anadromous fish in Idaho.

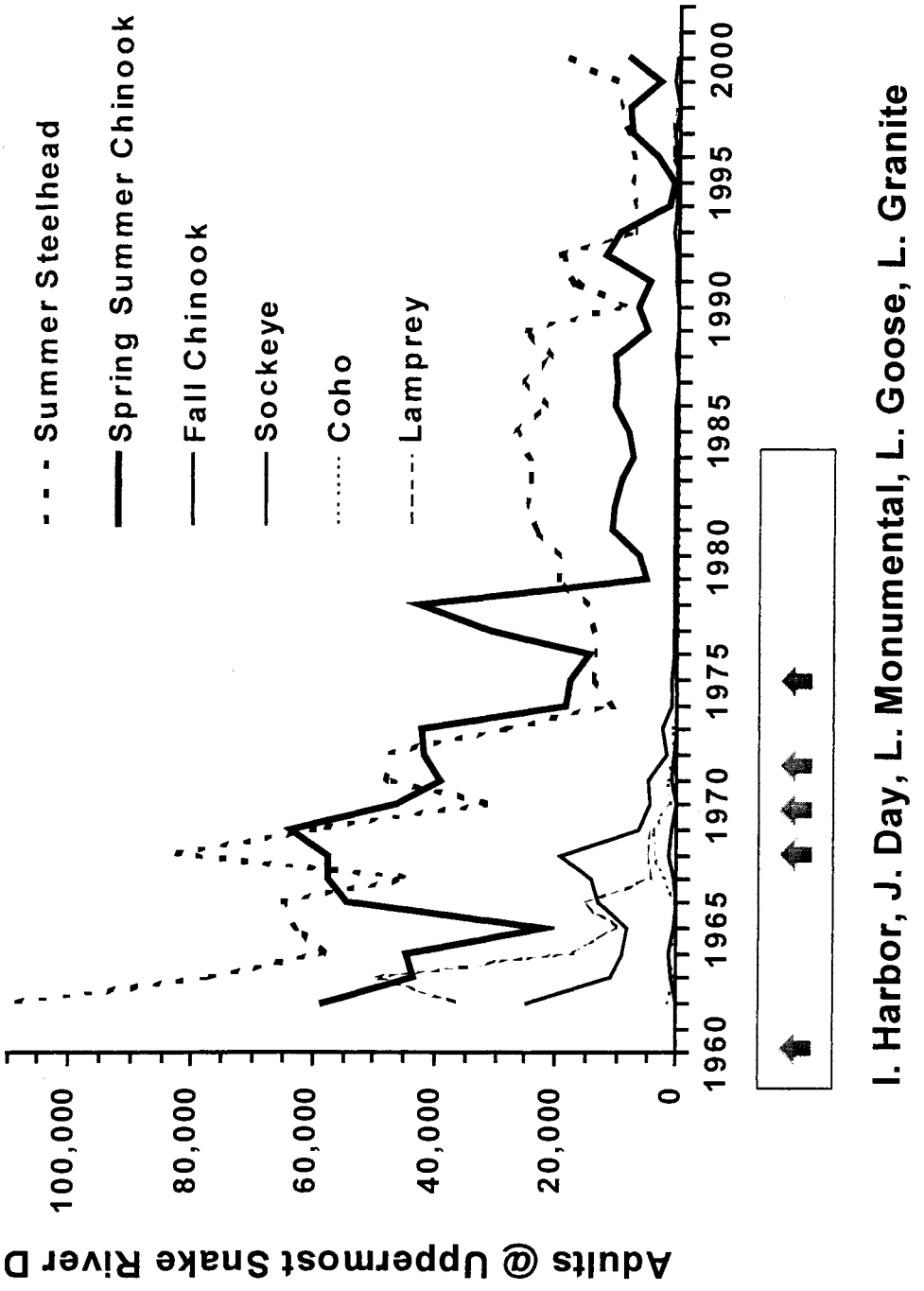


Figure 4. Number of wild anadromous adults at the uppermost Snake River Dam.

scientific basis. A strong scientific foundation for conservation decisions will be critical as recovery planning moves forward for Idaho's salmon and steelhead.

Because the configuration of federal dams and reservoirs is unlikely to change during the next five years, the department will work to ensure that more aggressive actions are taken to address significant sources of direct and delayed discretionary mortality while the Columbia region initiates longer-term recovery planning. Improvements in reservoir and dam passage, as well as near-term predator controls for out-of-balance fish, bird, and mammal populations have been identified for action. 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). The Department will provide objective risk assessment to decision-makers and the public that integrates environmental conditions with management actions to gauge recovery progress and need for additional improvement.

The Department administers and implements hatchery programs to fulfill fishery mitigation responsibilities from private and federal dams. Hatchery facilities to produce a total of about 20 million salmon and steelhead smolts are in operation as partial mitigation for losses to Idaho runs attributed to private and federal hydroelectric dams. However, low smolt-to-adult survival of spring and summer chinook salmon smolts produced by these facilities has not returned enough adults in most years to meet program goals. Mitigation planning expected returns three to four times better for both hatchery and naturally produced fish than those occurring.

As a result of unprecedented low runs of naturally-produced salmon, the Department increased emphasis on preserving the numerous subpopulations of native salmon that are genetically and ecologically adapted to return, spawn, and rear in Idaho. Evaluation of supplementing natural salmon and steelhead populations using Idaho's existing hatcheries is continuing utilizing parr and smolt life stages and artificially spawned anadromous adults. Recommendations are expected within the next five years that will help determine the efficacy of using our current hatcheries to aid recovery, guide new production capital investments, yet still provide the benefit of fishery mitigation.

The Department has continued the captive breeding program to perpetuate the few Snake River sockeye in existence primarily in Redfish Lake, near Stanley. This program, initiated in 1991, is considered an experimental preservation effort where the major mortality phase of migration to the ocean is bypassed. Juvenile fish are reared to adulthood in a hatchery and then spawned artificially. 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 are being 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 will continue to test hatchery intervention strategies and implement 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. New, additional preservation programs initiated by the Department involving hatchery captivity or other hatchery production of listed salmon and steelhead will be guided by these strategies. This approach will also guide

Department cooperation with supplementation efforts initiated by tribal or federal managers. New steelhead supplementation actions will be implemented and evaluated during the plan period. These will focus on use of locally returning hatchery stock that did not originate from the target population in areas where wild steelhead have essentially been extirpated. One or two natural steelhead populations (hatchery influenced but reproducing naturally) will be utilized as supplementation broodstocks. Nutrient additions will also be implemented where feasible in conjunction with the supplementation experimental design and will be coordinated and evaluated with tribal and 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 evaluation of supplementation 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. An acclimation/release pond for steelhead smolts was built in the upper Salmon River drainage to reduce instream density and residualism. Evaluation of the current pond program will guide development of additional measures to reduce interactions between natural and hatchery juveniles. Work will continue on hatchery production priorities such as improvement of fish health and smolt quality factors most likely associated with early migration mortality.

Selective sport fisheries safeguarding naturally produced salmon and steelhead while providing fishing opportunity for surplus hatchery fish will be designed and implemented when sufficient surplus occurs. The Department has utilized a guideline such that if at least 80% of hatchery broodstock escapement will be achieved, then sport fisheries can be considered. The primary implementation tool for selective fisheries will be adipose fin-clipping hatchery chinook and steelhead targeted for sport harvest. Chinook salmon fisheries similar to the 1997, 1998, and 2000 fisheries are projected during the first two years of this plan cycle (Figure 5). Steelhead harvest should remain within the range of the last five years, averaging 39% of the hatchery steelhead run crossing Lower Granite Dam (Figure 6). The Department will assess feasibility of expanding hatchery chinook sport-fishing opportunity into the lower Salmon River and the Snake River. A key criterion will be negligible impact to listed salmon commingled with harvestable hatchery salmon. 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 maintain current good quality habitat and fish populations to use it. Opportunities to improve habitat to increase inbasin juvenile fish survival will be pursued to preclude extinction and maintain recovery options. One emphasis will be improvement of tributary streamflow and connectivity in the upper Salmon River drainage. The Department will use the screen mitigation program resources and expertise to work with landowners to develop legal, practical solutions to low stream flows that protect fish

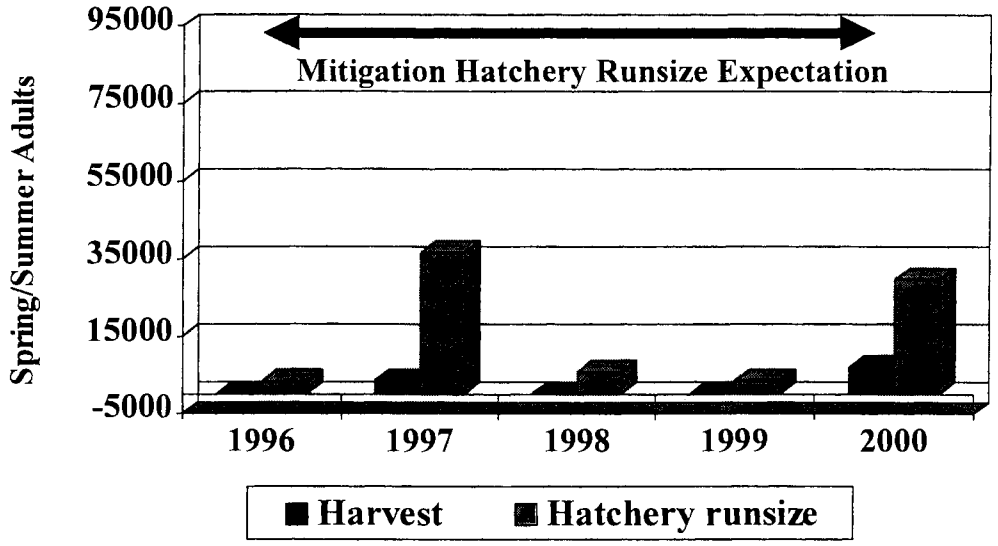


Figure 5. Idaho adult hatchery chinook salmon sport harvest and hatchery chinook runsize at Lower Granite Dam with mitigation hatchery runsize expectation upstream of Lower Granite Dam.

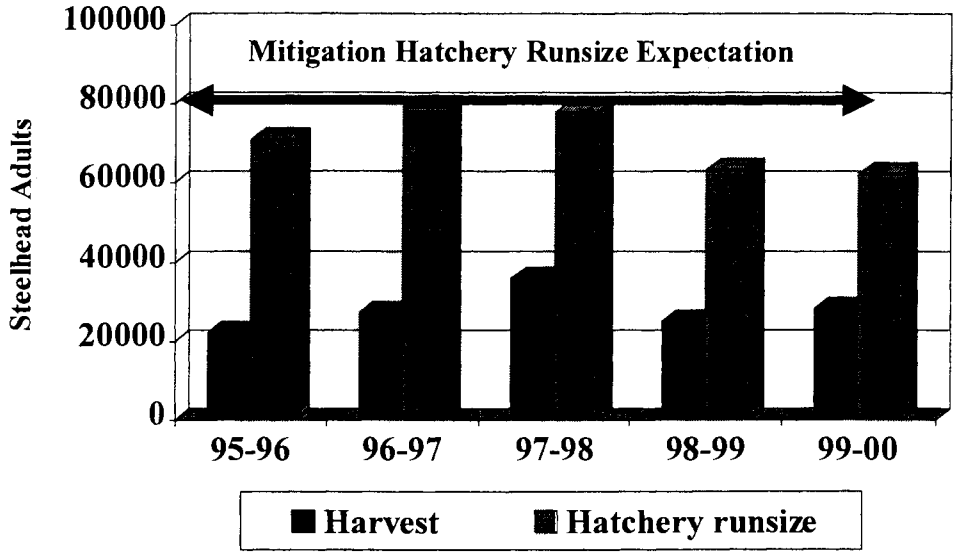


Figure 6. Idaho hatchery steelhead sport harvest and hatchery steelhead runsize at Lower Granite Dam with mitigation hatchery runsize expectation upstream of Lower Granite Dam.

such as additional screens and diversion consolidation. The Department will work with other fish managers to experiment with fertilization of selected spawning and rearing tributaries to assess potential improvement in juvenile number and survival and whether such improvement results in increased adult return of salmon and steelhead.

The Department will seek to ensure sufficient returns of anadromous fish to Idaho waters to perpetuate both naturally- and hatchery-produced runs and to allow sport harvest through negotiation or legal means. Efforts will be continued to ensure a fair allocation of the available harvest of anadromous fish among the various Idaho 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 subsistence harvest are not available. When surplus is sufficient for tribal subsistence harvest, both tribal and sport fisheries are expected to access harvestable surplus.

8. Provide Additional Angling 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. Other brochures will be developed as needed. Adjunct to that will be development or expansion of 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 publications.

Correct identification of fish is critical for optimum fishery response to special regulations and for protection of ESA protected species. Recent 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. During this six-year planning period, the Department will improve 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 above 90% for some species.

9. Provide Increased Access, Particularly for Bank Anglers.

Approximately $1,500,000 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. Funding will be provided through federal excise taxes on fishing and boating equipment administered under the Sport Fish Restoration Program. 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 handicap 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.

10. Provide Educational Programs to Encourage Children to Fish.

Coupling new water, better family-oriented facilities, and additional access areas with more educational programs can 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 the *Idaho Salmon and Steelhead Days* will be fostered.

11. Simplify and Standardize Fishing Rules.

The Department will continue efforts to standardize length limits or bag limits where appropriate to make it easier for anglers to understand the fishing regulations. Standard year-round seasons for lakes and reservoirs, standard stream fishing opening dates, and liberalized regulations have been implemented to make regulations simpler and more understandable where they do not jeopardize fish populations. During this planning period, the Department will increase the use of signs about regulations and landmarks to identify different regulation areas and to inform the public about species listed under the Endangered Species Act.

The angling public has told the Department that changes in fishing rules are confusing. However, the Department must respond to biological issues. 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. 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 sociological needs, at any time.

Program And Species Descriptions

Fisheries Management

Wild Trout

Wild trout are trout that occur naturally in any given water. Neither they nor their ancestors were introduced by people. Maintaining wild trout fisheries in Idaho continues to be a major challenge. Native Idaho trout include the rainbow trout subspecies - redband trout, three subspecies of cutthroat trout (westslope, Yellowstone, and Bonneville) and bull trout. In waters accessible to "sea-run" trout, steelhead (the anadromous redband trout), chinook salmon, and sockeye salmon are also native Idaho trout. The Department strives to perpetuate wild trout in numbers adequate to provide fishing opportunity. Wild trout are important to Idaho biologically because they evolved here and are best adapted to their native waters; ecologically, because their presence is an indicator of the overall health of Idaho's waters and because Idaho anglers place a high value on wild, native trout. Economically, wild trout populations are self-sustaining, and thus are much less costly to manage than hatchery supplemented fisheries. Many anglers also target wild trout for unique characteristics found only in native fish within their native environment, thus adding great value to Idaho's economy. The Department, by statute, is the steward for Idaho's native fishery resources and must ensure that wild trout populations are perpetuated.

The status of Idaho's native trout has been scrutinized during the past few years through petitions for protection under the Federal Endangered Species Act. Chinook and sockeye salmon were listed as endangered in 1991, steelhead were listed as threatened in 1997, and bull trout were listed as threatened in 1998. In recent years, Westslope, Yellowstone, and Bonneville cutthroat trout and redband trout were petitioned for listing. The U.S. Fish and Wildlife Service (USFWS) determined in 1995 that redband trout, in 2000 that westslope cutthroat trout, and in 2001 Yellowstone cutthroat trout did not warrant listing. Decisions on the other petitions are pending. The Department has provided technical information to the USFWS that suggests Yellowstone and Bonneville cutthroat trout populations in Idaho are reduced from historic levels but are not in danger of extinction.

During the last quarter century the Department has progressively taken more and more steps to preserve, protect, perpetuate and manage wild trout. Pioneering research in the late 1960s and early 1970s on the North Idaho waters of Kelly Creek, and the St. Joe and Lochsa rivers documented significant benefit to wild westslope cutthroat trout populations from catch-and-release or from restrictive bag and size limits. Currently waters in the state that support wild trout populations have some kind of fishing rule that limits harvest of wild trout. The Department has placed a higher priority on wild 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 the harvestable wild trout must be at least 16-inches long. In some wild trout waters where spawning may be a limiting factor, the fishing season does not begin until July 1, after most wild cutthroat trout or rainbow trout would have finished spawning. In a few waters no wild trout may be harvested. In the case of bull trout, anglers may not harvest bull trout at any time or place in Idaho. Key to efficacy of special regulations to protect wild trout is fish identification. Recent research in several states have identified that fish identification should receive additional emphasis as an aspect of angler education.

The Department recently took additional steps to further protect wild trout. Some actions taken include: (1) cessation of the Department's brook trout stocking program in native trout streams; (2) allowing anglers a bonus harvest of brook trout in addition to the existing trout limit, and (3) sterilization of rainbow trout used for most stocking to prevent hatchery trout from hybridizing with wild trout. Rainbow trout are sterilized by heat-shocking their fertilized eggs. Where sterile rainbow trout are deemed necessary, the Department's goal is for 95% or more of the fish stocked to be sterile.

Habitat quality is also a factor influencing wild trout well being, and is largely beyond the Department's authority. However, the Endangered Species Act petitioners identified habitat issues as problems for wild trout. The Department's role is discussed further in the habitat protection section.

During this six-year period the Department will continue to emphasize wild trout management by implementing the following measures:

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

- Reduce or eliminate introgression with hatchery trout;

- Continue outreach efforts to increase stream habitat protection by landowners using volunteers and Department personnel;

- Work with land and water users, including Indian tribes, and with the Idaho Departments of Water Resources, Environmental Quality, Lands and Agriculture to reduce impacts to wild trout habitat;

- Encourage and initiate partnerships with resource agencies and water users to provide adequate fish screens and migration bypass design at irrigation diversions, and to provide suitable flows to protect wild trout;

- Provide pamphlets, brochures, signs, posters and cards that increase anglers' knowledge of the difference between trout species and how to release wild trout with minimal injury;

Wild trout bag limits will generally be two fish with additional harvest opportunity provided on exotic or hatchery trout if present. This selective rule emphasizes protection for wild trout while allowing ample harvest on hatchery-reared or exotic trout. This encourages anglers to limit harvest of wild trout. Where needed, fishing for wild trout will length-restricted or catch-and-release basis. As a last resort, streams or lakes will be closed to harvest to protect wild trout.

In lightly fished streams, the reduction in bag limit to two wild 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 wild trout directs more consumptive anglers to waters managed with liberal limits on hatchery trout or warm water fish species. The differential bag limit also reinforces the non-consumptive values of wild trout.

Hatchery Trout

The mission of the Department's hatchery section is:

Recognizing the values of natural fish; hatcheries provide quality fish for anglers, fish management, and citizens to maintain and enhance Idaho's fisheries resources, and promote Department programs.

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.

Domesticated rainbow trout stocks are used primarily in reservoirs or streams where habitats are not capable of supporting wild or natural production. These trout stocks typically do not survive in streams and contribute little to natural reproduction. Because fingerling trout (3- to 7-inches) do not survive to grow to acceptable sizes, most trout stocked in streams will be catchable size (8- to 10-inches). Hatchery trout of various sizes from fry to catchable size are used in lakes and reservoirs depending on growth, survival, and reservoir water conditions.

Put-and-take (catchable) trout used in stocking programs cost approximately $0.50 each to rear and stock. Trout must be stocked at times and places where they are available to anglers and where they are likely to be caught.

Shifting hatchery catchable size fish stocking in lakes and reservoirs to 5- to 7-inch subcatchables will be evaluated on individual waters. The Department will look at various environmental parameters such as water temperatures, zooplankton densities and sizes, species compositions and predator populations in order to determine the best use of the hatchery produced subcatchable sized trout. If successful, this will allow the Department to stock greater numbers of trout and return fish to the creel at a lower production cost.

Fish health in hatchery stocks, as well as wild stocks, are 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 stocks is a concern. The Department will stock only sterile non-reproducing fish unless there is a need to supplement wild/ natural stocks with reproducing fish.

The Department has successfully developed the technology to produce sterile rainbow trout in its' hatchery program. The primary use of these fish is for waters containing self-reproducing wild/natural stocks and where fish management programs allow increased harvest rates for hatchery fish. During the next five years, the Department will also required sterile trout to be used in private ponds located within drainages where these same sensitive species co-exist to further reduce the potential of genetic introgression.

No increase in numbers of catchable size trout is proposed in this planning period. 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.

Details of planned hatchery production, development, and maintenance are described in separate reports available from the Department.

Quality and Trophy Management

Trout

The terms "quality" and "trophy" have been applied to trout fisheries by anglers and managers to mean various things, including whether fish were of 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 size of trout. 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 provide. 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 all or a major portion of 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 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 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 include seasonal restrictions to reduce mortality on spawners, or on trout as they concentrate to migrate downstream in the fall in response to dropping water temperatures. Seasonal restrictions responding to these circumstances will be employed only after a biological necessity has been established. It may also 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 a 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 the number of anglers using the water increases and harvest rates impact the size structure of the trout, or 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.

The 1995-2000 State Fisheries Management Plan (IDFG 1995) noted that a large percentage of Idaho anglers wanted see additional waters managed for larger trout. One statewide goal for the 1995-2000 period was to apply trophy or quality management on approximately 5 to 10 additional streams or stream segments and 10 to 15 additional lakes or reservoirs. During that five-year time period the Commission placed four new lakes and reservoirs (Mormon, Blackstone, Springfield reservoirs and Payette Lake) and more than 20 new streams or stream segments under quality or trophy management regulations.

The Department also proposed to evaluate then current quality trout regulations that did not restrict the use of bait. Several studies were conducted in the previous planning period. These studies included waters as diverse as the South Fork Snake River, Silver Creek and Big Wood River and the Henrys Fork Snake River – all managed under quality regulations that allow the use of bait. Rivers like the South Fork Snake River and Henrys Fork Snake River have maintained considerable bait angling participation while other waters like Silver Creek and the Big Wood River now receive little bait angling effort even though the use of bait is allowed. In general the studies found that allowing the use of bait is compatible with quality management objectives. Silver Creek experienced a very small difference in the number of large fish

compared to sections where bait is not allowed. However, the overwhelming finding was that allowing the use of bait is compatible with quality trout management objectives and need not be prohibited where management goals for size and number are being achieved.

Bass

While trout still provide the bulk of angling opportunity in Idaho, bass are the preferred species by 8% of Idaho anglers. Both largemouth and smallmouth bass were some of the very first non-native species to be 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 bass growing season is generally short in most Idaho waters due to the high altitude and northern latitude. Research studies indicated that bass growth was regulated primarily by water temperature, not food availability, so efforts to improve bass fisheries focused on regulations that would allow bass to live longer. Because of relatively slow growth and increasing harvest, the Department instituted a statewide 12-inch minimum size limit on bass in 1986 to improve size, quality and catch rates.

Quality and trophy bass fishing opportunities were created on some waters by reducing or delaying harvest with special regulations that allowed bass to live longer and therefore grow bigger. 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. The Department currently manages 15 lakes and reservoirs as quality bass waters.
>
> 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. The Department currently manages seven lakes and reservoirs as trophy bass waters.

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 would require 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 would be allowed after July 1 for bass less than 12 inches or over 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 next six-year period, the Department will continue to manage designated lakes and reservoirs for quality bass in addition to managing some for trophy fishing opportunity.

Management of additional waters for quality bass or trophy fishing will be pursued where biologically appropriate and supported by anglers.

Steelhead and Salmon (Anadromous) 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.

Snake River coho are extinct. As discussed under "Program Direction," all other runs of naturally reproducing salmon and steelhead into Idaho are at a low level and most are listed. The strategies and management actions for naturally produced fish during this planning period are preservation-oriented because of low fish abundance.

The long-range goals of the anadromous fish program are to (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 factions 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 escapement and other goals.

To help meet anadromous program goals, Idaho's anadromous fish management utilizes both natural and hatchery production. Natural production recruits and sustains populations 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 recruits and sustains fish populations in a controlled artificial spawning and rearing environment. Fish managers classify 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 hatchery or nonnative fish outplanting or a limited amount unlikely to have had genetic impact. These fish are naturally produced without artificial intervention. Natural fish also result from natural spawning, but are either not of native broodstock, such as spring chinook in the Clearwater Basin, or have had substantial opportunity to breed with hatchery fish of native or nonnative origin. "Preservation" describes the fishery management applied to wild/natural salmon and steelhead (see drainage management plans). This is a management program, which prohibits directed harvest and/or angling in order to preserve salmon and steelhead populations. For anadromous fish listed pursuant to the ESA, preservation management is consistent with federal rules and recovery activities.

The Department will emphasize maintaining remaining populations of wild, native stocks of salmon and steelhead where they occur. 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 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

Snake River, mouth to Hells Canyon Dam
Captain John Creek

Granite Creek

Sheep 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

Snake River, mouth to Hells Canyon Dam
Small Idaho tributaries upstream from Clearwater River

Maintaining genetic integrity and diversity of the native stocks is essential to continued production (hatchery and natural) of fish suited for Idaho habitat, as well as being the only practical means of utilizing the full production capability of wilderness streams. Preserving the foundation of populations is critical so that survival improvement effected by management changes in the four "H's" or by natural environmental variables, such as ocean regime, can be capitalized for rebuilding and recovery.

Artificial production will be limited or absent in areas to be managed for wild production. Clear benefit as a result of benefit/risk assessment must be demonstrated prior to consideration of 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 10 years. Bringing wild fish into captivity will be considered only if essential for long-term preservation. 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 of those fish as juveniles or adults into wild fish streams. Fisheries programs will not reduce population status to a level reducing genetic integrity or fitness.

Population abundance will be increased by improving survival of juveniles and adults with priority on migration through the Snake and Columbia rivers corridor and regional fisheries. Spawning and rearing habitat improvements that provide significant survival benefit for wild/natural populations of salmon and steelhead will be pursued in collaboration with land managers and private landowners.

Hatchery

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

Hatchery fish 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 objective is to produce enough surplus adults so that fisheries can be offered. Genetic material or behavior may be different than wild/natural salmon and steelhead due to adaptation to the hatchery environment. Of the fishery management classifications (see drainage management plans), "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 provide management direction for 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. New efforts directed at using hatchery production to sustain and rebuild natural steelhead numbers are being initiated. To date, supplementation of natural stocks with hatchery fish has not yielded long-term increased natural production, although there has been an increase in the number of fish spawning in many cases. Rebuilding only through supplementation or other artificial production mechanisms is unlikely, particularly if life cycle survival is below replacement. Conceptually, supplementation will increase the total number of fish produced in the natural

environment, but it will not increase productivity (survival) of fish in the natural environment. 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 will utilize hatchery production to (1) produce fish that maintain optimum survival to adults 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 new role of hatcheries 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 than can be used with wild or natural broodstock that will be suitable for returning their progeny to natural rearing habitat. We will also continue to mark hatchery smolts prior to release to minimize mixed stock harvest conflicts and to maximize harvest and natural production management options.

White Sturgeon

The white sturgeon is the largest freshwater fish in North America, reaching documented sizes of up to 18 feet in length and 1,385 pounds, and rumored to be even larger. White sturgeon originally occurred in the Snake River downstream from Shoshone Falls, the lower Salmon River, and in the Kootenai River.

Sturgeon have declined in Idaho. The decline began in the 1880s when demand for smoked sturgeon and caviar caused sturgeon to be overfished. Construction of dams in the early 1900s accelerated the decline, as much of the large, free-flowing river habitat required by sturgeon was lost. Present populations of sturgeon in the Snake River drainage are restricted to short river reaches, isolated from other populations by dams. Sturgeon in the Kootenai River swim freely between Kootenay Lake British Columbia, Canada, the Kootenai River in Idaho, and upstream as far as Kootenai Falls in Montana. Commercial fishing for sturgeon 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 sturgeon were listed in 1994 by the U.S. Fish and Wildlife Service as an endangered species under the ESA. Because of the listing and continued population decline, the Kootenai River was closed to sturgeon fishing in 1995.

To gather information about the many different populations of sturgeon in the state, the Department started a mandatory sturgeon permit program in 1989, continuing through 1996. Permits more than doubled by 1994 when about 6,000 permits were issued. The permit information, such as catch and size, was evaluated annually to aid in management decisions affecting sturgeon. However, the free permit was discontinued due to charges associated with the licensing system. The use of the permit or similar system of identifying sturgeon anglers should be re-evaluated and possibly reinstated as a method to provide annual catch and effort information.

The statewide 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 sturgeon management. They are:

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, or to utilize suitable rearing habitat where natural recruitment does not exist.

Research conducted on the Kootenai River sturgeon population showed that no significant recruitment has occurred since 1974. Changes in the flow pattern of the Kootenai River caused by Libby Dam (located in northwest Montana) is the major factor inhibiting recruitment. Trapping of nutrients by Libby Dam is potentially another contributing factor to reproductive failure. Lack of reproduction was a major factor in listing Kootenai sturgeon under the ESA. The Department's research will continue to focus on regulation of discharge and nutrients as the major factors affecting recovery of the Kootenai River sturgeon population. The Department will participate on the Kootenai Sturgeon Recovery Team of the U.S. Fish and Wildlife Service to develop recovery measures that emphasize restoration of natural sturgeon reproduction and recruitment to the Kootenai River white sturgeon populations.

The Kootenai Tribe of Idaho has been operating 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. Limited numbers of age two juvenile sturgeon were stocked in the Kootenai River in 1992, 1994, 1997 and 1999. Larval sturgeon were released in 2000.

Successful sturgeon culture capabilities have been developed, and young hatchery sturgeon were released into the mid-Snake River in 1989-1999. These fish were tagged, then stocked in free-flowing reaches between major dams where reproduction has been eliminated. An introduction was also made into the Snake River downstream from American Falls, outside the historic range of sturgeon, resulting in a new fishery.

Evaluation of stocked hatchery sturgeon in the Snake River suggests that these fish do not do as well as wild fish. Body condition factors are somewhat less than wild fish condition and there is a concern regarding genetics 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. Research may be conducted in Oxbow and Hells Canyon reservoirs to evaluate the stocking program, but these areas have no documented natural spawning. Ongoing studies where evaluation 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.

Any further reduction in sturgeon habitat will be opposed. The goals of the Department are to improve sturgeon habitat, increase populations of wild sturgeon, and recover Kootenai sturgeon so they are delisted, and are able to provide angling opportunity.

An important aspect of the conservation of white sturgeon will be increased angler awareness of the unique biology and life history of this species. The Department will increase its efforts to provide information on sturgeon biology and life history, sturgeon population status by river reach, and use of proper tackle, terminal gear and release techniques for anglers. The Department will utilize regional education programs and existing funding to revise the white sturgeon brochure, produce a sport fishing for white sturgeon video for distribution, and create a sturgeon biology traveling workshop that staff can present at public informational meetings.

During this six-year management period, the Department will monitor sturgeon fishing effort and catch relative to population status. The following questions should be addressed.

1. What is the white sturgeon fishing pressure as compared to the last ten years, for tribal and non-tribal anglers?
2. Is tribal harvest impacting populations?
3. Can hatchery supplementation play an effective role in restoring populations (Kootenai River, Oxbow and Hells Canyon reservoirs)?

Warmwater and Coolwater Game Fish Management

Warmwater and coolwater game fish continue to increase in popularity with Idaho anglers providing sport fisheries in approximately one-third of the surface waters of the state. Fish management programs in all administrative regions except the Salmon Region use warmwater species to create sport fisheries. Anglers' preference for warmwater fish species has increased from 7% in 1977 to approximately 20% in 1999. Anglers, especially bass anglers, have learned that length limit regulations result in large bass that can be produced and recycled many times for sport fishing enjoyment. This is in stark contrast to twenty years ago when the majority of anglers only sought warmwater fishes for food.

All of the warmwater and coolwater fish species in Idaho are introduced non-native species. The major species that the Department actively manages are: largemouth bass, smallmouth bass, black and white crappie, channel catfish, yellow perch, walleye, northern pike, and tiger muskie. The distribution of these fish statewide can be found in Appendix B. The presence of these fish in Idaho presents opportunities and problems for the Department. On the positive side, warmwater species can create dynamic sport fisheries in altered habitats. The presence of warmwater species can also be negative when their introduction impacts salmonid fisheries through competition and predation. The Department currently reviews all fish species introductions with the American Fisheries Society "Introductions of Aquatic Species" guidelines.

Idaho anglers still prefer trout as their species of first choice, but many of their preferred waters now contain warmwater species. Statewide there are several instances of "two story" fisheries that have increased the available opportunity to anglers with the use of stocked 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 these species less expensive to manage than trout stocking programs.

Largemouth Bass

Largemouth bass are generally most successful in smaller, warmer waters where vegetation is present and they have an abundant forage base of fish. 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. This species is the top fish in the food chain in most waters.

Smallmouth Bass

Smallmouth bass are most successful in Idaho's large reservoirs, large lakes, and the Snake River. 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 littoral area that generally support crayfish and other large aquatic insects. Smallmouth bass growth is also slow, requiring 5 to 7 years old 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.

Black and White Crappie

Crappie are probably the most difficult warmwater species to manage successfully for Idaho anglers. In southern Idaho, crappies tend to stunt and do not provide a preferred size to the angler when introduced into small water bodies. Better population structures are generally found in larger eutrophic reservoirs. In northern Idaho, the lack of large fish is generally due to the short growing season rather than too many fish. These species are primarily zooplankters when small, then becoming more opportunistic when they reach a large size. Crappies are usually most vulnerable to anglers when concentrated near shoreline structure during the spring spawning season. During other times of the year, they suspended off the bottom in pelagic waters making them more difficult to catch.

Bluegill

Bluegill, and to a lesser importance pumpkinseed sunfish are the main prey for largemouth bass. 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 are managed to high densities. Pumpkinseeds rarely exceed a half-pound, however. 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. 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 that 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 poor 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 are introduced into trout fisheries, trout growth can be severely impacted due to food competition. The Department has been forced to renovate 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

The catfishes of Idaho consist of channel, flathead, brown and black bullhead species, and three other rarely found species. The channel catfish is by far the anglers preferred target species especially in the Snake River system from Swan Falls Reservoir downstream. Channel catfish reproduce successfully and have become self-sustaining in southwest Idaho waters. Flathead catfish are generally confined to the Snake River and Brownlee Reservoir. This species is considered a trophy species in southwest Idaho, with individuals commonly reaching 20 plus pounds. Bullhead catfish are very successful in small water bodies although they can tend to overpopulate and stunt. Many times they out-compete channel catfish. Bullhead catfish are easily captured while bait fishing and can tolerate poor water quality. All species are generally fished for with bait.

Walleye

Walleye is one of the most controversial introduced species in the western US. Walleye were first introduced into Salmon Falls Creek Reservoir in the mid-1970s. The Idaho Fish and Game Commission approved a policy in the 1980s to introduce walleye only in closed systems that have **no** chance of emigration to other waters. Generally speaking, western waters do not have the diverse and abundant forage base needed to support these prolific keystone predators, resulting in poor growth of walleye or problems with management of other game species.

The Department has extensively reviewed the introduction of walleye, first in 1983 when the policy was set to exclude walleye from the Snake River and confine introductions to isolated waters. The Department again reviewed the issue in 1990 with the Fish and Game Commission, but no change in policy was made. The Department has no plans to introduce walleye into any new waters during this six-year planning period.

Northern Pike

Northern pike were illegally introduced into Cave Lake in 1972 by anglers. Cave Lake is one of the nine "chain or lateral lakes" accessible by 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 many lakes. Northern pike are currently found only in the Panhandle Region of Idaho.

The establishment of northern pike in Idaho has had both good and bad consequences. Northern pike grow fast, are highly aggressive and are good eating, making them a highly desirable sport

fish for some anglers. However, northern pike have negatively impacted other species through predation. Northern pike in Coeur d'Alene Lake prey on native westslope cutthroat trout adding another mortality factor to an already depressed population. There are no plans to expand the range of northern pike in Idaho during this planning period.

Tiger Muskie

Tiger muskies are a sterile hybrid cross between a female muskellunge and male northern pike. The first introduction of tiger muskies into the state was in Mud Lake in 1988. Additional introductions were made statewide and the Department currently manages tiger muskie in eight (8) lakes and reservoirs.

Tiger muskies are being utilized to provide trophy fisheries in waters where northern pike are not desirable, and to take advantage of abundant populations of non-game species such as Utah chubs and suckers. Tiger muskies have also been used on a limited basis for experimental control of brook trout in mountain lakes.

The Department manages tiger muskie populations with a 2-fish, 30-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.

Alpine Lake Management

Anglers utilizing alpine 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. High mountain lakes (alpine lakes) are also important components in Idaho's recreation economy. Over 40,000 anglers fish in alpine lakes each year.

Alpine lakes are numerous in Idaho; it is estimated that over 3,000 alpine lakes exist in the state, ranging in size from small temporary ponds to large lakes over a mile long. Approximately 1,355 lakes are stocked or have a natural fish population. Many of the lakes have received fish since the early 1900s when fish stocking was conducted by backpack and horseback with intensive aerial stocking being initiated over the last 50 years. Aerial stocking of most lakes is done on two or three-year rotation 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 and Henrys Lake 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-local stocks. In addition, bull trout, golden trout, brown trout, and grayling have been stocked to provide diverse fishing opportunities and meet specific management needs.

Historic 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 1994). Introductions of fish into some of these systems has reduced amphibian populations through predation and competition (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 continue to evaluate its 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 International 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 a lake's 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 adding more fish on top of existing populations and to reduce costs.

   Species of special concern, 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 system.

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

   Brook trout and other non-native fish can negatively impact native fish populations. When desirable, management will be directed towards reducing or eliminating non-native fish populations that are impacting native fish by utilizing regulations or population management actions.

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. During this six-year period, the Department will develop amphibian and natural fauna plans.

Native Nongame Species Management

Statewide fisheries management goals are to maintain or restore wild 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 and provide recreational opportunities.

- In total, 38 species of fish are native to Idaho waters. In addition to native game fish species such as trout, char, salmon, steelhead, burbot and white sturgeon, there are a number of other 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 these species in 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. All fish and wildlife in Idaho to be preserved, protected, perpetuated, and managed by the Department. These native nongame fishes are important for ecological, scientific, aesthetic, and cultural reasons.

- In several instances, little is known about the current status or distribution of these native nongame fish species. As with native sport 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. Fish with restricted ranges are more prone to extinction than species with more widespread distributions. Pacific lamprey, which are anadromous, face essentially the same threats to survival as anadromous salmonids. 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 desired condition as a result of habitat changes such as reservoir construction. It is therefore imperative that the Department, in coordination with other agencies, significantly improve our understanding and knowledge about current distribution and population status of native nongame species and what role they play in ecological communities.

Guiding principles for the Department regarding native nongame fish species management include:

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 and private landowners to promote wise land and water stewardship.

The Department will improve 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 these important fishes.

Federally Listed Species

There are five fish species in Idaho that are listed as threatened or endangered under the Federal Endangered Species Act (ESA). The Snake River sockeye salmon were listed as endangered in 1991. Naturally-produced Snake River spring, summer, and fall chinook, excluding the Clearwater River, were listed as threatened in 1992. The Kootenai River 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. The National Marine Fisheries Service (NMFS) oversees management of listed anadromous species such as salmon and steelhead. The U.S. Fish and Wildlife Service (USFWS) oversees the management of listed resident species such as bull trout and Kootenai River sturgeon. In 2000, a State of Idaho Office of Species Conservation was legislatively enacted (SB1490) to provide coordination, cooperation, and consultation among various state and federal agencies with ESA responsibilities in Idaho, to develop coordinated state policy for listed species issues, to negotiate and implement conservation plans and agreements, and to provide operations of a delisting advisory team and delisting management plan requirements.

The ESA is a federal law passed by Congress in 1973. Its purpose is to provide a means of assuring the preservation of animal and plant species that are in danger of extinction. An endangered species is any species which 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 ESA. 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.

Section 9 of the ESA prohibits the taking of listed species unless authorized by the federal management 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 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 ESA requires the 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 ESA-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 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, such as "Wild About Salmon, An Educator's Guide" (IDFG and Project Wild 1999).

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. Another example is that the Department has all but eliminated use of brook trout in its hatchery program, to reduce potential genetic introgression with bull trout.

The Department will work with the Governor's new Office of Species Conservation (as stipulated by the Idaho Code) and federal managers of listed species to develop sound, biological approaches to delisting and recovery that address key factors of decline. The Department will work to ensure that Department programs do not jeopardize listed fishes but the Department will not support needless constraint of fisheries and fishing opportunity without defensible biological information.

Species of Special Concern

A number of races (or subspecies) and species of fish are considered to be threatened, endangered, or of special concern in Idaho (Table 4) but they are not listed pursuant to the ESA.

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

Threatened Species: Any species, which is likely to become an endangered species within the foreseeable future in all or a significant portion of its range within Idaho.

Endangered Species: Any species, which is in danger of extinction throughout all or a significant portion of its range within Idaho.

In contrast with the six bird and mammal species listed as Threatened and Endangered wildlife under Idaho Code, the fish species listed as threatened or endangered have no statutory protection under Idaho Code. Their classification as threatened or endangered is a policy statement for management, not legal, purposes.

Species of special concern are defined as native species which are either low in number, limited in distribution, or have suffered significant population reductions due to habitat losses, but is not likely to become threatened in the near future. The list includes three categories of species:

A. Species, which meet one or more of the criteria listed above and for which Idaho, presently contains, or formerly constituted, a significant portion of their range (i.e. priority species);

B. Species which meet one or more of the criteria above but whose populations in Idaho are on the edge of a range that falls largely outside the state (i.e. peripheral species); and

C. Species that may be rare in the state but for which there is little information on their population status, distribution, and/or habitat requirements (i.e. undetermined status species).

Making the Idaho endangered, threatened, or special concern list does not automatically create a management action response, as would happen if the ESA were applied. The Department will consider these sensitive 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.

We will seek funding from outside, 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, we will collaborate with other state, federal, or private entities to develop conservation plans. The first priority for conservation plans will be candidate species for federal listing.

The Department will closely control the stocking of fish species and other aquatic organisms that might compete or interbreed with these fish, or indirectly have a detrimental affect on populations. We realize that in some cases, artificial augmentation may be the only viable alternative. This is where species management or conservation plans will provide direction.

Table 4. List of fish species that are endangered, threatened, or of special concern in Idaho. (Note: This list is developed only for Department management purposes. This is not a list determined for, or by, the federal Endangered Species Act, ESA listed species are not on this list.)

Common Name	Scientific Name	Status[1]
White sturgeon (Snake and Salmon rivers)	*Acipenser transmontanus*	SC-A
Burbot (Ling)	*Lota lota*	E-B
Cutthroat trout		
Bonneville cutthroat trout	*Oncorhynchus clarki utah*	SC-A
Redband trout	*Oncorhynchus mykiss gairdneri*	SC-A
Westslope cutthroat trout	*Oncorhynchus clarki lewisi*	SC-A
Yellowstone cutthroat trout	*Oncorhynchus clarki bouvieri*	SC-A
Bear Lake whitefish	*Prosopium abyssicola*	SC-A
Bonneville whitefish	*Prosopium spilonotus*	SC-A
Bonneville cisco	*Prosopium gemmifer*	SC-A
Bear Lake sculpin	*Cottus extensus*	SC-A
Shoshone sculpin	*Cottus greenei*	SC-A
Wood River sculpin	*Cottus leiopomus*	SC-A
Leatherside chub	*Gila copei*	SC-C
Sand roller	*Percopsis transmontana*	SC-B
Pacific lamprey	*Lampetra tridentata*	E

[1] Status:
E Endangered
T Threatened
SC Special Concern (Categories A, B, and C; see page 43 for definitions)

The following provides additional description of species identified in Table 4:

Burbot

Burbot in Idaho are only found in the Kootenai River. They have a preference for cold, slow moving water. They experience the same altered flow environment as the federally listed Kootenai River sturgeon due to Libby Dam operations. The dam is operated for hydropower production, and has reversed the natural hydrograph to produce high discharge in the winter and low discharge in the summer. The Department is conducting research to learn more about the status and life history of burbot. Research in progress has implicated both the effects of altered flow and water temperature as factors limiting recruitment of burbot.

Cutthroat trout

Idaho's state fish is the cutthroat trout. The state fish is several subspecies of native cutthroat trout; all of which are in the special concern category. The Department will take actions to manage fishing and reduce genetic introgression from rainbow trout during this planning period. Determination of the efficiency of rainbow trout and brook trout population reduction will be determined and implemented where feasible. The most widely distributed subspecies is the westslope cutthroat trout. In 1997, the westslope cutthroat trout was petitioned for listing as threatened throughout its native range pursuant to the ESA, and in 2000 the USFWS ruled that listing was not warranted. However, all cutthroat trout must be seriously considered in fisheries and land management decisions in their remaining habitat. The Department will also emphasize cutthroat trout when reviewing timber sales, mining practices, grazing management, point and nonpoint source pollution, and antidegradation guidelines.

The Department includes the Snake River fine-spotted trout as a Yellowstone cutthroat trout, although some taxonomists suggest they are separate subspecies. Within Idaho, high quality habitat is restricted to the Snake River drainage upstream from American Falls Reservoir. Habitat is most affected by water withdrawals. Where possible, the Department will recover populations by species management working in cooperation with irrigation canal companies and the Bureau of Reclamation to screen diversions and develop more benign management practices for water storage and irrigation. The Yellowstone cutthroat trout was petitioned for listing under ESA in 1998. The USFWS ruled this petition was not warranted on April 22, 2001.

The Bonneville cutthroat trout in Idaho is limited to the Bear River drainage in the southeast corner of the state. It is found in only a few small tributaries to the Bear River. The Department recognizes the Bear Lake cutthroat trout as the adfluvial form of the Bonneville cutthroat trout. These fish are adversely affected by water management, dam construction, introductions of other fish species, grazing practices, and irrigation dewatering in tributaries. The Bonneville cutthroat trout was petitioned for federal listing in 1998, but a decision has not been issued by the USFWS to date. The Idaho Department of Water Resources, Idaho Department of Environmental Quality, and the Caribou National Forest has responsibility for managing most of the affected habitat and streams. Adequate protection of the streams and riparian habitats has not been provided, leading to population decline. The Department is pursuing agreements to protect these streams against further habitat loss and to enhance already degraded habitats.

Fishes Endemic to Bear Lake

The Bear Lake whitefish, Bonneville whitefish, Bonneville cisco, and Bear Lake sculpin are only found in Bear Lake. Because of their restricted range, they are vulnerable to extinction in Bear Lake and related ecosystems. The Department will work with the Utah Division of Wildlife Resources, water managers, and landowners to maintain abundant populations of these fish and reduce potential threats.

Leatherside Chub

Little is known about the leatherside chub in Idaho. Available information suggests it was never abundant, and rarely reported. It inhabits clear cool streams and prefers a pool environment. Its natural distribution in Idaho was confined to the upper Snake River and Wood River drainages, and the Bonneville Basin. Even though extensive stream sampling has occurred throughout its range, Department personnel have only found it in Trapper Creek, the Goose Creek and Cassia Creek drainages. It is found more commonly in the Bonneville basin in Utah.

Pacific Lamprey

The Pacific lamprey was once common in the Snake, Clearwater, and Salmon river drainages. Columbia and Snake river dams and bypass systems may pose the greatest threat to the survival of Pacific lamprey in Idaho, particularly to the juvenile ammocoetes. Counts of adults at Ice Harbor Dam at the mouth of the Snake River numbered 50,000 in 1963 but returns to the Snake Basin have declined to less than a few hundred. Habitat changes in headwater tributaries through land use activities may also be a threat. Inventory work is needed to determine its present range and population status. Currently, inventory work is occurring in the South Fork Clearwater River drainage where they have recently been observed. Documenting habitat preferences remaining populations.

Redband Trout

Listings in previous management plans have included redband trout as a species of special concern. This subspecies of rainbow trout is uniquely adapted to streams with extreme water flow and temperature variations and high alkalinity in the high desert of southwest Idaho. Recently, taxonomists have concluded that the native rainbow throughout nearly all of southwest and south central Idaho are redband trout. Redband populations have remained genetically isolated in areas of extreme environmental conditions where other rainbow trout strains, races, or subspecies have been unable to survive, but land management practices have threatened their status. Hybridization with other rainbow trout stocks has also diluted the remaining gene pool. The redband trout is the only subspecies expected to survive in these types of environment and provide a viable fishery. Therefore, it has a higher value in its native environments and should receive management priority by the Department and land management agencies. The redband was petitioned in 1995 for listing under the ESA. The U.S. Fish and Wildlife Service is in the process of addressing the petitions. The outcome will possibly direct future action.

Sand Roller

The status of sand roller in Idaho, past and present, is unknown. No known record exists to determine their population status. Changes in the riverine habitats in the Columbia River basin may pose the largest threat to the survival of this fish species. Construction of dams and resulting reservoir environments, pollutants, and invasion of non-native species (particularly piscivores) are all threats to the continued survival of this fish (Cochnauer 1995). However, it appears that sand rollers are quite common throughout the Lower Columbia River (Mongillo and Hallock 1995). Data collected by these Washington investigations does not indicate upward or downward trends in population status.

Shoshone Sculpin

Prior to 1990, the Shoshone sculpin was the only Idaho fish species to be nominated for threatened status under the ESA. That nomination was withdrawn after extensive inventory revealed healthy but isolated populations in a few remaining free-flowing springs in the Thousand Springs area and the Snake River adjacent to the springs. Remaining habitat must be preserved to ensure a healthy population. Current status of Shoshone sculpin should be re-evaluated.

White Sturgeon

As previously noted, the white sturgeon in Idaho has been affected by habitat alteration and overfishing. Remaining habitat will be protected and angling activity carefully regulated to preserve the species. A sturgeon culture program has been implemented and may be used as a tool to rebuild populations only where recruitment is not present.

Wood River Sculpin

The Wood River sculpin has been located in tributaries to the Little Wood and Big Wood rivers and Camas Creek. More inventory work is needed to determine the extent of its range. It warrants the protection afforded by being listed as a Species of Special Concern until its range is more clearly defined. Inventory work is being done by the Nature Conservancy and U.S. Forest Service in concert with the Department in tributaries to the Big and Little Wood rivers.

Other Species

The blueback trout, *Salvelinus alpinus oquassa* was formerly the sunapee trout, which was synonymized with the blueback trout by taxonomists. It was introduced into high mountain lakes of the Sawtooth Range (tributary to the Salmon River), many years ago. The Idaho population of this exotic char is the only population outside of the native range of northeastern New England and southeastern Canada, where only a few populations remain. This fish was rediscovered in 1978. Because it is not native, it will not be listed as a species of special concern, but protection of this fish and its habitat is a high priority. The Department will protect this species by suppressing publicity, carefully monitoring the populations to determine their status, and by not stocking species, which would adversely affect blueback trout, in waters where they occur.

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 section has four organizational components: anadromous fish species mitigation, resident fish species mitigation (both 100% outside funding), discretionary research, and program management/technical support (both funded 75% with federal sport fish restoration funds).

Mitigation research is applied in an adaptive management approach. Population monitoring evaluation, and other findings are used to recover populations of endangered or threatened sockeye, chinook, steelhead, Kootenai River white sturgeon and bull trout, as well as populations of 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 funding contracts.

The evolving status of anadromous sockeye and chinook salmon, and steelhead recovery issues mandates research efforts on those species must be somewhat dynamic. Department anadromous research and management personnel identified and prioritized information needs most critical to recovery efforts during the next five years (Table 5).

Resident fish species 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 recover populations of Kootenai River white sturgeon, kokanee, rainbow trout, bull trout, burbot, and other species that have been adversely impacted by hydropower systems. A resident salmonid inventory/assessment project funded by mitigation funds is currently surveying the entire Snake River basin above Hells Canyon Dam. 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 (Table 6).

To provide direction for the remainder of the Department's fisheries research program, a combination of management, hatchery and research personnel identified, needed information and tools that would enhance fisheries management in Idaho (Table 7).

Table 5. Anadromous Research Activities, 2001-2006.

	Schedule
Design and implement research to determine best possible in-river condition with current hydropower configuration.	2001-2006
Relative survival of smolts subjected to various mainstem migration scenarios.	2001-2006
Implement stream fertilization and evaluate benefits to adult returns in Idaho.	2001-2006
Response in survival of smolts to returning adults for various migration conditions.	2001-2002
Estimate how long O. mykiss populations can produce viable smolts after anadromous adult returns have been eliminated.	2001-2006
Chinook and sockeye captive rearing and captive broodstock techniques.	2001-2006
A synopsis of hatchery supplementation research for salmon and steelhead.	2001-2003
Improvement of smolt production from hatchery stocks.	2001-2006
Chinook and steelhead life history parameters.	2001-2006
Sockeye O. nerka captive broodstock techniques	2001-2006
Written documentation of historic anadromous resource status, policies and management in Idaho.	2001-2003
Lamprey status review and life history parameters.	2001-2003

Table 6. Resident Species Mitigation Research, 2001-2006

Management needs to be addressed by outside mitigation funding (BPA)	Schedule
Evaluate methods to increase and stabilize the kokanee population in Lake Pend Oreille and Dworshak Reservoir.	2001-2006
Determine the impact of water releases (salmon flows) from Dworshak Dam on kokanee in the reservoir.	2001-2006
Assess the potential for the introduction of predatory fish in Dworshak Reservoir.	2003-2006
Quantify the effect of high dissolved gasses on the fish populations in Lake Pend Oreille.	2001-2006
Develop methods to inventory predatory fish in the deep basin lakes sufficient to evaluate rules and management actions.	2003-2004
Develop and test ways to remove lake trout from large lakes.	2002-2004
Develop more accurate ways to trawl and analyze trawl data.	2002
Determine survival and fate of cutthroat trout in Lake Pend Oreille.	2002-2006
Conduct broad-scale population inventories for native salmonids across the entire Snake River basin above Hells Canyon Dam	2000-2006
Identify native salmonid limiting factors in Snake River basin to develop, fund and implement restoration programs	2000-2006
Implement stream fertilization in blocked areas and evaluate benefits to resident species	2001-2006

Table 7. Discretionary Research Priorities, 2001-2006

Management needs to be addressed by discretionary research	Schedule
Lake and reservoir studies -hydroacoustic pop estimates and size structure -fingerling/catchable survival studies and stocking guideline development Warmwater fish Studies-life history/losses -Prediction of crappie year-class strength -Cascade perch collapse-evaluation Gamefish entrainment loss estimation -Relations between flows and entrainment losses for warmwater and coldwater species -Biological rule curve development for drawdowns	2001-2006
Sterile fish studies -Continue evaluation of lowland lake rainbow trout performance -Develop new sterilization recipes for westslope, Henrys lake hybrids and Kamloops rainbow trout -Evaluate potential for sterile kokanee -Evaluate sterile fish performance in high mountain lakes	2001-2006
Improve Hatchery Trout Return to Creel -Evaluation of the "raceway effect" – can we detect stragglers early enough to save feed costs, etc. -Predator training studies – can we "train" catchables and fingerlings to avoid predators? -Stream catchable mortality studies – what is the fate of the 60-90% of stream "uncatchables" and can this mortality source be reduced? +Fish health studies – comparison of returns among hatcheries +Development of catchable broodstock for streams	2001-2006
Native Species Studies/Coordination -Development and maintenance of statewide databases for native species -Yellowstone Cutthroat trout population assessment -Redband trout population assessment -Development of native species conservation plans -Population Viability Analysis How many pops are needed to reduce risk	2001-2006
Hatchery/Wild Trout Competition -Effects of stocking on game and non-game species	2001-2006
Hatchery Product Study -What type of product does the public want? (focus groups)	2004-2006
Develop methods to distinguish resident vs. anadromous rainbow trout juveniles	2004-2006
Conduct angler use, fish harvest, and angler economic surveys as needed	2001-2006
Develop database and GIS coverage for fish species distribution as needed to support fish management and Endangered Species Act listing needs.	2001-2006
Develop computer programs to facilitate database development, data storage, and retrieval as needed to support fish management activities	2001-2006

Aquatic Education

The Department is involved in aquatic and fishing education in many regional and statewide activities on a daily basis. Angler information requests either via phone, Internet request, office visits or contacts in the field are an ongoing priority of Department staff. Current funding for aquatic information/education is under the direction of the Regional Conservation Educator in each administrative Region and with the Information & Education Bureau.

Regional aquatic education programs vary statewide but generally consist of disseminating local fishing and stocking reports, providing information for the Department internet web page, developing regional brochures about the local fishing lakes and streams of local interest. Some regions have begun to develop rod loaner programs where "organized groups" may check out fishing rods and reels to use for education/recreational use. The Department has promoted interest in cooperative educational programs such as the "Trout in the Classroom", "Living Stream" and other local events that create interest in the aquatic world for both youth and adult. Each region has worked on several brochures pertaining to local fishing waters.

Statewide programs include production of fishing rule book proclamations, production of regulation signage such as signs for posting where we stock put-and-take trout, and a bull trout identification program. Operation of the MK Nature Center in Boise and sponsorship of the annual "Salmon and Steelhead Days" is also provided. A teacher's guide "Fishing a Lifetime Sport" to teaching aquatic subjects has been developed and promoted to educators and 4-H clubs. The Department participates heavily in Free Fishing Day activities to try and encourage the non-angler or beginning angler to try fishing without the cost of a license. The Department produced a statewide Anglers Guide and statewide Fishing Access publication during this past planning period.

Statewide priorities for funding aquatic education will focus on promoting youth aquatic and fishing education within the local school curriculums around the state. Current methods of disseminating angling information/education will be expanded and improved where possible. The Internet will be used along with traditional avenues such as radio and television, newspapers, and Department publications for information dissemination.

Habitat Protection

Habitat protection is the cornerstone to consumptive quality and trophy fish management and protection of all native fish populations. During this planning period, the Department will actively promote protection and restoration of habitat for life history needs of fishery resources in Idaho. We will seek the cooperation of other agencies, industries, citizen's groups, and private landowners to develop and implement actions, which will result in the protection, maintenance, or enhancement of aquatic habitats.

The Department will assist others in the development and implementation of management practices designed to protect, maintain, or enhance habitat for fishery resources. We will provide leadership in the scientific monitoring of fisheries, native aquatic species, and habitat needs of fish. This information will be used to determine the effectiveness of habitat management actions, assess aquatic population status in relation to habitat projects and conditions, and evaluate long-term population trends. This information will be critical to planning for native fish species.

Technical assistance and scientific information will be actively shared. The Department will encourage use of its information by private, industry, State of Idaho, and Federal resource managers. Regional environmental staff biologists, present in all regions except Salmon, will take the lead along with coordinators in the Natural Resources Policy Bureau to facilitate Department involvement and input in Idaho habitat protection issues. Another key Department resource for habitat protection is the Fish Screen Shop in the Salmon Region, which focuses on screening projects and water delivery improvements in anadromous fish waters. Watershed approaches, such as the Model Watershed in the Lemhi and Clearwater Basins, will be utilized in some areas to facilitate habitat communication and improvement projects among state, federal, tribal resource managers and private landowners.

The habitat protection objectives of the Department shall be to:

1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features and processes necessary to ensure protection and restoration of the aquatic systems.

2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplain, wetlands, up-slope areas, headwater tributaries, and intact refugia. These linkages must provide migration routes to areas critical for fulfilling aquatic species life history requirements.

3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, bottom configurations, and natural flow regimes.

4. Maintain and restore ground water and surface water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain in the range that maintains the biological, physical, and chemical integrity of the ecosystem, benefiting survival, growth, reproduction, and migration.

5. Maintain and restore the sediment regime sufficient to support the aquatic ecosystem process. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

6. Maintain and restore ground water and instream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be provided as needed to meet fish management goals.

7. Maintain and restore the species composition and structural diversity of plant communities in riparian zones and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering and flow, appropriate rates of surface erosion, and channel migration and to supply amounts and distributions of large woody debris sufficient to sustain physical complexity and stability.

Mitigation for activities that influence natural flow regimes or hydrology should include following daily and seasonal natural flow patterns.

The Department will encourage and actively work with land managers in the development of implementation of measures to evaluate watersheds. Watershed evaluations should:

1. Focus on ecosystem planning.

2. Describe those factors limiting aquatic habitats and the impacts of land use activities.

3. Determine local fish population species and health of the habitat.

4. Determine the physical and biological processes that effect local aquatic health.

5. Include input from local Watershed Advisory and/or citizen's groups.

The product of a watershed evaluation should guide and prioritize management actions, help determine aquatic and riparian management objectives, appropriate boundaries for riparian management areas, and help to prioritize restoration activities where needed.

The Department will encourage adoption of habitat and population restoration practices that will place the highest priority on protection of those habitats that provide full function for survival of all inland native fish.

Department restoration goals are to:

1. Maintain options for future recovery by ensuring a secure, well-distributed, and diverse constellation of natural habitats and co-adapted populations remain in place over the long term.

2. Secure existing populations of aquatic species, including fish, and maintain the critical areas supporting healthy ecosystem functions.

3. Maintain stream flow patterns and volumes to provide fish and wildlife habitat for all life stages.

Fishing Access

Providing access for anglers to fish is an important part of the Fisheries Program. Most water in the State of 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 access exclusive of the steelhead permit account. The steelhead permit account uses a portion ($4.00) of the cost of each steelhead permit primarily to acquire, maintain, and improve access for steelhead 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 Aid) administered by the United States Fish and Wildlife Service, on motorboat access projects.

Increasing 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 handicap access facilities 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 $900,000 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 from Federal Aid through an excise tax on fishing and boating equipment.

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 staffers to acquire and maintain fishing access areas. About 330 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 Spring Valley Reservoir and Horsethief Reservoir. 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 this six-year plan period, previous access achievements will be reviewed and new priorities set for increasing access opportunities for fishing.

Public Information and Surveys

The fishery program will continue efforts to develop and provide fisheries information to anglers and others. Fifty-two percent of the anglers polled in the Angler Opinion Survey indicated the Department should provide more information about available fishing opportunities, locations of lakes and streams, public access areas and types of fish available through brochures and the newspaper. During the next six years the Department will continue to provide information to the public through:

1. Fishing Rules - simplification, readability
2. Current Fishing Conditions - 1-800-ASK-FISH, news releases
3. Places to go Fishing - fishing water brochures, fishing guide
4. Results of Fishing Surveys - regional newsletter reports, research reports, media articles and coverage
5. Fishing Tips - fishing leaflets, workshops
6. Environmental Issues - habitat and fish relationships, articles, regional newsletters, research reports.
7. Expand Information on Department Internet - regional fishing reports, fish stocking information, regulations, fishing surveys, and access areas

Private Fish Ponds

Idaho has regulated the transport and stocking of fish into private ponds since 1976 to prevent the introduction and spread of undesirable fish species and fish diseases into public waters. Private pond owners who wish to stock their pond with fish are required to obtain a private pond permit from the Department. This permit requires that the fish to be stocked will be compatible with Regional Fishery Management Drainage Plans and free of disease. The Department's Regional Office serving the pond owner will generally issue private pond permits.

With the proliferation of private 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 pond permit requirement. 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 regulates private hatcheries), local real-estate offices and local construction companies (specializing in pond construction) to increase awareness of private pond permit requirements and procedures and the risks of exotic species to public resources.

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.

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. Species other than fish of immediate concern include the plant, Eurasian watermilfoil *Myriophyllum spicatum* and the bivalve, Zebra mussel *Dreissena polymorpha.* These species are highly invasive in suitable aquatic habitats and can quickly become a nuisance. Eurasian watermilfoil can completely choke a waterway, prevent boating, swimming and fishing, along with altering the habitat for native species. This plant has been found in Spirit and Hayden lakes and the Pend Oreille River in north Idaho 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.

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. Public education is the primary means to prevent the introduction of these nuisance aquatic species to Idaho waters. During this six-year plan, the Department will 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 and other aquatic equipment when traveling from water to water.

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 six-year 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. The use of rotenone and antimycin has proven useful in removing undesirable species. Antimycin has proven effective in removing non-native salmonids from habitat historically used by vulnerable species such as Yellowstone cutthroat trout. 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). Additional methods of controlling undesirable species 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.

Other Aquatic Animals

All wildlife are considered to be the property of the state and are protected and managed by the Department. 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, which also may impact fish management, are not considered in this document.

One amphibian, the bullfrog *Rana catesbiana*, is legally 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 they occur. Scientists specializing in amphibians are concerned about apparent declines in amphibian abundance and what effect introduced amphibians, such as the bullfrog, may play. Transplanting bullfrogs into suitable, underutilized habitat will not be undertaken without advice from amphibian specialists. No program for specific management of bullfrogs is proposed for this six-year plan.

One order of crustaceans, crayfish, is also classified as game fish for management purposes and is subject to sport and commercial harvest. Native crayfish species are all 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 dykes, non-native crayfish will not be allowed to be imported into Idaho without an extensive review (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 spotted frog and the Coeur d'Alene salamander and present populations will be monitored while conducting normal fish surveys.

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 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 provided 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, pikeminnows, and chubs.

Crayfish are a species used for human consumption and are an important bait 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 information during this six-year period and if necessary, controls on the harvest of crayfish will be developed.

Currently, commercial fishing activity is greatly reduced. Since 1996, only 11 licenses have been issued for fish and crayfish combined. Prices paid for live crayfish at large markets outside of Idaho were less than the cost of harvesting them. In 1989 and 1990, before the market collapsed, more than 25,000 pounds of crayfish were harvested per year. In 2000, less than 200 pounds have been reported.

A similar decline occurred for commercial fish. In 1961 and 1962, 1.1 and 2.5 million pounds were harvested. From 1989 to 1995, the harvest was 0.5 to 1.1 million pounds annually by as many as eight people. Less than 100,000 pounds were harvested each year in 1999 and 2000.

Fishing Contests

Effective July 1, 1989, the Department was given the statutory authority to regulate fishing contests, tournaments, or derbies. Pursuant to that authority, a permit is required from the Department for any event in which an entry fee is required or a prize is awarded to participants based on the capture of an individual fish or the size or number of fish captured. 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 streamlining the permit process by investigating removal of the permit requirement for smaller tournaments.

Part II

Fisheries Management Plan

Drainages

PART II

FISHERY MANAGEMENT PLANS BY DRAINAGE

This portion addresses specific management direction for individual waters. The waters of the state are broken down into 34 separate drainages (Figure 6). Each drainage section consists of three parts:

1. Overview

   A narrative which describes the fisheries and 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

   A table which lists the type of fisheries, species present, management, and further management 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, nonanadromous salmon (kokanee, coho, 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 currently 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."

Drainages used in the
Idaho Fisheries Management Plan

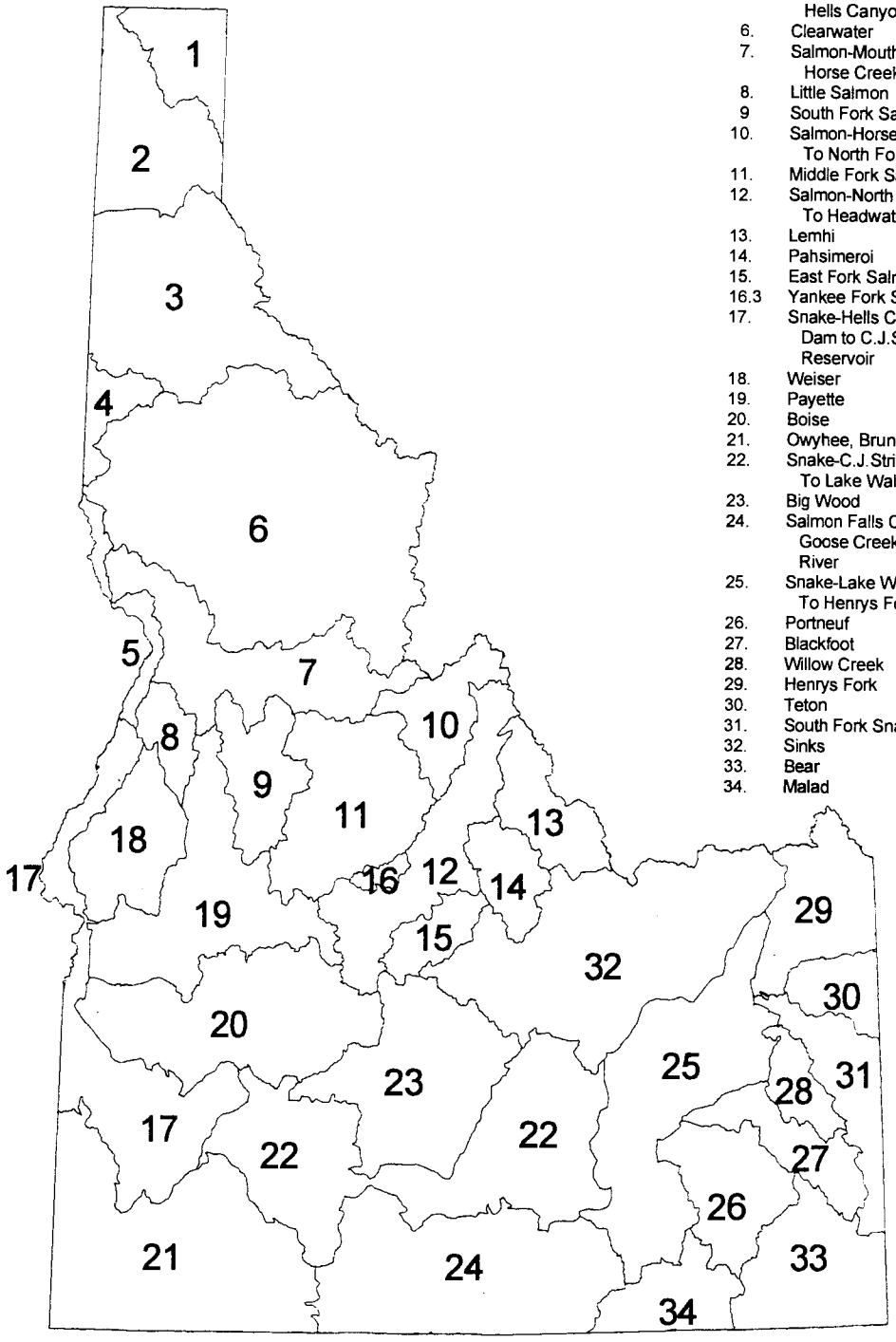


Figure 7. Drainages used in Fish Management Plan.

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 programs, fishery characteristics, and applicable regulations is provided in Part I of the Plan.

A. Put-and-Take Trout - a management program 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.

B. Wild - a management program that relies on the natural production potential of a stream to provide fishing opportunity for wild trout. Applied to streams with good to excellent trout habitat where consumptive fishing pressure is light to moderate.

C. Quality - a management program which 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 by most anglers. May be applied to water areas or to specific species within a water area.

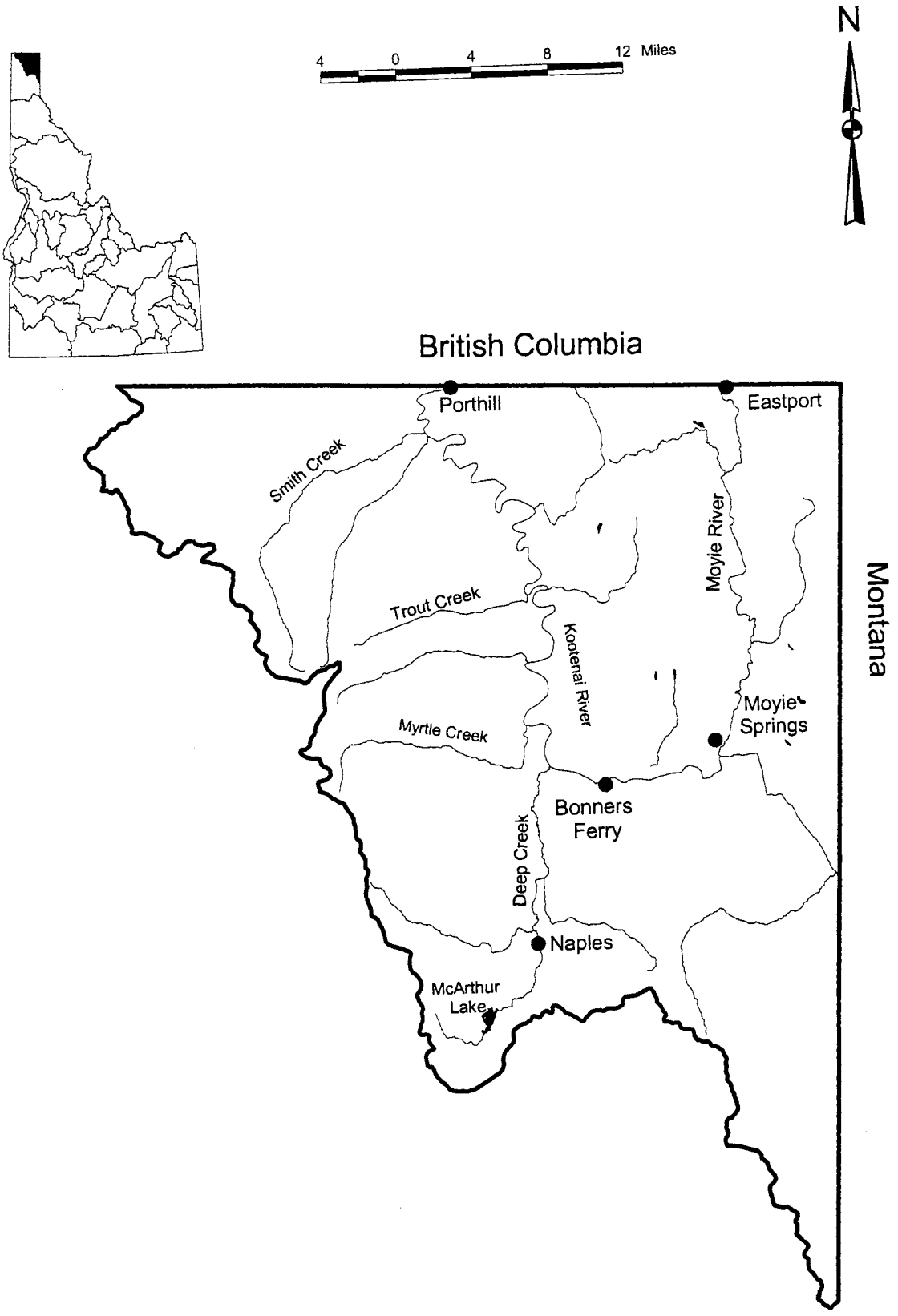
D. Trophy - a management program which limits, by regulation, the size and/or numbers of fish which may be harvested in order to provide increased catch rates for larger fish which are considered trophy size by most anglers. May be applied to water areas or to specific species within a water area.

E. Preservation - a management program which prohibits harvest or angling in order to preserve and rebuild the viability of a wild population. May be applied to an individual species or to water areas, which are important spawning or nursery areas.

F. Anadromous - a management program 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 program applied to lakes and reservoirs and rivers and streams not suited for wild trout or put-and-take trout management. 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 achieve some growth and contribute to the fishery over an extended time. No special regulations are applied.

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, 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, British Columbia. 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 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 holes up to 100 feet deep. A dam at the outlet of Kootenay Lake affects 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.

Libby Dam was constructed in Montana in March 1972, and its operation for flood control and power production has changed the natural seasonal and daily flow, temperature and productivity regimes in the Kootenai River. Mean flows during spring runoff have been reduced 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 in the impoundment have dramatically reduced turbidity and the availability of important nutrients in the river and lake.

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 in response to major declines in these populations. The Kootenai River white sturgeon was listed as an Endangered Species on September 7, 1994. Burbot were petitioned for listing on February 2, 2000. Alteration of the natural flow regime, on an annual basis for flood control and daily or weekly basis for power production, is believed to be the primary reason for the lack of successful reproduction of sturgeon and burbot. Reductions in river productivity and elimination of former sloughs are also suspected of contributing to their decline.

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 and Boundary Creek drainages are the largest accessible tributaries of the Kootenai River.

The trout fishery in the Kootenai River is currently depressed due to limited natural production, impacts from daily, weekly and annual flow changes, and reduced river productivity. Changes in Libby Dam operations for sturgeon should incorporate the

needs of all native fish to help restore a more natural river ecosystem. Improvements in tributary spawning and rearing habitat conditions will be necessary to increase natural recruitment. Restrictive regulations on trout may also be needed to increase spawning escapement once tributary habitat is restored and to allow fish to reach a larger size. Similar efforts must also be considered in connecting waters in Canada and 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, British Columbia, Canada (an adfluvial life cycle).

The Moyie River is the largest tributary of the Kootenai drainage in Idaho, but is isolated from the Kootenai River by a dam and natural falls near its mouth. The Moyie originates at Moyie Lake in British Columbia and flows 58 miles through Canada and 26 miles through Idaho. Historically, the Moyie River was managed primarily as a put-and-take trout fishery, but concerns about potential fish disease impacts in Canadian waters up and downstream and poor returns of hatchery stocked rainbow trout, resulted in a change to wild trout management in 2000. The river above Meadow Creek has a relatively flat 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 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 lower river. 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. The lack of angler effort is one reason the Moyie River can currently support a wild trout fishery with limited recruitment.

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, British Columbia, 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.

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 rainbow 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.

Numerous natural lowland lakes provide a mixed bag fishery for trout and spiny-rayed species. Naturalized populations of largemouth bass, black crappie, brown bullhead, yellow perch and pumpkinseed sunfish are present in most lakes. Channel catfish, tiger muskie and bluegill sunfish have been introduced in some lakes. Put-and-take rainbow trout and some kokanee salmon are stocked in these lakes to provide salmonid fisheries. Bonner Lake is managed as a quality trout fishery with a restrictive bag limit and season. At the request of the angling public, all Kootenai drainage lowland lakes are managed as electric motors only.

McArthur Lake offers some unique challenges due to the waterfowl production priority of this Department owned lake. The reservoir will be 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. Wild rainbow also utilize tributaries above the dam for spawning and rearing. A fish ladder on the dam allows adults access to these tributaries, but warm water in the reservoir may increase mortality of downstream migrating juvenile fish. Means of enhancing wild trout production should be investigated.

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 quality trout fishing. Although numbers and size of fish have been reduced since the early 1900's, the area has potential for improved fishery management, especially the Kootenai River.

B. Objectives and Programs

1. Objective: Restore sport fish populations in the Kootenai River to self-sustaining levels capable of supporting an improved sport fishery.

   Program: Implement and evaluate in-river flows designed to provide spawning and recruitment of white sturgeon and burbot (ling). Continue research to identify the flow needs of other native species (rainbow, 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.

   Program: Assess catch, catch rates and harvest of trout and modify regulations if required to improve the fishery.

2. Objective: Minimize impacts to and enhance trout spawning and rearing habitat.

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

3. 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: Discontinue put-and-take trout stocking in waters where a 40% or greater by number or 100% or greater by weight return to the creel cannot be met by the end of this planning period. Provide alternative fisheries to maintain angling opportunity.

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

4. 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 muskies 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.

5. 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.

6. Objective: Curtail illegal introductions of fish. Illegal introductions of exotic fishes threaten the stability of other established fisheries.

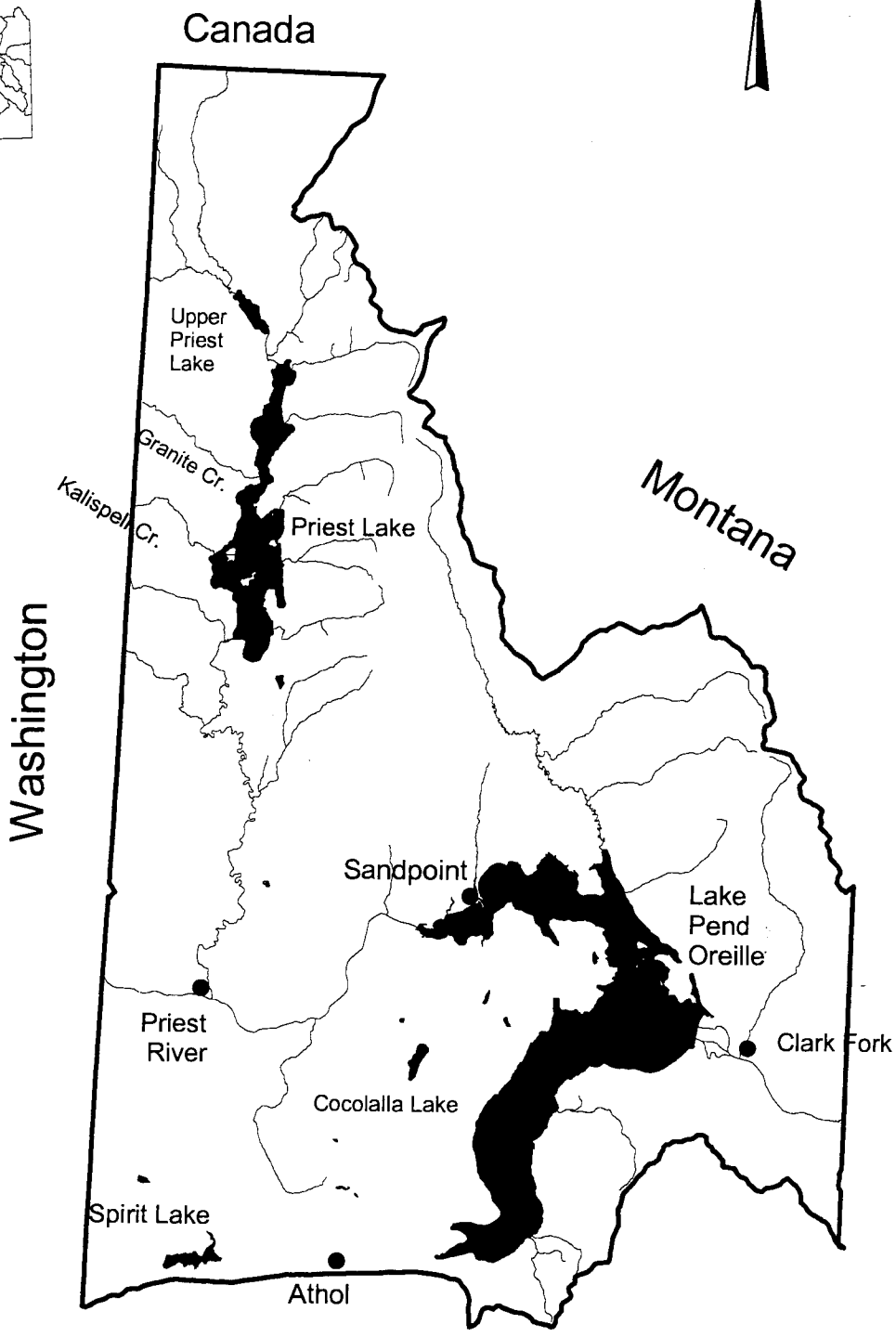
Program: Develop informational programs to educate anglers and the public to risks of random introductions of exotic species. Through planning, use enforcement efforts to curtail illegal introductions.

DRAINAGE: Kootenai River

Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
Kootenai River from Montana border to Canadian border	66/	Coldwater	Rainbow trout Cutthroat trout Mountain whitefish Kokanee	General	Work toward obtaining more favorable flows and restore productivity to improve habitat conditions for salmonids. Consider restrictive regulations to improve the trout fishery. Improve angler access.
			Bull trout	Conservation	Maintain harvest closure in river and tributary streams. Determine critical habitat and improve conditions.
			White sturgeon 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 Cutthroat trout Brook trout Kokanee	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.
			Bull trout	Conservation	Maintain harvest closure in tributary streams. Determine critical habitat and improve conditions.
Inaccessible tributaries to Kootenai River	300/	Coldwater	Rainbow trout Cutthroat trout Brook trout	Wild trout	Maintain limited consumptive fishery for small resident trout.
Moyie River	25/	Coldwater	Rainbow trout Cutthroat trout Brook trout	Wild trout	Maintain fishery for wild trout with restrictive regulations.
			Bull trout	Conservation	Maintain harvest closure in river and tributary streams. Determine critical habitat and improve conditions.
Moyie River tributaries	35/	Coldwater	Rainbow trout Cutthroat trout Brook trout	Wild trout	Maintain limited consumptive fishery for small resident trout. Seek ways to increase recruitment from tributary streams.
McArthur Reservoir	/800	Warmwater	Yellow perch Largemouth bass Pumpkinseed	General	Evaluate the effect of water level management on perch abundance and size, and maximize perch size within the constraints of waterfowl management. Investigate ways to improve wild rainbow trout production from tributary streams to enhance the Moyie River trout fishery.
			Rainbow trout Brook trout	Wild trout	

Smith, Brush, Bloom lakes	/77	Mixed	Rainbow trout Largemouth bass Yellow perch Black crappie Bluegill Pumpkinseed Bullhead Channel catfish	Put-and-take trout General	Stock put-and-take rainbow trout to enhance the trout fishery. Maintain access to Bloom Lake with an agreement with private landowners. Enhance the diversity of the warmwater fishery with maintenance stocking of channel catfish in Smith Lake.
Bonner Lake	/23	Mixed	Rainbow trout Largemouth bass Pumpkinseed	Quality General	Manage Bonner Lake as a quality trout fishery. Periodically rotenone to remove largemouth bass and pumpkinseed sunfish.
Robinson Lake	/60	Mixed	Rainbow trout Brook trout Largemouth bass Bluegill Pumpkinseed	Put-and-take trout Quality General	Stock put-and-take rainbow trout to enhance the trout fishery. Maintain restrictive regulations on largemouth bass to provide a quality bass fishery.
Dawson, Perkins Lake	/95	Warmwater	Tiger muskie Largemouth bass Black crappie Yellow perch Bluegill Pumpkinseed Bullhead Channel catfish	Trophy General	Maintain tiger muskie stocking to provide a specialized trophy fishery. Channel catfish will persist in Dawson Lake during this planning period, but maintenance stocking was shifted to Smith Lake to provide a better fishery.
Solomon, Sinclair lakes	/13	Coldwater	Rainbow trout	Put-and-take trout	Provide year-around consumptive fishery for trout by stocking put-and-take rainbow trout.
Alpine lakes (19 stocked lakes in the Kootenai River drainage)	/260	Coldwater	Cutthroat trout Rainbow trout Brook trout Golden trout 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 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.

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.

Pend Oreille Lake is the largest natural lake in Idaho covering 85,960 surface acres with a shoreline length of 111 miles. The 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 Pend Oreille Lake and the backwaters of Albeni Falls Dam, located on the Pend Oreille River 26 miles downstream of the lake, is 94,720 acres.

Priest and Upper Priest lakes are glacial lakes connected by a shallow winding channel called the Thorofare. Priest Lake has a surface area of about 23,360 acres with a maximum depth of 369 feet and mean depth of 123 feet. Upper Priest Lake is accessible only by boat or foot trail, covers about 1,400 surface acres and has a maximum depth of 103 feet.

Spirit Lake has a surface area of 1,477 acres and a maximum depth of about 90 feet.

There are also many smaller lowland lakes in the drainage 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. 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"-16" fish, and tributaries full of spawners were common in the late 1800s and into the early 1900s.

Bull trout in Priest and Pend Oreille lakes fed on the whitefish, but did not obtain an unusually large size. Spawning runs of mountain whitefish were harvested in Priest Lake tributaries and also supported a significant commercial fishery on Pend Oreille Lake.

Introduction of exotics has played both a positive and negative role in shaping the fisheries of the Pend Oreille drainage. Lake Superior whitefish were introduced to Pend Oreille Lake in 1889. Eastern brook trout were widely distributed in the early 1900s and were successful in outcompeting and eventually replacing native cutthroat in some watersheds. Lake trout were introduced into Priest and Pend Oreille lakes in 1925, but provided little in the way of a sport fish in either system during the first half of the 20th century.

During the winter flood of 1933, kokanee became established in Pend Oreille Lake by moving naturally into the system from Flathead Lake in Montana. Kokanee had been stocked in Flathead Lake in 1916 from Lake Whatcom in Washington. Kokanee salmon

were transplanted from Pend Oreille Lake to Spirit Lake in 1937 and Priest Lake in the 1940s. Kokanee established themselves quickly in each of these lake systems, displacing native mountain whitefish in the open water habitat. In Pend Oreille Lake, kokanee supported a major sport fishery with historical harvests topping one million fish.

Kokanee also provided a new forage base for native and introduced fish predators. A significant trophy fishery for record class lake trout and bull trout developed in Priest Lake in the 1950s. In Pend Oreille Lake, 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. A world record 32 pound bull trout was taken from Pend Oreille Lake in 1949. Pend Oreille Lake has been widely recognized as a major trophy fishery producing dozens of rainbow in the 20+ pound range annually. The combined kokanee and trophy trout fishery in Pend Oreille Lake has made it one of the most important and unique fisheries in the United States.

The successful establishment of kokanee in Spirit Lake created what once was the most productive kokanee salmon fishery in Idaho, producing the most pounds of kokanee harvested per acre of lake. However, in the 1990s, the size of fish in the catch declined when periodic weak year classes were overharvested resulting in near elimination of the older fish, leaving the younger, but smaller fish. Weak year classes of kokanee may have been caused by loss of shoreline spawning habitat. Lower lake levels in recent history may be caused by "leaks" in this sealed bottom lake. Fishing regulations were modified in 2000 to reduce kokanee harvest and supplemental stocking of fry was initiated to enhance recruitment.

Mysis relicta, the opossum shrimp, were introduced to Priest and Pend Oreille lakes in the mid 1960s in an effort to enhance food for kokanee. That occurred on a limited basis and record sized kokanee were caught in Priest Lake during the early 1970s. More importantly, Mysis provided an excellent food source for lake trout, causing increased productivity and a population explosion. The kokanee population collapsed very rapidly in the late 1970s due to lake trout predation, and several years of stocking millions of hatchery fry were not successful at restoring the kokanee fishery. Lake trout now dominate the system and provide mainly a yield fishery for relatively small fish (17-22 inches), with an occasional trophy fish over 20 pounds. Lake trout in Pend Oreille Lake have not responded to the presence of Mysis as dramatically as in Priest Lake. 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.

Although the establishment of lake trout and brook trout created fisheries for new species, fisheries for native westslope cutthroat and bull trout were reduced or replaced. Lake trout pose the greatest risk to bull trout in the Priest Lake system through predation and competition. Upper Priest Lake is currently being managed as the last stronghold for

native fish in the Priest system, but lake trout are increasing in abundance. We have demonstrated that lake trout can be suppressed in Upper Priest Lake with intensive gill netting, but the abundant population of lake trout in Priest Lake is resulting in quick recolonization of Upper Priest Lake. Efforts to exclude lake trout movement through the Thorofare are being explored.

During this planning period, we will also examine the potential to shift management emphasis in Priest Lake from lake trout, to a more traditional fishery consisting of native cutthroat, bull trout and kokanee. Cutthroat and bull trout would provide catch-and-release fishing opportunity, but they could not replace the harvest opportunity that lake trout now provide. Production of wild cutthroat and bull trout for Priest Lake is much reduced from historic levels due to habitat degradation and the presence of brook trout in spawning and rearing streams. Kokanee provide the best alternative to replacing the existing lake trout harvest fishery in Priest Lake, while also being compatible with native fish management goals. Reestablishment of a kokanee fishery is not realistic during this planning period however. Lake trout would need to be significantly reduced and liberalized fishing regulations will be evaluated during this planning period. Commercial harvest may also be necessary to significantly reduce lake trout. Although a remnant kokanee population still persists in Priest Lake, significant numbers of kokanee fry would need to be stocked over a several year period to reestablish a fishery. However, there will be no surplus hatchery kokanee fry for Priest Lake until the danger of a kokanee collapse in Pend Oreille Lake has passed.

Lake trout have apparently increased in abundance in Pend Oreille Lake during the past decade 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). 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. Harvest regulations on lake trout were liberalized in 1992 to prevent an increase in lake trout similar to what Priest Lake experienced. In 2000, a year round season and no limit were implemented. Additional methods of lake trout suppression will be considered if lake trout numbers are not controlled by angler harvest.

Brook trout currently inhabit many tributary streams formally utilized for spawning and rearing by native cutthroat and bull trout. Brook trout/bull trout hybrids have become more numerous in the Priest Lake system in recent history. 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, to the greatest extent possible with available funding.

Historical overharvest, the impact of landuse practices such as logging, farming residential development and roading and the construction of hydroelectric dams have taken a toll on the fisheries as the Pend Oreille drainage has been settled and developed. Even by the 1950s, the annual harvest of both cutthroat and bull trout declined in Priest and Pend Oreille lakes. Restrictive regulations have been successful in restoring cutthroat populations if habitat is in good shape and competition and predation from introduced species is minimal. Despite restrictive regulations, the cumulative impacts of land use development and introduced species has reduced native cutthroat populations to a remnant of their former abundance in the rivers and lakes of the Pend Oreille drainage.

Bull trout are less resilient than cutthroat and much more susceptible to the impacts of habitat degradation than other species. In Priest Lake, bull trout have declined to very low levels and may be on the verge of demographic extinction. Bull trout still persist in Upper Priest Lake, but at very low levels. Poor habitat condition in many Priest Lake tributaries may be contributing to the abundance and wide spread distribution of brook trout.

The bull trout population in Pend Oreille Lake 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. The population has remained relatively stable the past 40 years, but deteriorating habitat conditions in the remaining accessible tributaries are placing the population at risk. The Lake Pend Oreille Bull Trout Conservation Plan, U. S. Fish and Wildlife Service Biological Opinion, and Federal Energy Regulatory Commission dam relicensing requirements will help focus restoration efforts. To reconnect bull trout populations 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.

The relicensing of Avista's (formerly Washington Water Power) Cabinet Gorge and Noxon dams on the Clark Fork River in 1999 provides the opportunity to mitigate for construction and inundation losses and ongoing operational impacts to Pend Oreille Lake and the Clark Fork River over the next 45 years. Similar mitigation efforts need to be made for Albeni Falls Dam. Mitigation efforts will be focused on habitat enhancement in the Clark Fork River and Pend Oreille tributaries, and on potential fish passage over Cabinet Gorge Dam. Minimum flows have already been increased from 3,000 cfs to 5,000 cfs in the Clark Fork River. Efforts are underway to enhance instream habitat by watering a one-mile side channel and adding structure to the river. Avista is also working to solve high dissolved gas levels during spill periods. Additional enforcement and educational efforts were also part of the Avista settlement to address intentional poaching of large spawning bull trout in streams, and angler misidentification in the lake fishery. Harvest of bull trout has been closed in the entire state of Idaho since 1996. The IDFG goal from all these efforts is to restore a viable harvest fishery for bull trout in the Pend Oreille system.

The kokanee population of Pend Oreille Lake has also declined dramatically from historic levels due to habitat related impacts. Historically, the adult population of around five million kokanee supported a sport and commercial fishery averaging one million fish. In recent history, adult kokanee populations and the fishery they support have been 20 percent or less of historical levels. 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 and the population was not impacted by the loss of tributary spawning habitat.

Albeni Falls Dam, constructed in 1952, 26 miles below the lake on the Pend Oreille River, modified the natural annual hydrograph to tame spring floods and produce electricity, but in the process eliminated 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 years to generate additional hydropower. This water management strategy has left the most productive spawning beds dewatered and the few remaining spawning areas sedimented in, reducing spawning success.

The kokanee population had declined to record low levels by 1997. Record high flows in the Clark Fork River that year and subsequent losses of kokanee from Pend Oreille Lake reduced the kokanee population even further. Predation by rainbow, lake trout and bull trout would likely collapse the kokanee population if drastic measures weren't taken. In 2000, the kokanee fishery was closed to increase spawning escapement and limits on rainbow and lake trout were liberalized to encourage harvest and reduce predation on younger kokanee. Only time will tell if this controversial attempt at preventing a kokanee collapse will be successful.

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.

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 supplementation with pure strain Gerrard rainbow from Kootenay Lake British Columbia may be utilized to infuse new genetic material into the Pend Oreille rainbow population. 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 Pend Oreille Lake rainbow achieve their trophy size from a combination of late maturity that is greatly influenced by genetics, and an abundant diet of kokanee.

The current 11.5 foot annual winter drawdown caused by Albeni Falls Dam inhibits establishing a viable sport fishery in the Pend Oreille River. Impoundment of the river has created a warm slack water reservoir from June though September and a cold flowing river from October though May. Over 40 years of artificially high water have also eliminated the natural vegetative cover along the shoreline, causing severe erosion and additional impacts to fish habitat. Habitat conditions are not suitable for the establishment of either a 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. A higher winter pool level would provide critical overwinter habitat for bass and other warmwater species. It is likely a productive warmwater fishery could be established, similar to the river below Albeni Falls Dam, with a change in water management.

The introduction of channel catfish, tiger muskie and bluegill sunfish has diversified the warmwater fishery in several lakes. Other warmwater game fish in the Pend Oreille drainage include largemouth and smallmouth bass, northern pike, black crappie, yellow perch, pumpkinseed sunfish and bullhead.

Thirteen mountain 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 fishable population of bull trout in Pend Oreille Lake.

Program: Implement management for bull trout that would allow limited harvest while protecting stocks.

Program: Once kokanee are restored, shift research emphasis to predator population dynamics and predator/prey interactions to quantify optimal predator/prey management strategies.

Program: Maintain maximum harvest opportunity on lake trout to keep their abundance low. Investigate other methods to remove lake trout if angler harvest cannot suppress lake trout.

Program: Remove brook trout from alpine lakes and tributary streams where their presence poses a risk to bull trout through hybridization, predation or competition.

Program: Publicize the extreme sensitivity of bull trout to habitat degradation. Provide direction to Avista funded habitat protection and enhancement efforts and implement Avista funded mitigation programs. Work to obtain special consideration, protection, and improvement of critical bull trout habitat in land use decisions. Work with the Forest Service, private developers and interested sportsmen's groups to make protection and rehabilitation of fisheries habitat a primary concern in land use decisions

Program: Monitor bull trout spawning escapement and success in Pend Oreille Lake tributaries. Focus available enforcement to reduce poaching losses. Publicize the unique characteristics of this population and their vulnerability to poaching. Work to influence public and court attitudes regarding poaching.

Program: Work with Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Kalispel Tribe, U.S. Forest Service and Corps of Engineers to evaluate creating fish passage at Albeni Falls Dam on the Pend Oreille River.

2. Objective: Restore a fishable population of bull trout in Upper Priest Lake.

Program: Determine the feasibility of excluding lake trout from moving through the Thorofare from Priest Lake into Upper Priest Lake. Implement and evaluate the most efficient and cost effective method.

Program: Suppress lake trout from Upper Priest Lake with intensive gill netting once lake trout are excluded from the Thorofare.

3. Objective: Examine the potential to shift management emphasis in Priest Lake from lake trout, to a more traditional fishery for native cutthroat and bull trout, and a yield fishery for kokanee. This change in management direction for Priest Lake, if it occurs, would not be fully implemented during this planning period.

Program: Significantly reduce lake trout with liberal harvest limits and other means.

Program: Conduct a comprehensive survey of tributary streams of Priest and Upper Priest lakes to identify the abundance and distribution of brook trout and other salmonids, and to evaluate the condition of spawning and rearing habitat.

Program: Remove brook trout from tributary streams where they pose a risk to cutthroat and bull trout to the greatest extent possible with available funding.

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

4. Objective: Improve westslope cutthroat trout fisheries on Pend Oreille and Priest lakes.

Program: Restrict harvest on Lake Pend Oreille if harvest is limiting population abundance.

Program: Improve habitat conditions and remove brook trout where long-term exclusion is feasible.

5. Objective: Restore kokanee populations in Pend Oreille Lake to a level that provides a sustainable sport fishery harvest of 750,000 fish and allows for the expansion of the trophy trout and char fishery.

Program: Work with the community, State and Federal legislators and Federal water management agencies to manage the winter pool level of Pend Oreille Lake in a way that will restore shoreline spawning areas for kokanee.

Program: Maintain harvest restrictions on kokanee until survival rates increase, the population increases to sustainable harvest levels, and the risk of a population collapse is eliminated.

Program: Continue to refine and implement management strategies for hatchery supplementation to maximize the survival of hatchery kokanee fry to adult. Evaluate artificial spawning areas.

6. Objective: Restore the trophy rainbow trout fishery of Pend Oreille Lake once kokanee populations are at a level to sustain additional predation.

Program: Modify fishing regulations to achieve trophy trout management goals established by the public.

Program: Enhance the genetic makeup of Pend Oreille Lake rainbow trout by obtaining pure strain Gerrard rainbow trout from Kootenay Lake British Columbia. Work with Montana to avoid introductions of other stocks of rainbow trout in the Clark Fork River reservoirs above Pend Oreille Lake.

7. Objective: Enhance the salmonid fishery of the Clark Fork River.

Program: Seek effective mitigation for the loss of 3 miles of high quality riverine habitat due to inundation caused by operation of the Corps of Engineers Albeni Falls Dam.

Program: Monitor fish population response to the new 5,000 cfs minimum flow. Recommend adjustments in flows if needed.

Program: Monitor Avista efforts to reduce dissolved gas levels in the Clark Fork River during spill periods to levels that are safe for fish.

Program: Work cooperatively with Avista, Montana Fish Wildlife and Parks and U.S. Fish and Wildlife Service to provide up and downstream fish passage at Cabinet Gorge Dam.

Program: Work with Bonner County and Idaho Department of Lands to limit riverbank development to maintain riparian and instream habitat complexity.

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: Discontinue put-and-take trout stocking in waters where a 40% or greater by number or 100% or greater by weight return to the creel cannot be met by the end of this planning period. Provide alternative fisheries to maintain angling opportunity.

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 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 muskies 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.

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.

12. Objective: Curtail illegal introductions of fish. Illegal introductions of exotic fishes 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. Through planning, use enforcement efforts to curtail illegal introductions.

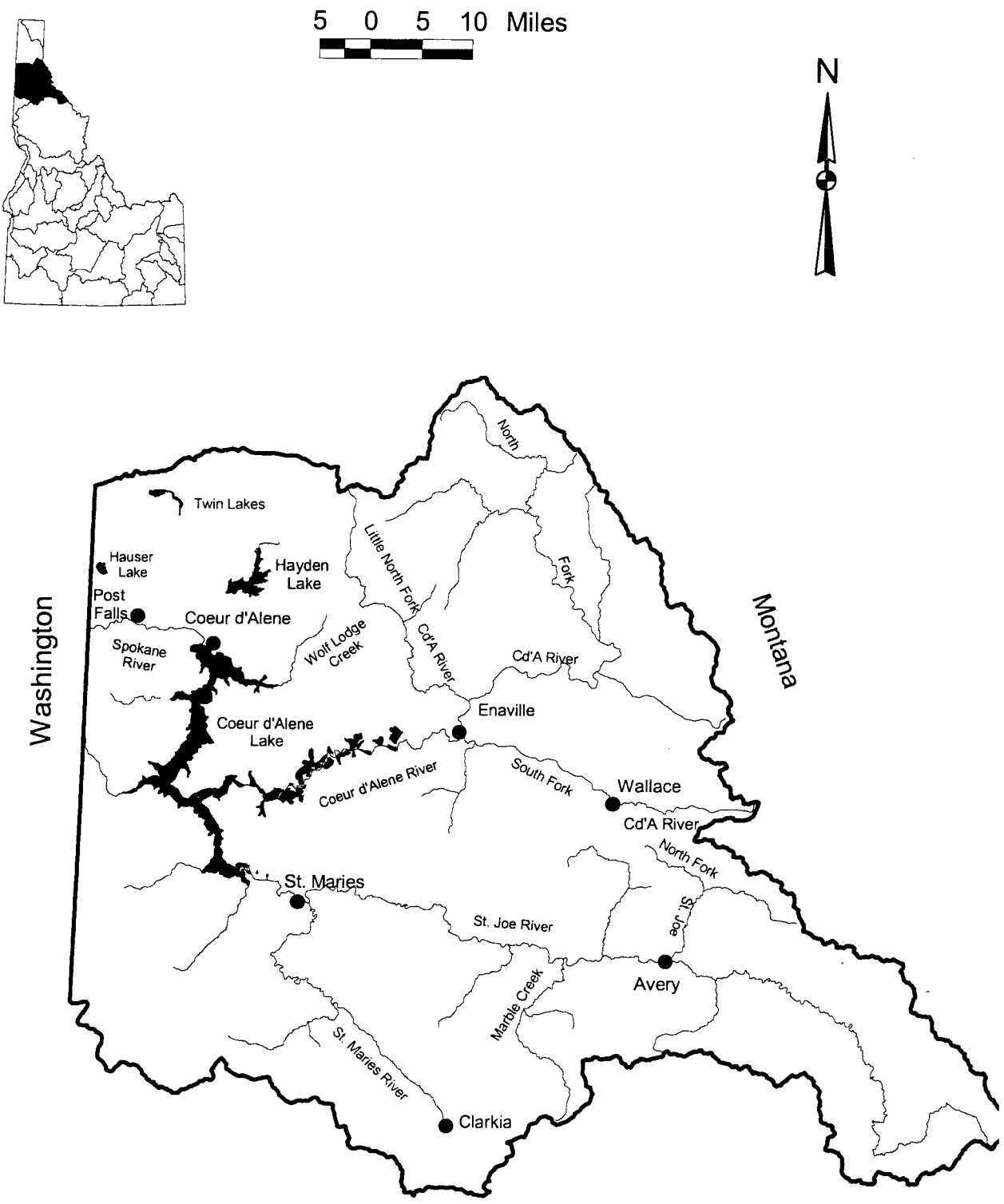
DRAINAGE: Pend Oreille River					
Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
Pend Oreille Lake and tributaries	200/85,960	Mixed	Rainbow trout	General/Trophy	Maintain liberal harvest opportunity on rainbow trout to keep their population at a low level until kokanee 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.
			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.
			Bull trout	Conservation/ Trophy	Maintain harvest closures in tributary streams and lake, 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. Investigate a limited harvest fishery on strong stocks of bull trout.
			Cutthroat trout	Quality/Wild	Evaluate if harvest is limiting cutthroat production and restrict harvest if necessary. Maintain restrictive regulations on selected 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.
			Lake trout Brook trout	General	Maintain maximum harvest opportunity in the lake and tributary streams to keep lake trout and brook trout at low levels. Investigate other methods of removing these species.
			Lake Superior whitefish Mountain whitefish Brown trout	General	Encourage increased utilization of Lake Superior whitefish to offset reduced limits on other species.
			Largemouth bass Smallmouth bass Northern pike Black crappie Yellow perch	General	Maintain existing warmwater fisheries where they will not interfere with salmonid management programs.
Clark Fork River and tributaries	11/	Coldwater	Bull trout Cutthroat trout Rainbow trout Kokanee	Conservation Quality/Wild General/Trophy Conservation	Same management direction for bull trout, cutthroat trout, rainbow trout and kokanee as in Pend Oreille Lake. 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.
			Brown trout Mountain whitefish	General	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 Brown trout Cutthroat trout Largemouth bass Smallmouth bass Black crappie Yellow perch Bluegill Pumpkinseed Bullhead	General	Modify water level management of Albeni Falls Dam to reduce impacts on fish habitat. Investigate other habitat enhancement measures, such as subimpoundments in selected bays to reduce habitat related impacts during drawdown years. Work with Washington Department of Fish and Wildlife, U.S. Fish and Wildlife Service, Kalispel 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 Brook trout Rainbow trout	General	Work with riparian landowners and angling groups to restore instream and riparian habitat and allow fishing access through private property.
Priest Lake and tributaries	100/23,360	Coldwater	Cutthroat trout Bull trout Kokanee Lake trout Brook trout	Conservation Conservation Conservation General General	Maintain wild cutthroat trout stocks by protecting adult fish in the lake with no harvest regulations. Provide a limited consumptive harvest of wild cutthroat trout in selected tributary streams by encouraging anglers to fish resident populations above barrier falls rather than adfluvial stocks that produce fish for the lake. Maintain harvest closures in lake and tributary streams. Conserve remnant kokanee population with harvest restrictions to provide stocks for rebuilding a kokanee fishery. Implement more liberal limits on lake trout to reduce impacts to native cutthroat trout and bull trout. Evaluate if lake trout can be suppressed with angler harvest alone, or if commercial harvest will be needed. Maintain consumptive fishery in tributaries to reduce brook trout abundance and offset harvest restrictions on adfluvial cutthroat trout streams.
Upper Priest Lake and tributaries	50/1,400	Coldwater	Cutthroat trout Bull trout Lake trout Brook trout Kokanee	Conservation Wild	Manage the lake with catch-and-release regulations to preserve remaining populations of adfluvial cutthroat trout and bull trout. Prevent lake trout from entering Upper Priest Lake by blocking their migration through the Thorofare. Suppress lake trout with periodic intensive gill netting if the Thorofare weir is successful. Remove brook trout from tributary streams where feasible.
Priest River and tributaries	120/	Coldwater	Cutthroat trout Brook trout Brown trout Mountain whitefish Bull trout	General Conservation	Encourage appropriate agencies to evaluate changes in water level management of Priest Lake to enhance fishery flows in Priest River. Direct anglers to Priest River tributaries to provide consumptive trout fishing opportunities for brook trout. Maintain harvest closure in river and tributary streams. Determine critical habitat.
Freeman Lake	/30	Mixed	Rainbow trout Tiger muskie Largemouth bass Black crappie Yellow perch Pumpkinseed Bullhead Channel catfish	Put-and-take trout Trophy General	Stock put-and-take rainbow trout to provide a spring, fall and winter trout fishery. Maintain tiger muskie stocking to provide a specialized trophy fishery. Enhance the diversity of the warmwater fishery with maintenance stocking of channel catfish.

Kelso, Little, Round, Granite lakes	/100	Mixed	Rainbow trout Largemouth bass Black crappie Yellow perch Bluegill Pumpkinseed Bullhead	Put-and-take trout Quality General	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. Provide a quality largemouth bass fishery for small lake anglers with a slot limit regulation.
Cocolalla, Round, Blanchard (Stoneridge Reservoir), Jewel lakes	/990	Mixed	Rainbow trout Cutthroat trout Brook trout Brown trout Largemouth bass Black crappie Yellow perch Bluegill Pumpkinseed Channel catfish Bullhead	Put-and take trout 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. Monitor the bluegill and perch population in Jewel Lake to see if additional warmwater predators will be needed to improve the warmwater fishery. 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 Rainbow trout Cutthroat trout Brook trout Largemouth bass Northern pike Black crappie Yellow perch Bluegill Pumpkinseed Bullhead	General	Maintain a kokanee fishery by supplemental stocking and restricting seasons and limits when necessary. Monitor kokanee population abundance to determine if kokanee management goals are being met. Provide a trout fishery by stocking fingerling cutthroat trout. Maintain the existing fishery for warmwater species.
Shepherd and Gamble lakes	/250	Warmwater	Tiger muskie Largemouth bass Black crappie Yellow perch Bluegill Pumpkinseed Bullhead	Trophy General	Maintain tiger muskie stocking in Shepherd Lake to provide a specialized trophy fishery.
Blue Lake	/120	Warmwater	Tiger muskie Largemouth bass Northern pike Black crappie Yellow perch Pumpkinseed Bullhead Channel catfish	Trophy General	Maintain tiger muskie stocking in Blue Lake to provide a specialized trophy fishery. Work with private landowners to ensure continued public access. Channel catfish will persist in Blue Lake during this planning period, but maintenance stocking was shifted to Freeman Lake to provide a better fishery.

Mirror Lake	/90	Coldwater	Rainbow trout Kokanee Cutthroat trout Brook trout	General	Maintain a consumptive trout only fishery by stocking fingerling rainbow trout and kokanee fry. Cutthroat and brook trout will persist during this planning period, but management will shift to rainbow and kokanee. Seek ways to enhance angler access.
Alpine Lakes (13 in the Pend Oreille River drainage)	/150	Coldwater	Cutthroat trout Rainbow trout Brook trout Golden trout 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



3. SPOKANE RIVER DRAINAGE

A. Overview

The Spokane River 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 feed 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 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 management to the Coeur d'Alene Tribe of the water and fishery resources within the 1873 reservation boundaries. This includes 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 and lake run cutthroat trout. Historically both the St. Joe and Coeur d'Alene rivers were regarded as among the finest trout streams in America. The upper St. Joe River has regained that status. Both Coeur d'Alene and Hayden lakes were noted for great numbers of large fish often ranging over 5 pounds.

Introduced game species include rainbow trout, kokanee, 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. A notable fishery for large wild rainbow and a few brown trout is present in the lower Spokane River. Largemouth bass are well established throughout the drainage's lakes. Historically, the area was noted for excellent bass fishing and more recently has seen a tremendous increase in bass fishing pressure. The Coeur d'Alene Lake system has become the focus of several major bass fishing tournaments.

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 excellent. Fishing pressure is contributing to low population densities. Attempts to increase northern pike population densities through angling restrictions and enhanced recruitment could result in poorer growth and increase predation on other desirable species such as adfluvial cutthroat trout and bass.

Kokanee have become the dominant species in Coeur d'Alene Lake and are still the most sought after game fish in the region. 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 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. Kokanee will be managed to maintain a yield fishery for 10-11 inch fish as adults. Chinook will be managed to provide a limited trophy fishery for fish in the three to 18 pound size range, rather than fewer, but larger (25+ pounds) fish. Stable population levels of kokanee and chinook salmon were impacted by large floods in 1996 and 1997. Chinook salmon are successfully reproducing in the system, but numbers have been controlled through removal of surplus redds (fish nests) in some years. Hatchery chinook are used 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.

Mining, logging and forest development, highway construction and other land use impacts have taken a major toll on the drainage fisheries. Heavy metal pollution, stream channelization and sedimentation and migration blocks have had an especially severe impact on cutthroat trout. Impoundment of Coeur d'Alene Lake by Post Falls Dam has flooded river sections that were formerly free flowing. Restoration of these trout fisheries or mitigation to replace what was lost will be an important consideration during the FERC relicensing of Post Falls Dam. Increased fishing pressure due to normal population expansion and improved access, and the introduction of competing species have also played an important role in the decline of cutthroat trout. Cutthroat trout stocks in the lake systems currently exist at a fraction of historic levels.

The Spokane system has over 800 miles of streams that are generally accessible to fish for spawning and rearing. The opportunity exists to rely heavily on extensive natural reproduction rather than expensive hatchery facilities to provide better fishing. In 1988, a comprehensive and complex set of regulations were developed to manage primarily for wild native cutthroat trout while still maintaining some limited harvest opportunity for cutthroat and stocked rainbow trout. These regulations were successful in reestablishing a world class fishery for cutthroat in the upper St. Joe River and improving fishing lower in the river. Similar regulations have had limited success in the Coeur d'Alene River drainage where habitat degradation is much worse. The regulations were modified in 2000 to significantly reduce complexity while still protecting and enhancing native cutthroat trout.

Attempts to maintain harvest opportunities for trout in some portion of the Spokane drainage have been met with limited success, however. The productivity of north Idaho waters is low, fish populations are easily over harvested and restrictive regulations are often necessary to allow suitable waters to be adequately stocked with naturally produced fish of desirable size. The demand for harvesting fish exceeds what the wild trout population can supply, so stocked hatchery rainbow trout have been used to supplement wild cutthroat trout production. Despite concentrating hatchery rainbow in limited stretches of river and advertising those areas, the statewide harvest goal of a 40 percent return by number is rarely met. Hatchery rainbow trout also create a source of competition and hybridization with wild cutthroat trout.

Stocking strategies were significantly changed during the last planning period to address concerns. Numbers of stocked fish were reduced by 50% in several areas while stocking in the remaining areas was discontinued. Stocking locations were compressed into the most heavily utilized areas with good road access. Only sterile rainbow trout are used for stocking. Catch out ponds are being built along traditional river fishing areas to replace harvest opportunity. Efforts to completely eliminate all rainbow stocking in rivers will only be achieved when anglers are willing to forgo liberal harvest regulations.

Eight mountain 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 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.

The lakes of the Spokane drainage have supported the bulk of the fisheries in recent years, 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 is likely to eliminate future fishery management options.

B. Objectives and Programs

1. Objective: Manage the Spokane River drainage for wild westslope cutthroat trout.

   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: Maintain or expand the catch-and-release areas to meet public demand.

   Program: Phase out stocking of put-and-take rainbow trout and develop catch out ponds adjacent to the river to replace lost harvest opportunity.

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 and others to insure mitigation of habitat loss or restoration of habitat whenever possible.

Program: Participate in the relicensing of the Avista owned Post Falls Dam to insure construction, inundation and operational impacts of the dam are properly mitigated.

3. 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.

4. 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: Discontinue put-and-take trout stocking in waters where a 40% or greater by number or 100% or greater by weight return to the creel cannot be met by the end of this planning period. Provide alternative fisheries to maintain angling opportunity.

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

5. 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 muskies 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.

6. Objective: Improve fishing and boating access.

   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.

7. Objective: Curtail illegal introductions of fish. Illegal introductions of exotic fishes 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. Through planning, use enforcement efforts to curtail illegal introductions.

DRAINAGE: Spokane River					
Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
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. Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. 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. Maintain the fishing closures on Wolf Lodge, Lake and Benewah creeks to provide maximum recruitment for the Coeur d'Alene Lake fishery.
			Bull trout	Conservation	Maintain harvest closure. Better define bull trout life history patterns in the lake.
			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 (20+ pound) fish. Maintain desired population levels with hatchery supplementation and control of wild chinook salmon recruitment.
			Kokanee Rainbow trout Brook trout	General	Manage the kokanee population at a level that provides a yield fishery for 10-11 inch adult fish and forage for chinook salmon.
			Largemouth bass Smallmouth bass Northern pike Black crappie Yellow perch Bluegill Pumpkinseed Bullhead Channel catfish	General	Maintain consumptive fisheries on warmwater species to provide yield fisheries while reducing potential predation and competition impacts on adfluvial cutthroat trout. Maintain northern pike population densities at low levels with liberal harvest regulations to maintain rapid growth rates while reducing predation on other species. Channel catfish may persist in the Coeur d'Alene Lake system during this planning period due to historic stocking of channel catfish in the lower St. Joe and St. Maries rivers, but there is no known natural reproduction occurring.
Hayden Lake And tributaries	20/3,756	Mixed	Rainbow trout Cutthroat trout Splake	Quality	Maintain a quality trout fishery with hatchery supplementation of rainbow and cutthroat fingerlings. Evaluate size and timing of fingerling releases to maximize survival. Evaluate stock differences between rainbow trout to determine what stock will best meet angler desires. Maintain tributary closures and a trout harvest season on the lake to maximize wild trout production. Evaluate growth and return to the creel of splake (lake trout/brook trout hybrid).
			Smallmouth bass Largemouth bass 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.
			Northern pike Yellow perch Pumpkinseed Bullhead	General	Encourage maximum harvest of northern pike to reduce impacts to other fish populations.

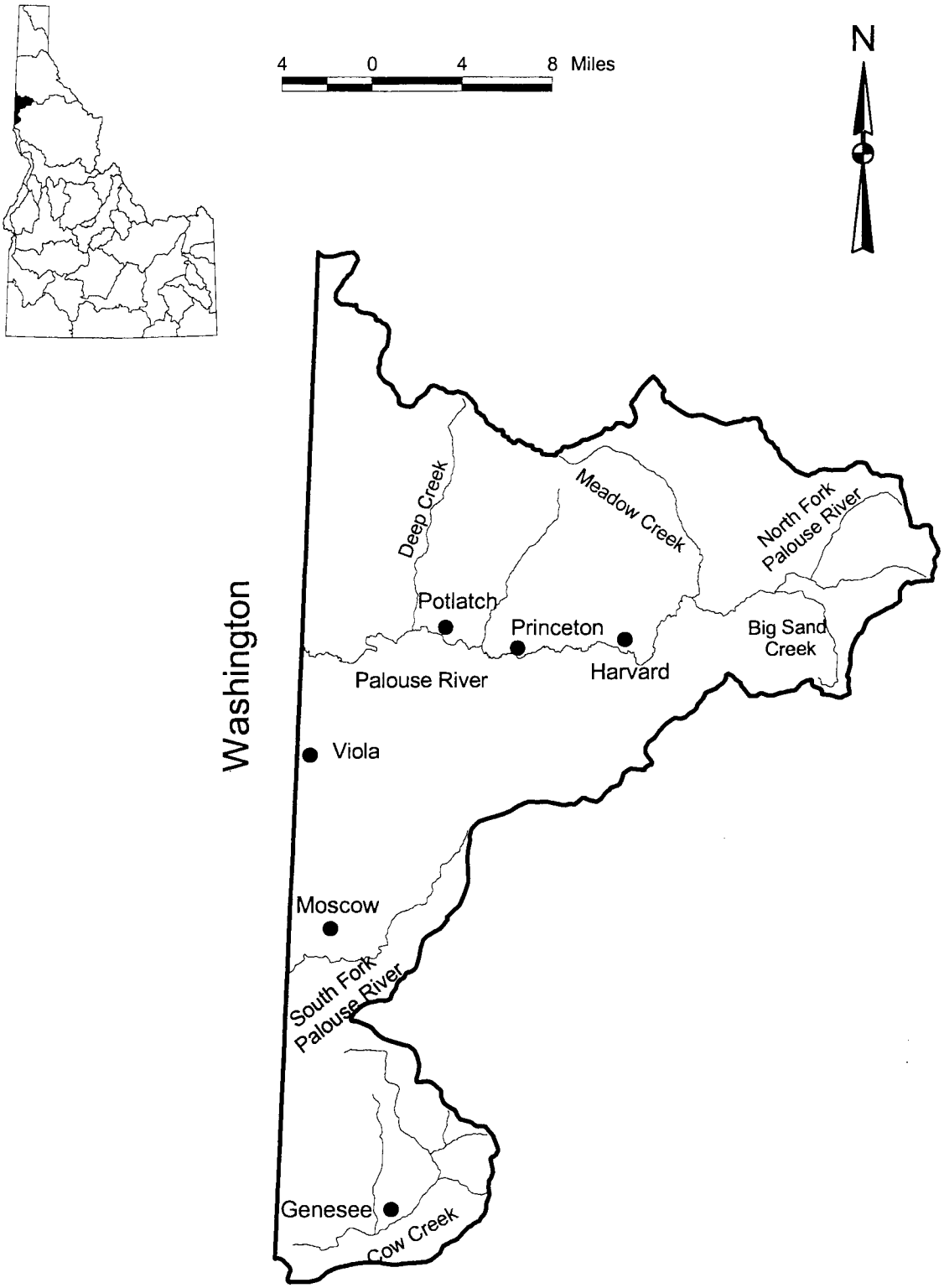
Upper and Lower Twin lakes	/850	Mixed	Rainbow trout Cutthroat trout Brook trout Largemouth bass Northern pike Black crappie Yellow perch Pumpkinseed Green sunfish Bullhead	Put-and-take trout General	Stock put-and-take rainbow trout and fingerling cutthroat trout to provide consumptive trout fishery. Limit rainbow trout stocking in Upper Twin Lake to early spring only while water temperature is suitable. Stock cutthroat fingerlings in Lower Twin Lake. Maintain harvest-oriented fisheries for warmwater species.
Fernan Lake	/300	Mixed	Rainbow trout Cutthroat trout Largemouth bass Northern pike Black crappie Yellow perch Pumpkinseed Bullhead Channel catfish	Put-and-take trout General General	Stock put-and-take rainbow trout and fingerling cutthroat trout to provide a consumptive trout fishery. Manage bass for the consumptive angler by allowing the harvest of any size bass. Enhance the diversity of the warmwater fishery in Fernan Lake with maintenance stocking of channel catfish.
Hauser Lake	/550	Mixed	Rainbow trout Cutthroat trout Tiger muskie Largemouth bass Northern pike Black crappie Yellow perch Pumpkinseed Green sunfish Bullhead Channel catfish	Put-and-take trout General Trophy General	Stock put-and-take rainbow trout and fingerling cutthroat trout to provide consumptive trout fishery. Maintain tiger muskie stocking to provide a specialized trophy fishery. Enhance the diversity of the warmwater fishery in Hauser Lake with maintenance stocking of channel catfish.
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 Northern pike Black crappie Yellow perch Bluegill Pumpkinseed Bullhead Channel catfish	Trophy/Quality/General General	Manage Blue Lake for trophy bass, Anderson Lake for quality bass, and maintain general bass regulations on the other lakes. 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. Enhance the diversity of the warmwater fishery by maintenance stocking of channel catfish in Rose Lake.
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 the effectiveness of the regulations 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	Put-and-take trout	Phase out or significantly reduce rainbow trout stocking during this planning period. Utilize only sterile rainbow trout to minimize impacts to native cutthroat trout. Concentrate rainbow trout stocking in specific locations that are well-advertised and easy for anglers to access to maximize catch rates. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.
			Brook trout Mountain whitefish Kokanee Chinook salmon	General	Maintain existing harvest fisheries on brook trout and 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+/	Coldwater	Cutthroat trout	Quality	Utilize a slot limit for westslope cutthroat trout that allows populations to increases while providing limited harvest opportunity.
			Brook trout	General	
Slackwater area of the Coeur d'Alene River	35/	Mixed	Cutthroat trout	Quality	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.
			Rainbow trout Brook trout Mountain whitefish Chinook salmon Largemouth bass Yellow perch Bullhead	General	
St. Joe River and tributaries above Avery	200+/	Coldwater	Cutthroat trout	Quality	Maintain catch-and-release regulations to maximize catch rates and fish size and recruit fish for harvest downstream from catch-and-release waters.
			Bull trout	Conservation	Investigate distribution, status, and critical habitat needs to better guide conservation efforts.

St. Joe River below Avery	90/	Coldwater	Cutthroat trout	Quality	Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Evaluate the effectiveness of the regulations at enhancing cutthroat trout populations and providing desired angling opportunities during this planning period.
			Bull trout	Conservation	Investigate distribution, status and critical habitat needs to better guide conservation efforts.
			Rainbow trout	Put-and-take trout	Phase out or significantly reduce rainbow trout stocking during this planning period. Utilize only sterile rainbow trout to minimize impacts to native cutthroat trout. Concentrate rainbow trout stocking in specific locations that are well-advertised and easy for anglers to access to maximize catch rates. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.
			Mountain whitefish	General	Maintain existing liberal harvest fisheries for mountain whitefish.
Tributaries of the St. Joe River below Avery	300+/	Coldwater	Cutthroat trout	Quality	Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity.
			Brook trout	General	
Slackwater area of St. Joe River	14/	Mixed	Cutthroat trout	Quality	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.
			Largemouth bass Black crappie Yellow perch Bullhead	General	
St. Maries River above slackwater	150/	Coldwater	Cutthroat trout	Quality	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.
			Bull trout	Conservation	Investigate distribution, status and critical habitat needs to better guide conservation efforts.
			Rainbow trout	Put-and-take trout	Phase out or significantly reduce rainbow trout stocking during this planning period. Utilize only sterile rainbow trout to minimize impacts to native cutthroat trout. Concentrate rainbow trout stocking in specific locations that are well-advertised and easy for anglers to access to maximize catch rates. Provide harvest opportunity for stocked rainbow trout in catch-out ponds located near traditional harvest areas.
			Brook trout Mountain whitefish	General	Maintain existing harvest fisheries for brook trout and mountain whitefish.
Tributaries of the St. Maries River	200+/	Coldwater	Cutthroat trout	Quality	Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity.
			Brook trout	General	Allow continued liberal harvest of brook trout.

Slackwater area of the St. Maries River	9/	Mixed	Cutthroat trout Largemouth bass Black crappie Yellow perch Bullhead	Quality General	Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. 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 Largemouth bass Northern pike Black crappie Yellow perch Pumpkinseed Bullhead	Quality General	Utilize a slot limit for westslope cutthroat trout that allows the population to increase while providing limited harvest opportunity. Evaluate the effectiveness of the regulations at enhancing cutthroat trout populations and providing desired angling opportunities during this planning period. Maintain consumptive harvest fishing opportunity for warmwater species.
Spokane River (Post Falls Dam downstream to stateline)	6/	Coldwater	Rainbow trout Brown trout	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.
Alpine Lakes (8 in the Spokane River drainage)	/140	Coldwater	Cutthroat trout Rainbow trout Brook trout Golden trout 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



4. 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.

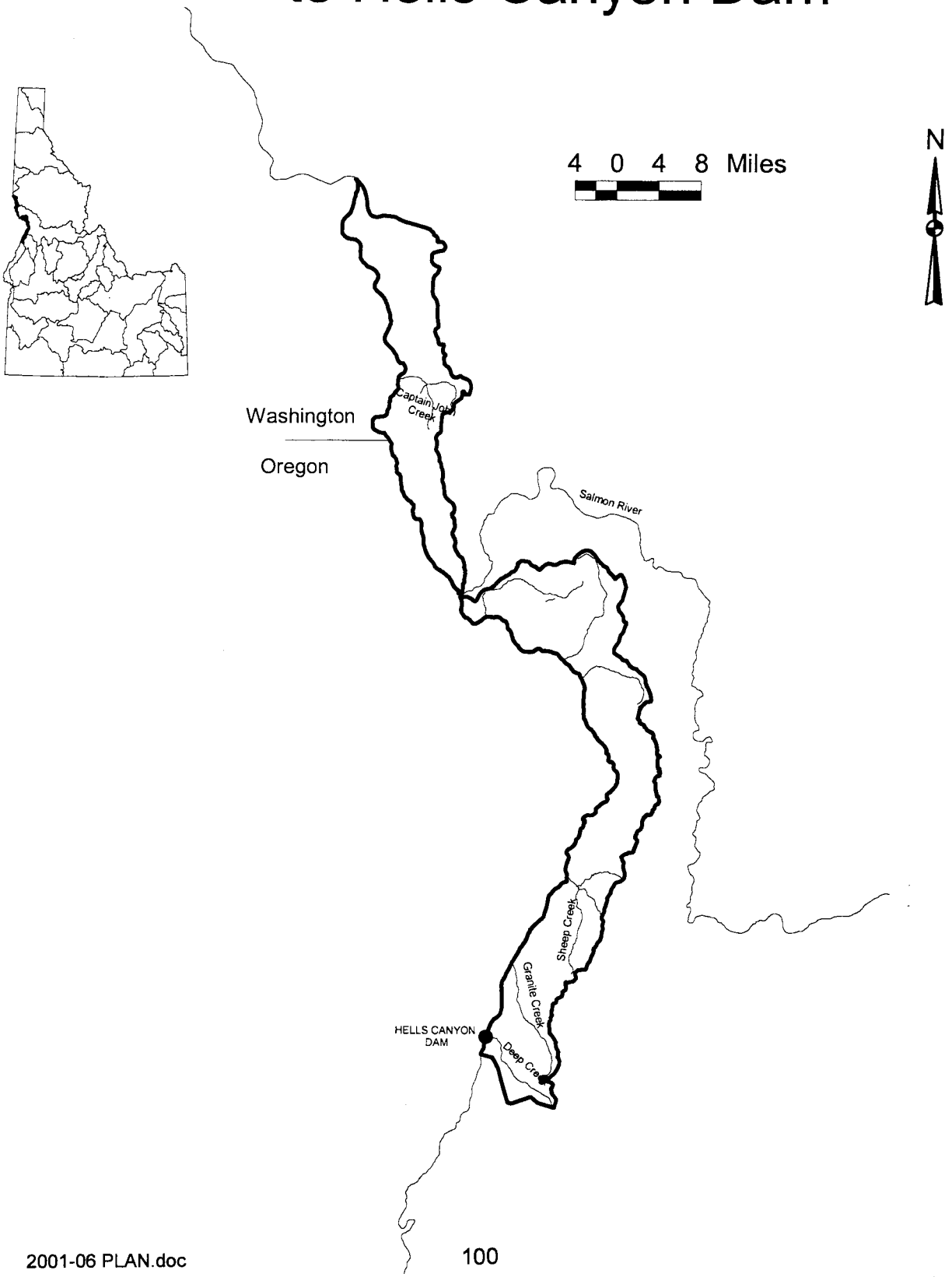
2. Objective: Increase fishing opportunities with small reservoirs.

   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 Brown trout Brook trout Largemouth bass Smallmouth bass	Put-and-take trout	Stock with catchable rainbow trout where returns to the creel can be maximized. Assess need for further warmwater fish enhancement in the drainage. Develop catchable trout ponds in reclaimed mining areas. Cooperative project w/USFS

Snake River Drainage

Idaho/Washington Border to Hells Canyon Dam



5. 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 3-4 feet below Hells Canyon Dam. Quality of water passing through the canyon has improved substantially since the creation of the upriver impoundments. The reservoirs act as settling basins that enhance water quality. 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.

The mainstem Snake River will continue to be managed for exploitation of hatchery steelhead 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 maintenance stocking. The present sturgeon fishery is nonconsumptive because of depressed populations. Sturgeon ranging to 11 feet have been caught in recent years.

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.

B. Objectives and Programs

1. Objective: Improve juvenile fish migration survival to lower Granite Dam.

   Program: Establish long-term total dissolved gas monitoring stations below Hells Canyon Dam. Collect data on anadromous and resident fish populations, including mortality and gas bubble incidence during periods of high gas levels and correlate with anadromous adult returns. Coordinate all activities with Idaho Power Company. Develop and work to obtain flow regimes in the Snake River that maximize survival of migrating juvenile and adult anadromous fish. Continue to develop smolt timing and relative abundance indices to aid control of flow augmentation and water storage management.

   Program: Document impacts of fluctuating water levels on fall chinook survival, spawning success, and ecology. Work with Idaho Power Company and federal regulatory agencies to minimize flow fluctuations from Hells Canyon Dam to enhance fall chinook survival.

2. Enhance game fish production below Hells Canyon Dam.

   Program: Document impacts of fluctuating water levels on game fish with emphasis on smallmouth bass and white sturgeon, survival, spawning success, and ecology. Work with Idaho Power Company and federal regulatory agencies to minimize flow fluctuations from Hells Canyon Dam to enhance resident game fish survival.

3. 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. Using acquired information, develop management plans.

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/ Washington border to Hells Canyon Dam	183/	Mixed/ Anadromous	Steelhead Chinook salmon	Anadromous	Manage minor tributaries for natural production of steelhead. Minimize impacts to naturally produced steelhead and spring chinook salmon. Maximize harvest of surplus hatchery steelhead. Provide sport-fishing opportunity upstream of the Salmon River for excess hatchery spring chinook salmon. Coordinate fall chinook salmon management with lower Snake River managers.
			Rainbow trout Smallmouth bass Channel catfish Mountain whitefish	General	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.
			Bull trout	Conservation	Closed to harvest.
			White sturgeon	Conservation	Closed to harvest. Continue population monitoring of white sturgeon. Evaluate effects of tribal harvest on population structure. Evaluate need for spawning closure. No hatchery supplementation.
Sheep and Granite Creeks		Mixed/ Anadromous	Steelhead Chinook salmon	Anadromous	Manage for natural production of steelhead.
			Rainbow trout	Wild Trout	Restrict harvest to minimize impacts to naturally-produced juvenile steelhead
			Bull trout	Conservation	Closed to harvest
Alpine lakes	/82	Coldwater	Rainbow trout Cutthroat trout Brook trout Arctic grayling Golden trout	General	Provide 1.0-fish/hour catch rates. Develop management strategies for each lake. Stock only those lakes that do not support natural reproduction. Substitute sterile rainbow trout in stocking program to reduce threat of genetic impacts on native fish. Improve fish population structure in stunted brook trout lakes through predator introduction or chemical rehabilitation.
			Bull trout	Conservation	Closed to Harvest

Clearwater River Drainage

6. 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 9,640 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 in 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. During this planning period, production of spring and fall chinook will begin at the Nez Perce Tribal Hatchery; construction was initiated in 2000. 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 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 resident rainbow trout and cutthroat trout, bull trout, mountain whitefish, kokanee, chinook salmon and steelhead trout. There are approximately 450 mountain lakes in the area, which support a mixture of hatchery-supported and naturally reproducing populations of trout. 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 important fisheries. 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.

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 kokanee fisheries.

   b. Yield fisheries on catchable and fingerling released trout.

c. Fishing (catch-and-release) for trophy-sized rainbow trout, cutthroat trout, and steelhead trout.

d. Yield and trophy fisheries for smallmouth and largemouth bass.

e. Yield fisheries for brook, cutthroat trout and rainbow trout in mountain lakes.

f. Opportunities to harvest hatchery steelhead trout, and hatchery chinook salmon and coho salmon when run size permits.

3. Objective: Develop strategies including a funding source to construct a new reservoir in the Clearwater drainage.

Program: Construct Deer Creek Reservoir near Headquarters, Idaho. Funding secured in 2000 to begin planning, with completion in 2003.

4. Objective: Increase fishing access.

Program: As opportunities allow, acquire additional fishing access sites.

5. Objective: Maintain existing natural spawning populations of chinook salmon and steelhead trout.

Program: Continue Idaho Supplementation studies to evaluate supplementation strategies.

Program: Work with the 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.

6. Objective: Support anadromous 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 other available storage (in Dworshak, Brownlee reservoirs) as necessary to achieve a flow objective of 100 kcfs at Lower Granite Dam during the spring migration period when migrants are present premised on shifts in flood control operations. Support managing existing flow augmentation volumes for summer migrants subordinate to flow augmentation operations during the spring migration period. Support use of Dworshak Reservoir flow later in the summer season to enhance juvenile fall chinook rearing and migration. Support use of Dworshak Reservoir flow to enhance adult steelhead return, when possible. Support flow 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 fishpond permittees to provide fisheries in farm ponds. Provide warm water fish for give-a-ways as lowland lake populations allow.

8. Objective: Manage mountain lakes within productivity and user preferences constraints of individual lakes.

   Program: Continue mountain lake investigations in cooperation with USFS to collect biological, physical and chemical characteristics of each lake. Use acquired information to develop management plans.

Drainage: CLEARWATER RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Winchester Lake	/100	Mixed	Rainbow trout Largemouth bass Yellow perch Crappie Bullhead Channel catfish Tiger muskie	Put-and-take trout General	Stock catchable and fingerling rainbow trout to maintain catch rate of 0.5 fish/hour. Support implementation of the enhancement plan for improving water quality and secure funding. Electric motors only water. Evaluate fish populations every three years. Yield fishery for perch, crappie and bullhead
Spring Valley Reservoir	/53	Mixed	Rainbow trout Largemouth bass Bluegill Tiger muskie	Put-and-take trout General	Stock catchable and fingerling rainbow trout to maintain catch rate of 0.5 fish/hour. Electric motors only water. Evaluate fish populations every three years.
Mann Lake	/145	Mixed	Rainbow trout Largemouth bass Black crappie Bluegill Channel catfish	Put-and-take trout General	Stock catchable and fingerling rainbow trout to maintain catch rate of 0.5 fish/hour. Electric motors only water. Evaluate fish populations every three years. Yield fishery for crappie
Waha Lake	/94	Mixed	Kokanee Smallmouth bass Rainbow trout Splake Yellow perch Crappie	General	Reinitiate mechanical aeration. Evaluate aeration plan for enhancing water quality. Evaluate fish populations every three years. Evaluate splake to develop a quality component to fishery.
Soldiers Meadow Reservoir	/101	Coldwater	Rainbow trout Kokanee	Put-and-take trout	Stock rainbow trout catchables and/or fingerlings as needed to maintain catch rate of 0.5 fish/hour. Evaluate fish populations every three years.
Moose Creek Reservoir	/50	Mixed	Largemouth bass Rainbow trout Bluegill Black crappie Pumpkinseed	Trophy bass Put-and-take trout General	Stock catchable rainbow trout to maintain catch rate of 0.5 fish/hour. Monitor largemouth bass population as a response to trophy regulation (2 over 20 inches). Electric motors only water. Evaluate fish populations every three years.
Elk Creek Reservoir	/81	Mixed	Rainbow trout Brook trout Smallmouth bass Largemouth bass	Put-and-take trout Quality bass	Stock catchable rainbow trout to maintain catch rate of 0.5 fish/hour. Limit harvest of brook trout in tributary to enhance fishery. Monitor success of quality bass regulation. Develop plan to manage algae problem.
Campbell's Pond	/7	Coldwater	Rainbow trout	Put-and-take trout	Stock catchable rainbow trout to maintain catch rate of 0.5 fish/hour.

Robinson's Pond	/2	Mixed	Rainbow trout Bullhead Pumpkinseed	Put-and-take trout	Stock catchable rainbow trout to maintain catch rate of 0.5 fish/hour. Consider draining for removing stunted bullheads and nongame species. Consider dredging to improve habitat.
Lewiston Levee ponds	/12	Coldwater	Rainbow trout	Put-and-take trout	Stock catchable rainbow trout as needed. Manage as juvenile and handicapped fishing.
Fish Lake (Cedars)	/117	Coldwater	Cutthroat trout Bull trout	General 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. Closed to harvest
Steep Lake	/8	Coldwater	Golden trout	Wild trout	Season opens August 1 to protect spawning golden trout. Harvest restriction.
Other alpine lakes	/4,300	Coldwater	Cutthroat trout Rainbow trout Brook trout Golden trout Arctic grayling Bull trout	General Conservation	Develop management strategies for each lake. Maintain catch rates of 0.5 to 1.0 fish/hour. Reduce or cease stocking of lakes with natural reproduction. Put-and-grow with salmonid fry to provide fishable populations in suitable lakes. Emphasize use of westslope cutthroat trout for stocking in lakes that drain into the Selway, Lochsa and North Fork of the Clearwater River. Determine public acceptance to stocking in wilderness lakes. Monitor management changes. Closed to harvest.
White Sands Pond	/3	Coldwater	Rainbow trout	Put-and-take trout	Stock catchable rainbow trout to provide additional fishing opportunity in the Powell area.
Clearwater River from mouth to South Fork Clearwater River	75/	Mixed/ Anadromous	Steelhead Chinook salmon Rainbow trout Cutthroat trout Mountain whitefish Kokanee Smallmouth bass Bull trout	Anadromous General Conservation	Maximize harvest of surplus hatchery steelhead and chinook salmon. Maintain diversity of steelhead angling opportunity with catch-and-release regulations and no motors waters. Work with Nez Perce Tribe to ensure fall chinook enhancement is compatible with existing fishery programs. 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. Closed to harvest
Potlatch River	55/	Mixed/ Anadromous	Steelhead Rainbow trout Brook trout Smallmouth bass	Anadromous General	Improve habitat quality. Closed to adult harvest. Stock sterile catchable rainbow trout where returns are adequate. Maintain warmwater fishery.
East Fork Potlatch River		Coldwater / Anadromous	Steelhead Brook trout	Wild Trout	Conserve juvenile steelhead through harvest restriction. Improve habitat quality. Closed to adult harvest. Promote reduction of brook trout population through liberal harvest regulations.

Other Potlatch River tributaries		Coldwater / Anadromous	Steelhead Brook trout	Anadromous General	Improve habitat quality. Closed to adult harvest. Promote reduction of brook trout population through liberal harvest regulations.
Lolo Creek and tributaries	86/	Coldwater/ Anadromous	Steelhead Chinook salmon Rainbow trout Cutthroat trout Mountain whitefish Brook trout	Anadromous General	Work with Nez Perce Tribe in restoring anadromous fish populations. Closed to adult harvest. Promote reduction of brook trout population through liberal harvest regulations. Improve habitat quality.
Other mainstem Clearwater River tributaries	283/	Coldwater/ Anadromous	Steelhead Rainbow trout Mountain whitefish Brook trout Bull trout	Anadromous Put-and-take trout Conservation	Improve habitat quality. Closed to adult harvest. Maintain or improve present habitat. Stock catchable rainbow trout in some tributaries to maintain catch rate of 0.5 fish/hour and adequate returns to the creel. Closed to harvest.
Middle Fork Clearwater River (from South Fork to Selway-Lochsa confluence)	23/	Coldwater/ Anadromous	Steelhead Chinook salmon Rainbow trout Cutthroat trout Mountain whitefish Bull trout	Anadromous General Conservation	Continue harvest opportunity for hatchery steelhead up to mouth of Clear Creek. Provide harvest opportunity for surplus hatchery spring chinook salmon. Promote mountain whitefish fishery. Closed to harvest.
Clear Creek and tributaries	65/	Coldwater/ Anadromous	Chinook salmon Steelhead Rainbow trout Cutthroat trout Bull trout	Anadromous General Conservation	Develop guidelines to start releasing chinook salmon and steelhead adults above the Clear Creek weir for natural production. Closed to adult harvest. Maintain or improve habitat. Reestablish riparian vegetation to reduce water temperatures. Closed to harvest.
Other Middle Fork tributaries	32/	Coldwater/ Anadromous	Steelhead Rainbow trout Cutthroat trout Brook trout Bull trout	Anadromous General Conservation	Maintain or improve present habitat for providing wild production at optimum potential. Closed to adult harvest. Reduce brook trout populations through liberal harvest regulations. Closed to harvest.

Drainage: NORTH FORK CLEARWATER RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
North Fork from mouth to Dworshak Dam	1.4/	Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Maximize returns of hatchery steelhead and spring chinook to anglers.
			Rainbow trout Mountain whitefish 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)	41/15,440	Mixed	Bull trout	Conservation	Closed to harvest.
			Kokanee Rainbow trout Cutthroat trout Smallmouth bass	General	Maintain a kokanee population that will provide a 10-inch fish at a catch rate of 0.7 fish/hour. Stock sterile catchable rainbow trout at boat ramps in lower end of reservoir. Enhance smallmouth bass fishery through regulation.
Dworshak Reservoir (Grandad Bridge to end of slack water)	12/1,650	Mixed	Cutthroat trout	Wild trout	Fishing season and trout limit restricted to protect cutthroat trout population.
			Kokanee Rainbow trout Smallmouth bass	General	Maintain a kokanee population that will provide a 12-inch fish at a catch rate of 0.7 fish/hour. Enhance smallmouth bass fishery through regulations.
			Bull trout	Conservation	Closed to harvest.
Little North Fork Clearwater River and tributaries from mouth to Foehl Creek	61/	Coldwater	Bull trout	Conservation	Closed to harvest.
			Rainbow trout	Wild trout	Trout limit is restricted.
			Kokanee Mountain whitefish Smallmouth bass	General	Enhance smallmouth bass fishery through regulation. Restrict season to general trout season.
Little North Fork Clearwater River and tributaries above and including Foehl Creek	56/	Coldwater	Rainbow trout Cutthroat trout	Wild trout	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		
			Bull trout	Conservation	Closed to harvest.
Alpine lakes (15 in Little North Fork Clearwater River drainage)	/150	Coldwater	Cutthroat trout Rainbow trout Brook trout Golden trout 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	Bull trout Cutthroat trout Rainbow trout Mountain whitefish Brook trout	Conservation Quality trout General	Closed to harvest. Develop population monitoring techniques Restrict harvest of cutthroat trout. Use only sterile rainbow trout for stocking in Dworshak Reservoir. No trout stocking in flowing water. Conduct intensive survey and angler census. Encourage winter mountain whitefish fishery. Encourage harvest of brook trout.
Tributaries EXCEPT Kelly Creek		Coldwater	Cutthroat trout Bull trout	Wild Trout Conservation	Restrict harvest of cutthroat trout. No trout stocking in running water. Closed to harvest. Develop population-monitoring techniques.
Kelly Creek and tributaries	119/	Coldwater	Bull trout Brook trout Cutthroat trout Rainbow trout Mountain whitefish	Conservation General Quality trout	Closed to harvest. Develop population-monitoring techniques. Encourage harvest of brook trout. Quality wild trout water managed as catch-and-release. Maintain or improve present habitat. No trout stocking in flowing water.
Alpine lakes		Coldwater	Cutthroat trout Rainbow trout Brook trout	General	Continue maintenance stocking of trout fry in selected lakes to provide fisheries that are consistent with lake productivity and angling pressure. Emphasize westslope cutthroat trout for stocking. Continue lake surveys to determine user preferences and lake productivity.

Drainage: SOUTH FORK CLEARWATER RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
South Fork Clearwater River	65/	Mixed/ Anadromous	Steelhead Chinook salmon	Anadromous	Continue harvest opportunity for hatchery steelhead and up to mouth of Clear Creek. Provide harvest opportunity for surplus hatchery spring chinook salmon. Encourage summer fishery on residual steelhead smolts. Work with Nez Perce Tribe to pursue fall chinook introduction compatible with existing fishery programs.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Mountain whitefish Rainbow trout Cutthroat trout	General	Winter fishery to harvest mountain whitefish population. Work with USFS to improve habitat. Evaluate management options to enhance cutthroat trout populations. Conduct study to assess Pacific lamprey population.
Ten Mile Creek and tributaries	20/	Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Maintain or improve present habitat. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Cutthroat trout	Wild trout	Manage for wild trout. Restrict harvest.
			Mountain whitefish		
Johns Creek		Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with USFS to maintain habitat. Closed to adult harvest.
			Cutthroat trout Rainbow trout	Wild trout	Restrict harvest.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.

Newsome Creek and tributaries	164/	Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with Nez Perce Tribe in restoring anadromous fish populations. Maintain or improve habitat. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Cutthroat trout Mountain whitefish	General	Maintain or improve habitat.
Red River and tributaries		Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with USFS to improve habitat. Complete steelhead supplementation evaluation. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Cutthroat trout Rainbow trout Brook trout	General	Work with USFS to improve habitat. Encourage brook trout harvest. Assess Pacific lamprey population status.
American River and tributaries		Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with USFS and BLM to improve habitat. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest.
			Cutthroat trout Rainbow trout	General	Work with USFS to improve habitat.
Crooked River and tributaries		Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with USFS to improve habitat. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Cutthroat trout Rainbow trout	Wild trout	Restrict trout harvest.
Karolyn's Pond	1/	Coldwater	Rainbow trout	General	Rainbow trout put-and-take fishery.
Other South Fork Clearwater River tributaries	114/	Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Work with USFS to improve habitat. Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest.
			Cutthroat trout Rainbow trout	General	Work with USFS to improve habitat. Maintain or improve present habitat.
Alpine lakes		Coldwater	Cutthroat trout Rainbow trout Brook Trout	General	Continue maintenance stocking of trout fry in selected lakes to provide fisheries that are consistent with lake productivity and angling pressure. Emphasize westslope cutthroat trout for stocking. Continue lake surveys to determine user preferences and lake productivity.

Drainage: LOCHSA RIVER

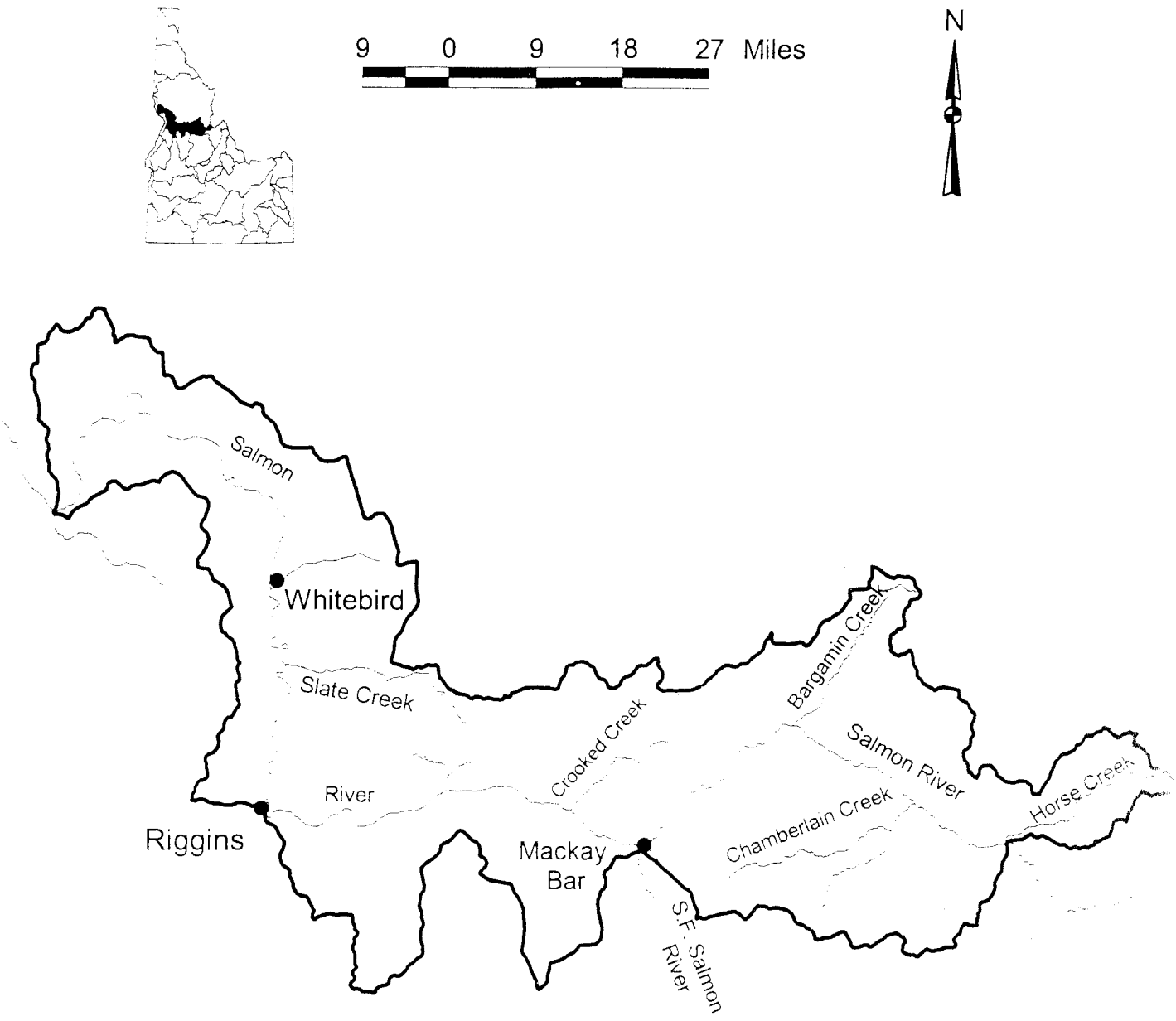
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Mainstem Lochsa River from mouth to Wilderness Gateway Bridge (MP 123)	217/	Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation Anadromous	Maintenance of native/natural gene pool. Closed to adult harvest. Provide opportunity to harvest surplus hatchery spring chinook. Protect juvenile anadromous fish with minimum size regulation.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Cutthroat trout Rainbow trout	Quality	Restrict harvest of trout. No trout stocking in flowing water.
			Mountain whitefish		Winter mountain whitefish fishery.
Lochsa River tributaries below Wilderness Gateway Bridge, including Fish Creek	261/	Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation	Maintain or improve present habitat. Protect critical steelhead habitat in Fish Creek watershed. Protect juvenile anadromous fish with delayed opening date and reduced bag limits.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Rainbow trout Cutthroat trout	Wild trout	Restrict trout harvest. July 1 fishing opener. No trout stocking in flowing water.
			Mountain whitefish		
Wilderness Gateway Bridge to Crooked Fork Creek/White Sand Creek confluence and Crooked Fork Creek from mouth to Brushy Fork Creek	44/	Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation Anadromous	Develop harvest strategy to utilize surplus Powell Pond hatchery chinook salmon. Protect juvenile anadromous fish with catch-and-release regulation.
			Cutthroat trout Rainbow trout	Quality	Quality wild trout water managed as catch-and-release. Maintain or improve present habitat. No trout stocking in flowing water.
			Mountain whitefish		
			Bull trout	Conservation	Closed to harvest.
Lochsa River tributaries above Wilderness Gateway Bridge, including Crooked Fork Creek above Brushy Fork Creek		Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation	Protect and maintain habitat.
			Bull trout	Conservation	Closed to harvest. Develop population-monitoring techniques.
			Cutthroat trout Rainbow trout	Quality	Quality wild trout water managed as catch-and-release. Maintain or improve present habitat. July 1 opener. No trout stocking in flowing water.
			Mountain whitefish		
Alpine lakes		Coldwater	Cutthroat trout Rainbow trout	General	Continue maintenance stocking of trout fry in selected lakes to provide fisheries that are consistent with lake productivity and angling pressure. Emphasize westslope cutthroat trout for stocking. Continue lake surveys to determine user preferences and lake productivity.

Drainage: SELWAY RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Selway River and tributaries from mouth to Meadow Creek Bridge	20/	Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation	Maintain native wild steelhead gene pool and do not release hatchery steelhead. 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.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Cutthroat trout	Quality	Restrict trout harvest. No trout stocking in flowing water.
			Mountain whitefish		
Tributaries below Selway Falls		Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation	Protect and improve habitat. Protect juvenile anadromous fish with delayed opening date and reduced bag limits.
			Bull trout	Conservation	Closed to harvest.
			Cutthroat trout Rainbow trout	Wild trout	Restrict trout harvest. July 1 fishing opener. No trout stocking in flowing water.
Selway River from Selway Falls Bridge upstream	71/	Coldwater/ Anadromous	Steelhead	Conservation	Maintain native steelhead gene pool. No hatchery stocking. Protect juvenile anadromous fish with catch-and-release regulation.
			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.
			Bull trout	Conservation	Closed to harvest.
			Cutthroat trout Rainbow trout	Quality	Manage as catch-and-release trout fishery. No trout stocking in flowing water.
			Mountain whitefish		

Selway River tributaries above Meadow Creek Bridge		Coldwater/ Anadromous	Steelhead Chinook salmon Bull trout	Conservation 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. 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. Closed to harvest. Develop population-monitoring techniques.
Fenn Pond		Coldwater	Rainbow trout	General	Rainbow trout put-and-take fishery.
Alpine lakes		Coldwater	Cutthroat trout Rainbow trout Brook trout	General	Continue maintenance stocking of trout fry in selected lakes to provide fisheries that are consistent with lake productivity and angling pressure. Emphasize westslope cutthroat trout for stocking. Continue lake surveys to determine user preferences and lake productivity.

Salmon River Drainage
Mouth to Horse Creek



7. 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 and steelhead fishing. There is also fishing opportunity for rainbow 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. 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 fishing outfitter services occur 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. 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 steelhead 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.

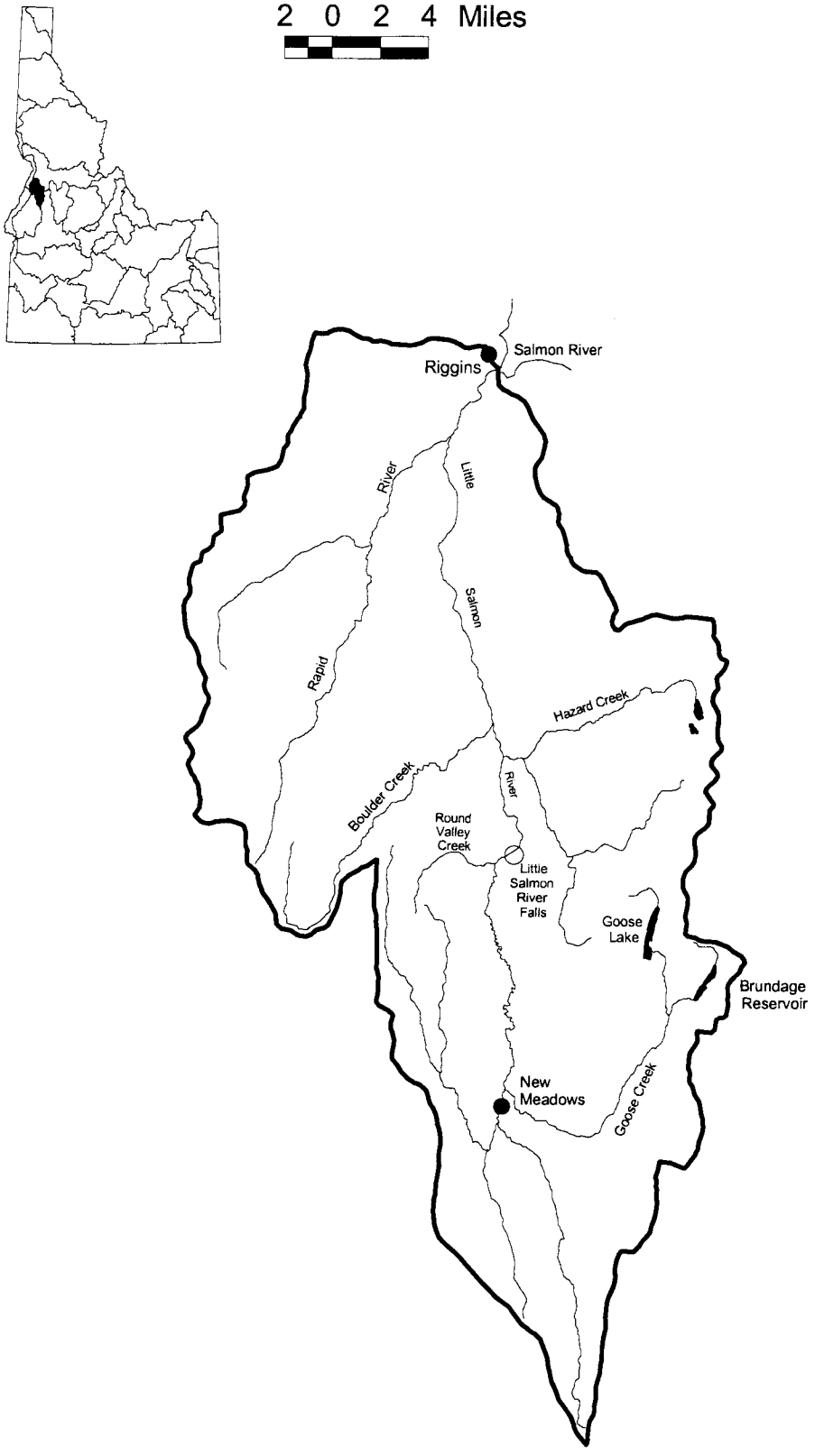
Program: Continue mountain lakes investigations in cooperation with USFS to collect biological, physical and chemical characteristics of each lake. Use acquired information to develop management plans.

Drainage: SALMON RIVER - MOUTH TO HORSE CREEK

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
From mouth to Little Salmon River, including tributaries (except Little Salmon River)	365/	Mixed/ Anadromous	Steelhead	Anadromous	Enhance steelhead fishing opportunity with 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	Wild trout	Closed to harvest in mainstem, restrict harvest in tributaries.
			Rainbow trout Mountain whitefish 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.
Slate Creek	60/	Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Closed to adult harvest Work with USFS to protect and improve habitat. Manage for natural production of steelhead and chinook salmon.
			Rainbow trout Cutthroat trout	Wild trout	Restrict trout harvest. Work with USFS to provide public fishing pond for hatchery trout.
			Bull trout	Conservation	Closed to harvest.
White Bird Creek		Coldwater/ Anadromous	Steelhead Chinook salmon	Anadromous	Closed to adult harvest. Work with USFS to protect and improve habitat.
			Rainbow trout	Wild trout	Restrict trout harvest.
Tolo Lake	/20	Warmwater	Largemouth bass Crappie	General	No motors water.
Grangeville Pond	/5	Coldwater	Brook trout	General	Develop public access to the pond.

From Little Salmon River to Horse Creek	366/	Mixed/ Anadromous	Chinook salmon Steelhead	Anadromous	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.
			Bull trout Cutthroat trout	Conservation	Closed to harvest. Evaluate population status of cutthroat trout.
			Rainbow trout Mountain whitefish	Wild trout	Maintain or improve present habitat quality. Develop regulations to enhance fishery in the long term.
			Sturgeon	Conservation	Maintain sturgeon fishery as nonconsumptive.
			Brook trout Smallmouth bass	General	
Tributaries from Little Salmon River to Horse Creek		Coldwater/ Anadromous	Steelhead Chinook salmon	Conservation	Closed to adult harvest.
			Bull trout	Conservation	Closed to harvest.
			Cutthroat trout Rainbow trout	Wild trout	Restrict harvest of trout.
			Brook trout Mountain whitefish	General	
Alpine lakes	/500	Coldwater	Rainbow trout Cutthroat trout Brook trout Arctic grayling Golden trout Rainbow trout x cutthroat trout hybrids	General	Develop management strategies for each lake based on management objectives, productivity and user preferences.
			Bulltrout	Conservation	Closed to harvest.

Little Salmon River Drainage



8. LITTLE SALMON RIVER DRAINAGE

A. Overview

The Little Salmon River heads 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, rainbow trout, cutthroat trout, bull trout, brook trout, mountain whitefish, and nongame species. 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 plants are 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.

The cascades passage barrier in the Little Salmon River at river mile 21 has been considered for removal in the Northwest Power Planning Council's Fish and Wildlife Program. However, because of the current emphasis on improving mainstem Snake and Columbia migrant survival rates in underseeded habitats, and the need to improve water and riparian quality above the barrier, its removal will again not be accomplished during this five-year period. We will seek public input regarding anadromous and resident fish potentials and preference.

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. Continue to ad-clip hatchery chinook and steelhead and harvest only marked fish. 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 to participate in state and federal programs to improve grazing, irrigation, and farming practices to improve riparian condition and water quality.

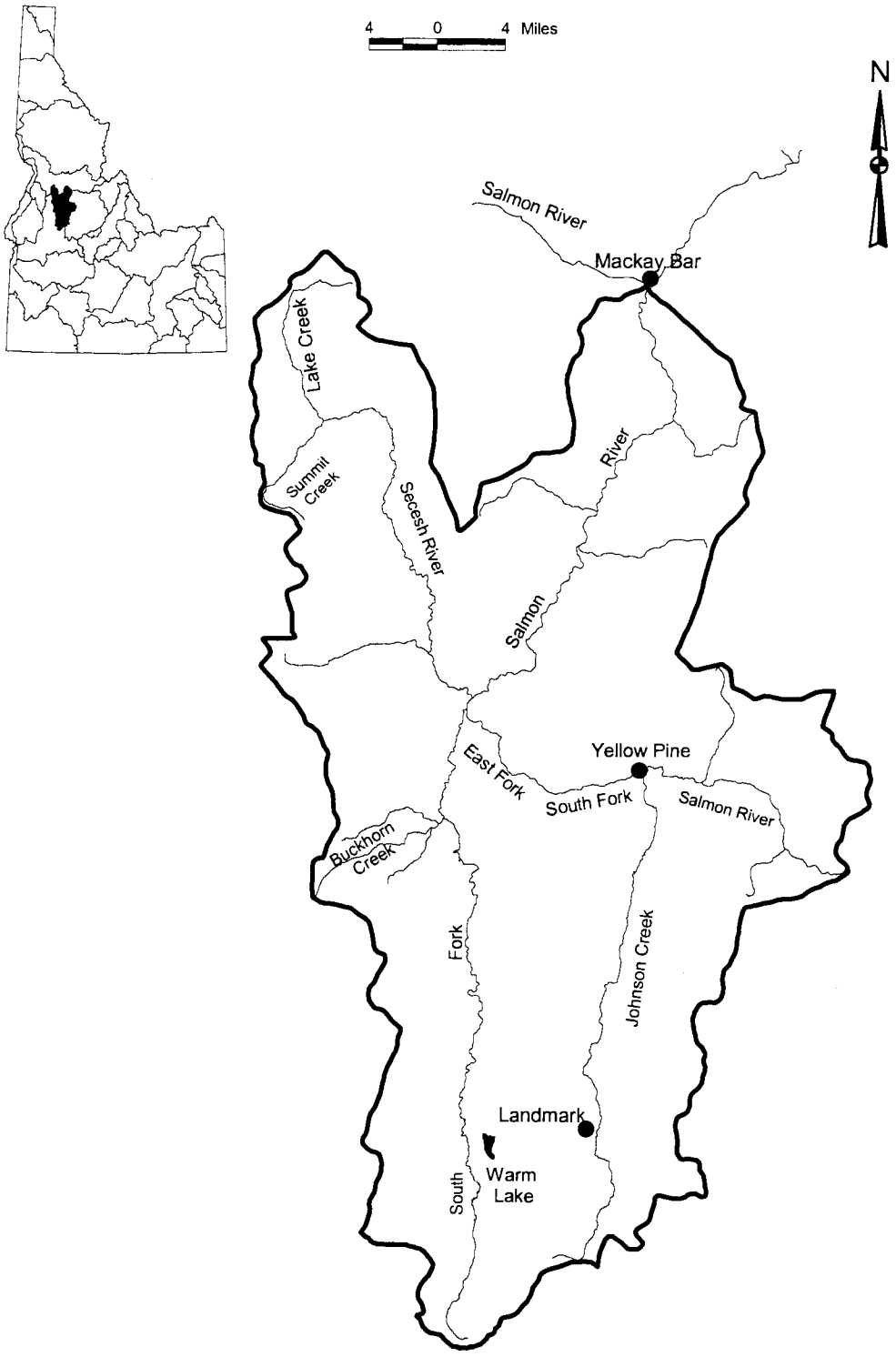
Drainage: LITTLE SALMON RIVER

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/ Anadromous	Chinook salmon 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.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Brook trout Cutthroat trout Mountain whitefish	General	Enhance populations of wild trout by improving water quality throughout the drainage. Provide put-and-take trout fishery on residualized steelhead smolts and limited plants at campgrounds.
Rapid River and tributaries from mouth to headwaters	35/	Coldwater/ Anadromous	Chinook salmon 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 population and life history.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Mountain whitefish	Wild trout	Maintain and improve existing habitat to sustain/enhance wild salmonid stocks.
Little Salmon River and tributaries from Round Valley Creek to headwaters	89/	Coldwater	Rainbow trout Cutthroat trout Brook trout	Wild trout	Pursue aggressive program of habitat rehabilitation with landowners and federal/state agencies. Improve water quality and riparian vegetation throughout this river section. Seek public input regarding desired fishing opportunity.
			Bull trout	Conservation	Closed to harvest.
Fish (Mud) Lake	/30	Coldwater	Cutthroat trout	Wild trout	Eliminate use for broodstock rearing and egg-taking
Brundage Reservoir	/270	Coldwater	Rainbow trout 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 Brook trout Cutthroat trout	General	Experiment with specific rainbow trout and cutthroat trout strains to improve fishery. Supplement with catchable trout.
Hazard Lake	/90	Coldwater	Brook trout Rainbow trout Cutthroat trout Rainbow trout x cutthroat trout hybrids Bull trout	General Conservation	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. Closed to harvest.
Lake Serene	/10	Coldwater	Brook Trout Rainbow trout	Trophy	Maintain trophy fishing opportunity.
Other alpine lakes (42)	/1,000	Coldwater	Rainbow trout Cutthroat trout Golden trout Brook trout Arctic grayling Bull trout	General Conservation	Maintenance stocking on a three-year rotational basis with salmonid fingerlings to provide species diversity. Collect baseline data on lakes in cooperation with USFS to improve fishing. Seek ways to rehabilitate or improve stunted brook trout lakes. Closed to harvest.

Salmon River Drainage

South Fork



9. 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 rainbow trout, cutthroat trout, bull trout, mountain whitefish, brook trout, lake trout, kokanee, 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 East Fork 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 number of adult salmon return to the trapping facility, located in the upper river. In 1997 and 2000

surplus hatchery-origin adult summer chinook salmon returned to the SFSR, exceeding needs for hatchery production. A sport fishing season was opened in both years to harvest these excess hatchery fish, and therefore limit their spawning with wild/natural salmon. Chinook supplementation research in the upper river (Stolle Meadows) has been ongoing since 1992 to evaluate supplementation activities. The goal supplementation is to preserve to the native gene pool and improve productivity of the hatchery-augmented natural population. Outplant of hatchery summer chinook adults did occur in 1997 and 2000 with an objective to recycle surplus fish through sport and tribal fisheries to increase harvest opportunity. In 2000, surplus hatchery salmon were also 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. No hatchery-origin anadromous juvenile or adult fish have been planted in the Secesh River 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 wild, 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 Direction
		Type	Species Present	Management	
South Fork, entire drainage		Coldwater Anadromous	Chinook salmon 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.
		Resident	Redband trout Cutthroat trout	Conservation	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.
			Mountain whitefish Brook trout	General	
			Bull trout	Conservation	Closed to harvest.
South Fork from mouth to Secesh River, including tributaries	162/	Coldwater/ Anadromous	Chinook salmon Steelhead	Conservation	Promote enhancement and maintenance of overwinter habitat migration corridor, and access to tributaries for spawning and rearing.
		Resident	Redband trout Cutthroat trout	Conservation	Catch and release.
			Mountain whitefish Brook trout	General	
			Bull trout	Conservation	Closed to harvest.

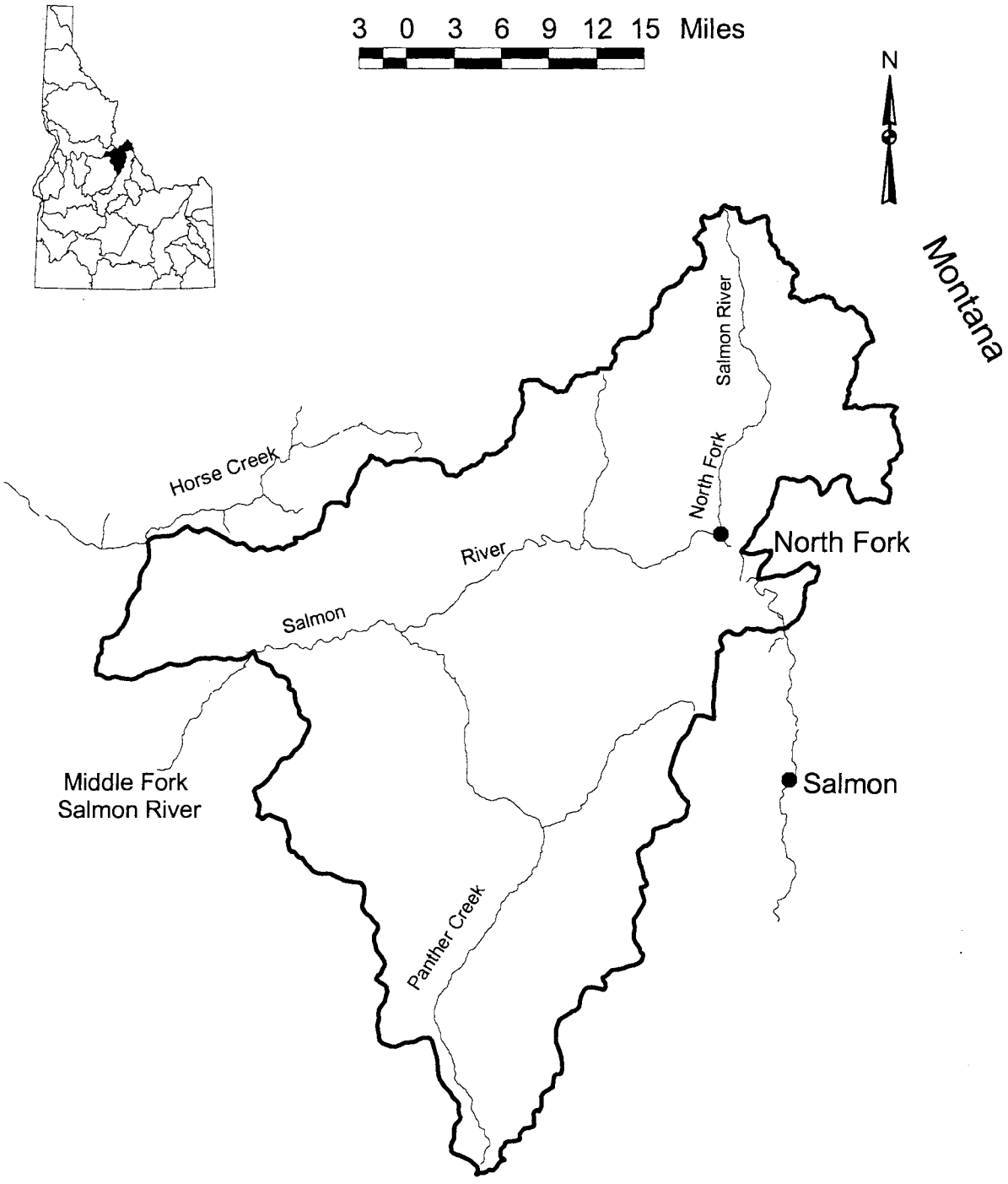
South Fork from Secesh River to Goat Creek		Coldwater/ Anadromous	Chinook salmon Steelhead	Conservation	Preserve genetic integrity of wild chinook salmon population downstream of Goat Creek.
		Resident	Redband trout Cutthroat trout	Conservation	Catch and release.
			Mountain whitefish Brook trout	General	
			Bull trout	Conservation	Closed to harvest.
South Fork from Goat Creek to chinook weir		Coldwater/ Anadromous	Chinook salmon Steelhead	Conservation/ 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.
		Resident	Redband trout Cutthroat trout	Conservation	Catch and release.
			Mountain whitefish Brook trout	General	
			Bull trout	Conservation	Closed to harvest..
South Fork from chinook weir to headwaters		Coldwater/ Anadromous	Chinook salmon Steelhead	Conservation	Continue Idaho Supplementation studies to evaluate hatchery and natural chinook.
		Resident	Redband trout Cutthroat trout	Conservation	Catch and release.
			Mountain whitefish Brook trout	General	
			Bull trout	Conservation	Closed to harvest.

Secesh River and tributaries	93/	Coldwater/ Anadromous	Chinook salmon Steelhead	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.
			Cutthroat trout Redband trout	Conservation	Catch and release.
			Brook trout Mountain whitefish	General	
			Bull trout	Conservation	Closed to harvest.
East Fork South Fork Salmon River and tributaries , mouth to Sugar Creek (excluding Johnson Creek and tributaries)	86/	Coldwater/ Anadromous	Chinook salmon Steelhead	Conservation	Increase wild salmon and steelhead runs to historic spawning areas.
			Cutthroat trout Rainbow trout	Conservation	Catch and release.
			Brook trout Mountain whitefish	General	
			Bull trout	Conservation	Closed to harvest.

East Fork South Fork and tributaries, Sugar Creek to headwaters		Coldwater/ Anadromous	Chinook salmon Steelhead Cutthroat trout Redband trout Brook trout Mountain whitefish Bull trout	Conservation Conservation General Conservation	Participate in mining reclamation projects and monitoring fish population responses. Catch and release. Closed to harvest.
Johnson Creek and tributaries	54/	Coldwater/ Anadromous	Chinook salmon Steelhead Cutthroat trout Redband trout Brook trout Mountain whitefish Bull trout	Conservation Conservation General 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. Catch and release. Closed to harvest.
Warm Lake	/640	Coldwater	Rainbow trout Lake trout Brook trout Kokanee Bull trout	General Conservation	Maintain current catchable rainbow trout stocking. Closed to harvest.
Alpine lakes (36 in South Fork Salmon River drainage)	/890	Coldwater	Rainbow trout Brook trout Cutthroat trout Arctic grayling 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 in cooperation with Forest Service.

Salmon River Drainage

Horse Creek to North Fork



10. 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.

The Salmon River is a Wild and Scenic River. From Vinegar Creek (near Riggins) to Corn Creek, the river is classified as "wild," and from Corn Creek to the North Fork, it is 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. Wild and natural steelhead migrate to this area in the early fall and overwinter 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 will continue to be managed for exploitation of hatchery steelhead, but consumptive harvest is not expected 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 good condition, by the late 1960s, anadromous fish runs had declined due to poor water quality as a result of mine effluents. A small number of juvenile salmon and steelhead currently use Panther Creek for rearing and only in the lowermost portions of the drainage. In the last five years substantial 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.

Small numbers of white sturgeon inhabit the river downstream from Horse Creek and may be present upstream. Limited habitat is available and, historically, sturgeon were present at least as far upstream as Salmon.

Westslope cutthroat trout emigrate from the Middle Fork Salmon River to overwinter in this portion of the 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 low in the main river during the summer months due to warm temperatures and, consequently, low to moderate fishing effort is expended during this period.

B. Objectives and Programs

1. Objective: Maintain existing natural spawning populations of 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.

2. Objective: Maintain and improve habitat quality of tributary production areas.

   Program: Oppose land 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. Implement rehabilitation measures for Panther Creek drainage.

3. Objective: Correct passage problems such as irrigation diversions, road culverts, and dewatered stream segments that restrict anadromous and resident fish access to spawning tributaries.

   Program: Cooperate with Lemhi County and the USFS in identifying and constructing fish passage improvement structures for culverts. Identify and screen or repair irrigation diversions where needed. Work with the Upper Salmon River Model Watershed Project to reconnect tributary streams.

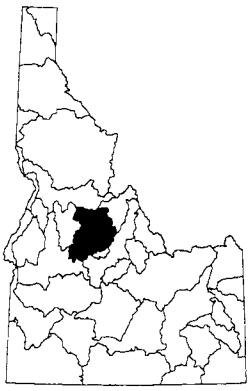
4. Objective: Improve the quality of cutthroat trout fishing in the mainstem Salmon River during the summer months.

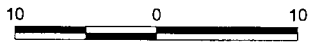
Program: Continue restrictive harvest fishery regulations on wild trout in the mainstem river.

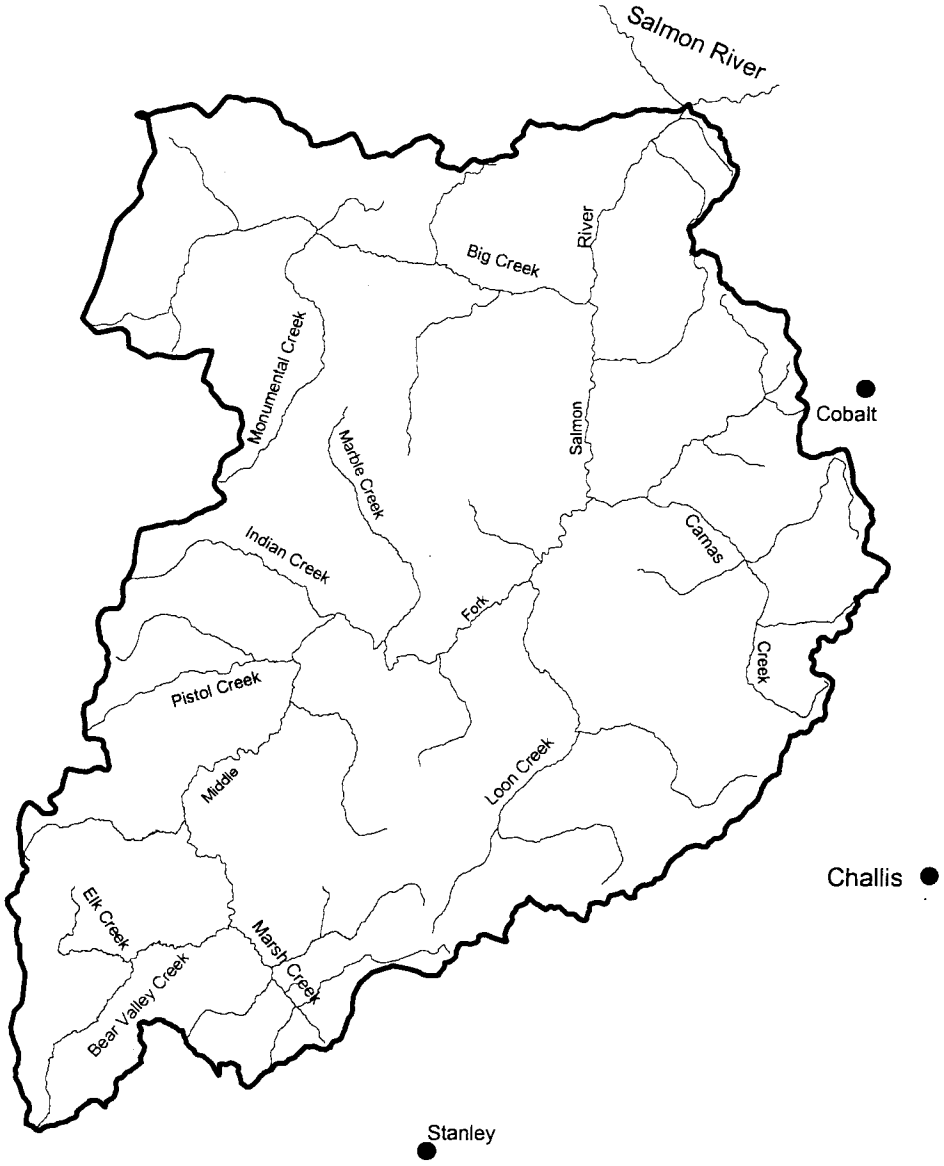
DRAINAGE: Salmon River: Horse Creek-North Fork					
Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
From Horse Creek to North Fork	50/	Coldwater Anadromous	Wild/natural steelhead Chinook salmon	Conservation	Maintain adult harvest closure until MFSR and upper Salmon River escapement goals are met.
			Bull trout	Conservation	Closed to harvest.
			Hatchery steelhead	Anadromous	Provide maximum yield of fish surplus to escapement goals.
			Cutthroat trout	Conservation	Closed to harvest to protect MFSR cutthroat trout, which migrate to and overwinter in this area.
			Rainbow trout Whitefish	General	Limited yield fishery during summer.
Tributaries from Horse Creek to North Fork (Except Horse Creek, Panther Creek)	150/	Coldwater Anadromous	Rainbow trout Cutthroat trout Brook trout Whitefish	Wild trout	Provide harvest fishery supported by natural production.
			Chinook Salmon Steelhead	Conservation	Maintain adult harvest closure.
			Bull trout		Closed to harvest.
Horse Creek	19/	Coldwater Anadromous	Rainbow trout Cutthroat trout Whitefish	Wild trout	Naturally supported harvest fishery. Access restricted to trail or boat.
			Steelhead Chinook salmon	Conservation	Maintain adult harvest closure. No hatchery supplementation. Important spawning/rearing tributary for wild, A-strain steelhead.
			Bull trout		Closed to harvest.
Panther Creek	33/	Coldwater Anadromous	Steelhead Chinook salmon	Conservation	Maintain adult harvest closure. Stock with fry, smolts or adults as available. Work with other agencies to clean up mining pollution from Blackbird Mine and develop anadromous reintroduction program.
			Bull trout	Conservation	Closed to harvest.
			Rainbow trout Cutthroat trout	General	Provide harvest fishery supported by natural production.

North Fork Salmon River	22/	Coldwater Anadromous	Rainbow trout Brook trout Chinook salmon Steelhead Bull trout Cutthroat trout	General Conservation	Provide harvest fishery supported by natural production. Closed to adult harvest. Closed to harvest.
North Fork Salmon River Tributaries		Coldwater	Rainbow trout Brook trout Cutthroat trout Whitefish Bull trout	General Conservation	Provide harvest fishery supported by natural production. Closed to harvest.
Alpine Lakes	/233	Coldwater	Rainbow trout Cutthroat trout	General	Aerial stock selected lakes with fry on a three-year rotational basis. Collect baseline data on lakes in cooperation with USFS.

Salmon River Drainage
Middle Fork







11. MIDDLE FORK SALMON RIVER DRAINAGE

A. Overview

The Middle Fork Salmon River drains 2,830 square miles of central Idaho. The main river is 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.

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 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 the 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 and summer steelhead. 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 hydroelectric system is attained.

Native, resident game species include bull, rainbow trout and cutthroat trout, and mountain whitefish. The Middle Fork Salmon River cutthroat trout population has been identified as a pure westslope strain.

There are no major dams in the Middle Fork drainage, and most of the streams are in pristine condition. Some tributary streams have been, and are being, altered by mining activity. 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.

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 permittees to establish healthy riparian vegetation.

   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. Continue monitoring juvenile densities by snorkeling once every three years.

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 other agencies to initiate research aimed at making chinook and steelhead escapement estimates to the Middle Fork Salmon River. Continue parr density monitoring once every three years and redd counts annually.

7. Objective: Increase ability of anglers to properly identify fish species.

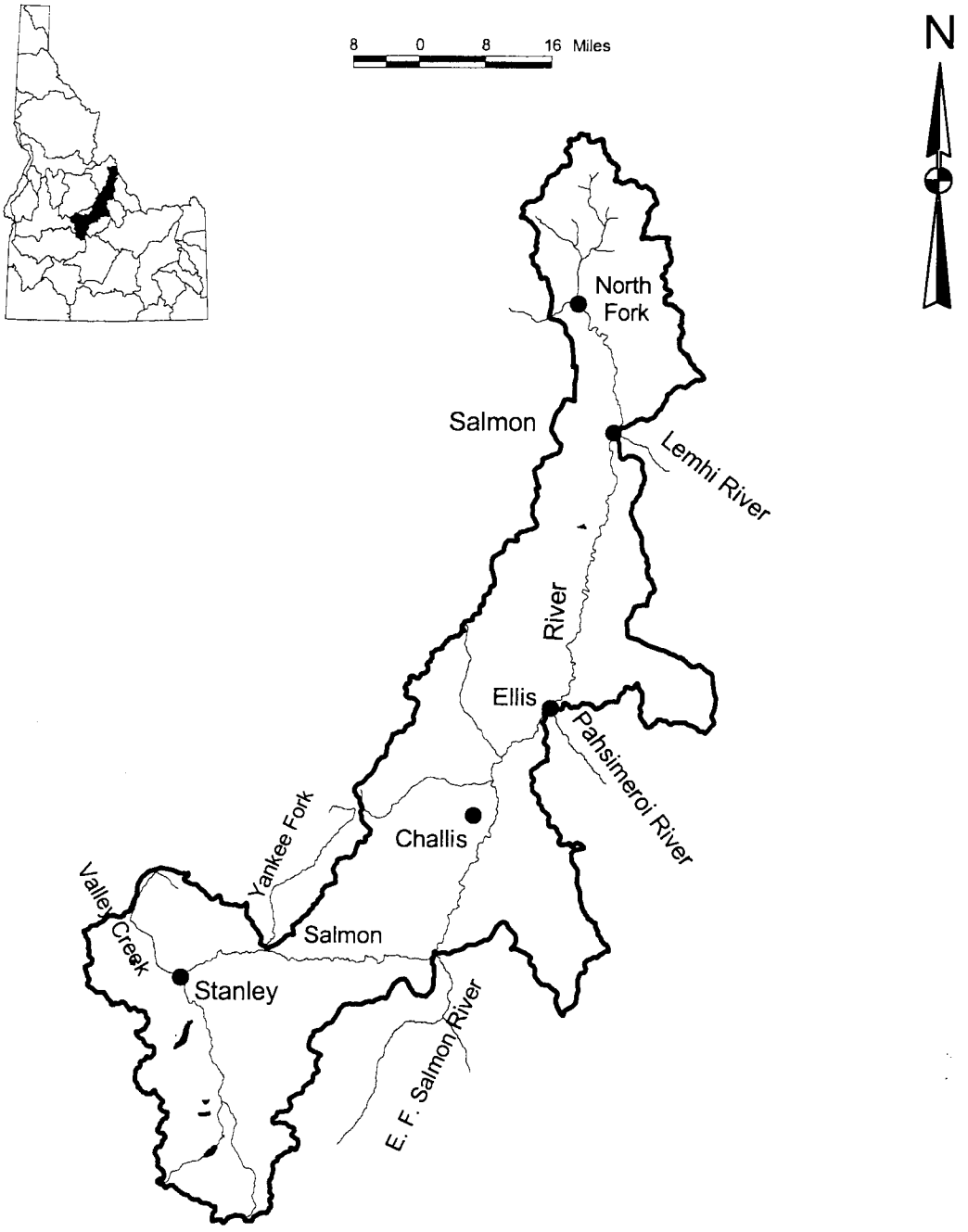
   Program: Provide fish identification signs and posters to increase recognition of bull trout. Encourage harvest of brook trout.

DRAINAGE: Middle Fork Salmon River					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
From mouth to Roaring Creek	4/	Coldwater Anadromous	Cutthroat trout Rainbow trout	Quality	Wild stocks catch-and-release fishery.
			Bull trout Steelhead	Conservation	Closed to harvest.
			Chinook salmon		Closed to Adult harvest. Wild production genetic refuge.
			Whitefish		Maximize yield during period open for other species.
From Roaring Creek to Dagger Falls including tributaries except tributaries of Camas and Loon Creeks.	93/	Coldwater Anadromous	Cutthroat trout Rainbow trout	Quality	Wild stocks catch-and-release fishery.
			Bull trout Chinook salmon Steelhead	Conservation	Closed to harvest. Closed to Adult harvest. Wild production genetic refuge.
			Whitefish Brook trout		Maximize yield during period open for other species.
Dagger Falls	1/	Coldwater Anadromous	Cutthroat trout Bull trout Chinook salmon Steelhead Rainbow trout Whitefish	Conservation	Maintain closure on fish concentrated below falls.
From Dagger Falls to headwaters including tributaries.	36/	Coldwater Anadromous	Cutthroat trout Rainbow trout	Quality	Wild stock catch-and-release fishery.
			Bull trout Steelhead Chinook salmon	Conservation	Closed to harvest. Closed to Adult harvest. Wild production genetic refuge.
			Whitefish Brook trout	Wild trout	Maximize yield during period open for other species.

Camas Creek	24/	Coldwater Anadromous	Cutthroat trout Rainbow trout Whitefish Brook trout Chinook salmon Steelhead Bull trout	Wild/Quality Wild trout Conservation	Wild stock catch-and-release in mainstem and 2 fish harvest rules in tributaries. Maximize yield during period open for other species. Closed to harvest of adult chinook salmon, steelhead, and bull trout to protect wild stocks.
Loon Creek	25/	Coldwater Anadromous	Cutthroat trout Rainbow trout Whitefish Bull trout Chinook salmon Steelhead	Wild/Quality Wild trout Conservation	Wild stock catch-and-release in mainstem trout and 2 fish harvest rules in tributaries. Maximize yield during period open for other species. Closed to harvest of adult chinook salmon, steelhead, and bull trout to protect wild stocks.
Josephus Lake	/7	Coldwater	Rainbow trout Cutthroat trout	General	Stock with catchable rainbow trout- sterile if possible.
Yellowjacket Lake	/5	Coldwater	Rainbow trout	General	Stock with catchable rainbow trout - sterile if possible.
Capehorn Lakes	/44	Coldwater	Rainbow trout 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 Rainbow trout Golden trout Brook trout Grayling Bull trout	General Conservation	Provide diversity of angling opportunity while maintaining natural wilderness values. Leave some lakes fishless to provide for native fauna. Closed to harvest.

Salmon River Drainage

North Fork to Headwaters



12. 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 prohibit harvest of wild trout in an effort to reestablish native resident stocks. Early in the season the fishery is primarily supported by hatchery steelhead smolts.

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 some of these tributaries is impeded by irrigation diversions and dewatering. The Department will screen all identified irrigation improvement projects in the Five-Year Plan 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. Redfish Lake is the only Stanley Basin lake that supports natural sockeye production. Redfish Pettit, and Alturas lakes support kokanee populations. 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 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.

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 steelhead 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 rainbow trout.

4. Objective: Reestablish sockeye runs to historic areas of Pettit and Alturas lakes.

   Program: Evaluate benefits and feasibility 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 River Model 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. Pursue the construction of a fishing pond in the Stanley vicinity to outplant catchable trout for better return to the creel.

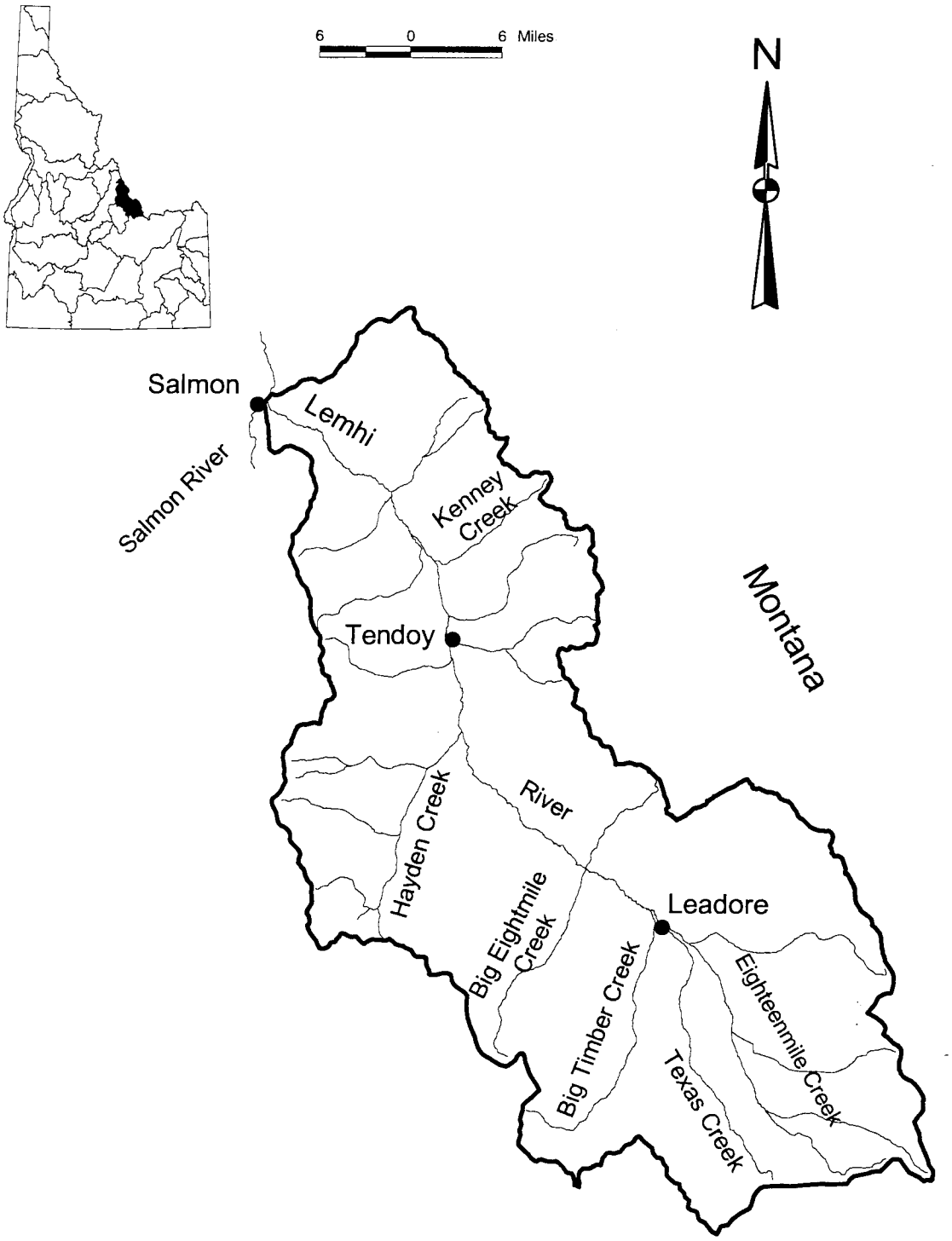
7. Objective: Improve anadromous juvenile and adult fish passage in the Salmon River.

   Program: Work with Federal Land Managers and private irrigators to alleviate passage problems in main river and tributaries due to irrigation diversions and dewatering. Screen and consolidate identified irrigation diversions by 2003.

DRAINAGE: Salmon River: North Fork to Headwaters					
Water	Miles/acres	Fishery			Management direction
		Type	Species Present	Management	
Mainstem	172/	Coldwater Anadromous	Rainbow trout	Put-and take trout	Harvest restricted to adipose fin-clipped hatchery rainbow trout and residual hatchery steelhead. Open all year.
			Whitefish Brook trout	General	Maximize whitefish and brook trout harvest by year around fisheries.
			Bull trout Cutthroat trout	Conservation	Closed to harvest.
			Steelhead Chinook salmon		Closed to adult harvest.
			Hatchery steelhead	Anadromous	Provide maximum harvest 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 Anadromous	Rainbow trout Cutthroat trout Whitefish Brook trout	General	Provide harvest fishery for naturally produced trout. Maximize whitefish and brook trout harvest.
			Steelhead Chinook salmon	Conservation	Closed to adult harvest.
			Bull trout		Closed to harvest.
Valley Creek from mouth to headwaters	21/	Coldwater Anadromous	Rainbow trout	Put-and-take trout	Harvest restricted to adipose clipped hatchery rainbow trout
			Whitefish Brook trout	General	Maximize whitefish and brook trout harvest.
			Bull trout Cutthroat trout	Conservation	Closed to harvest.
			Steelhead Chinook salmon		Closed to adult harvest.
Lake Creek upstream from Williams Lake	5/	Coldwater	Rainbow trout	Quality	Maintain spring closure to protect rainbow trout spawners.
Williams Lake	/180	Coldwater	Rainbow trout	General	Yield fishery supported by natural production. Work with other agencies, local sewer district and homeowners association to identify sources of nutrient loading and propose solutions. Enhance fishery accordingly. Develop preservation plans.
			Bull Trout	Conservation	Closed to harvest.

Wallace Lake	/10	Coldwater	Rainbow trout	Put-and-take trout	Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.
Iron Lake	/18	Coldwater	Rainbow trout	Put-and-take trout	Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.
Mosquito Flat Reservoir	/37	Coldwater	Rainbow trout Brook trout	Put-and-take trout General	Stock hatchery rainbow trout of catchable and fingerling size to provide a harvest fishery.
Bayhorse Lakes	/22	Coldwater	Rainbow trout	Put-and-take trout	Stock hatchery rainbow trout of catchable size to provide put-and-take fishery.
Stanley Lake	/182	Coldwater Anadromous	Rainbow trout Brook trout Lake trout Kokanee	General	Continue stocking catchable rainbow trout. Enhance kokanee populations.
Redfish Lake	/1,502	Coldwater Anadromous	Rainbow trout Kokanee Sockeye salmon Bull trout	General Conservation Conservation	Provide harvest fishery with catchable rainbow trout. Develop management plan focused on kokanee management. Closed to harvest. Continue efforts to prevent extinction of sockeye salmon. Closed to harvest.
Yellowbelly Lake	/188	Coldwater	Cutthroat trout Rainbow trout Brook trout	Quality Wild	Manage as a catch-and-release fishery. Allow harvest of brook trout.
Pettit Lake	/389	Coldwater	Rainbow trout Brook trout Cutthroat trout Kokanee Sockeye	General Conservation	Provide harvest fishery supported by natural production. Develop management plan. Experimental reintroduction. Closed to adult harvest.
Valley Creek Lakes 1 and 2	/20	Coldwater	Cutthroat trout	Trophy	Catch-and-release trophy westslope cutthroat trout.
Alturas Lake	/838	Coldwater Anadromous	Rainbow trout Kokanee Sockeye salmon Bull trout	General Conservation Conservation	Provide harvest fishery with catchable rainbow trout. Develop management plan with emphasis on kokanee management. Experimental reintroduction. Closed to adult harvest. Closed to harvest
Perkins Lake	/51	Coldwater	Rainbow trout Whitefish Bull trout	General Conservation	Provide harvest fishery with catchable rainbow trout and some natural production. Closed to harvest.
Alpine Lakes	/5,000	Coldwater	Rainbow trout Cutthroat trout Golden trout Brook trout Grayling	General	Provide diversity of angling opportunity. Provide yield fisheries in lakes where effort is relatively low and access is restricted to trails. Aerial stock fry in selected lakes every three years. Begin evaluating program.

Lemhi River Drainage



13. 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 ditches are screened and have bypass systems to prevent fish losses. The river is over-appropriated for irrigation and is seasonally dewatered in the lower reach during low flow years, which impedes adult and juvenile salmon and steelhead migration.

The drainage supports runs of both salmon and steelhead. The amount of spawning habitat has been reduced by stream alterations but is still important, particularly in the upper reaches.

Hatchery chinook have not been outplanted into this drainage in large numbers since 1982. The population has sustained itself through natural production. Beginning in 1998 a chinook captive rearing program was initiated in the Lemhi River 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 is to prevent cohort failure especially during years of very poor returns. Steelhead were outplanted annually through the 1980s. Over the next five years, anadromous management action in the Lemhi will emphasize maintaining natural spawning populations of chinook and steelhead.

Native resident trout include rainbow trout, cutthroat trout, and bull trout. Brook trout are present in limited numbers, primarily in the uppermost portions of the watershed. The rainbow trout population responded to restrictive regulations implemented in 1996. It has a trophy structure with 38% of the fish over 16 inches. 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. Limit outplanting of hatchery fish to support supplementation and captive rearing research and areas devoid of naturally producing populations of salmon and steelhead.

2. Objective: Improve angler access to the Lemhi River, trophy rainbow trout fishery.

   Program: Negotiate with landowners to establish fishing by permission, easements or purchases.

3. Objective: Improve flows in lower river during peak irrigation season.

   Program: Continue to participate and support efforts through the Upper Salmon River Model Watershed Program to transfer or purchase water rights to provide adequate flows through the seasonally dewatered portion of the river. Continue to investigate methods such as improved irrigation delivery systems, ditch consolidations, permanent head gates, and stream channel improvements, to provide safe passage through the lower river.

4. Objective: Minimize loss of juvenile salmon and steelhead to irrigation diversions on streams.

   Program: Continue evaluation of the current screening program.

   Program: Accelerate the replacement of old style perpendicular screens with new roller drum screens. Install screens in remaining unscreened ditches.

5. Objective: Maintain and improve habitat quality of the throughout the Lemhi River drainage.

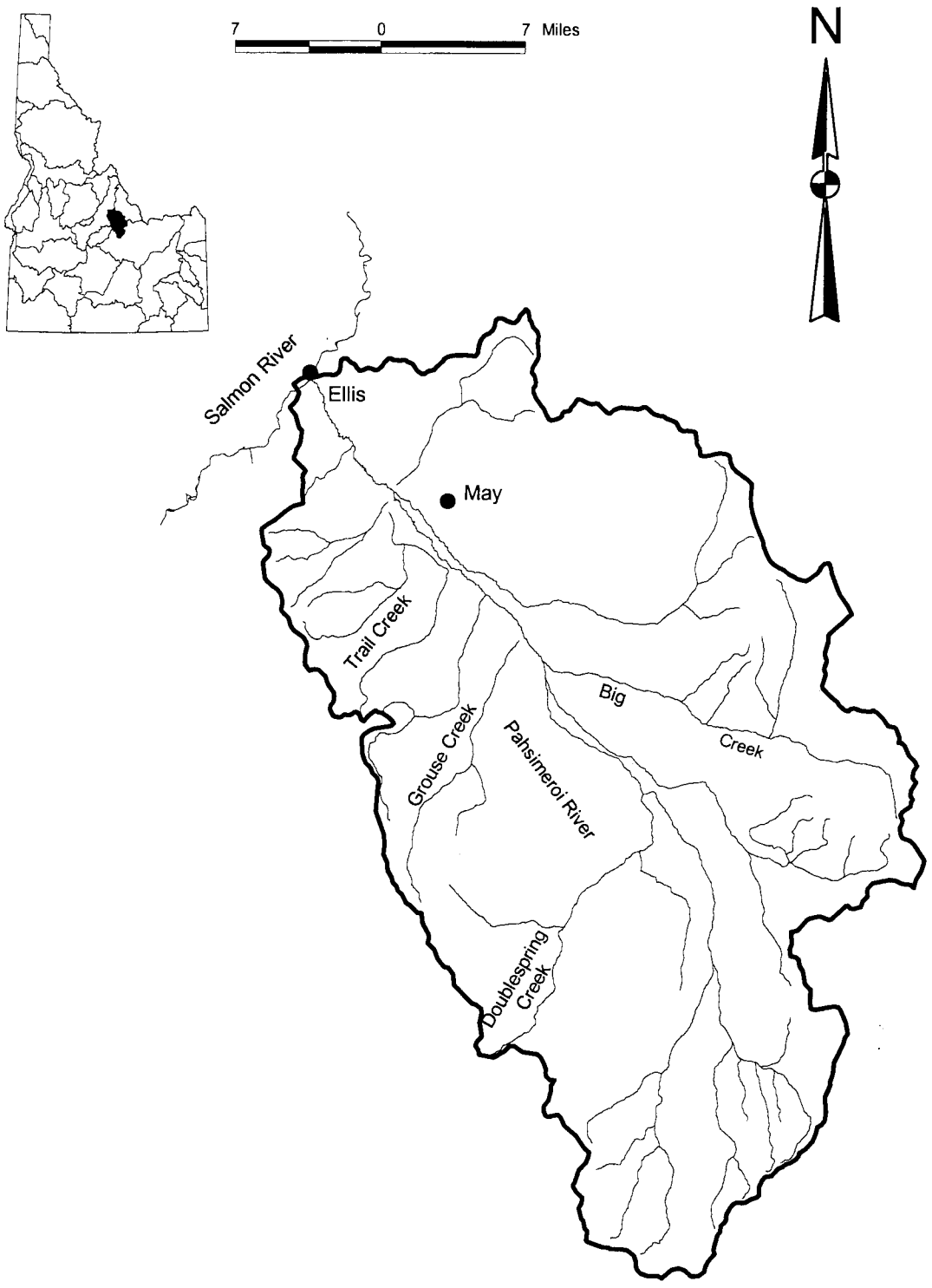
   Program: Continue to work cooperatively with willing landowners through the Upper Salmon River Model Watershed Project, in priority areas, to maintain and enhance critical spawning and rearing areas for resident and anadromous fishes. Pursue the reconnection of tributaries through improved irrigation delivery systems.

6. Objective: Improve the quality of cutthroat trout fishing in the mainstem Lemhi River. Maintain quality of trophy rainbow trout population.

   Program: Maintain restrictive fishing regulations on all cutthroat trout and rainbow trout.

DRAINAGE: Lemhi River					
Water	Miles/acres	Fishery			Management direction
		Type	Species Present	Management	
Mainstem	60/	Coldwater Anadromous	Rainbow trout	Quality	Provide fishery for naturally produced rainbow trout over 14 inches and harvest fishery on adipose fin-clipped residual steelhead.
			Brook trout Whitefish	Wild	Maximize brook trout and whitefish harvest.
			Cutthroat trout Bull trout Steelhead Chinook salmon	Conservation	Closed to harvest.
Tributaries	420/	Coldwater Anadromous	Rainbow trout Brook trout Whitefish Cutthroat trout	Wild	Provide fishery for naturally produced trout. Maximize brook trout and whitefish yield.
			Bull trout Steelhead Chinook salmon	Conservation	Closed to harvest. Closed to adult harvest.
Meadow Lake	/12	Coldwater	Rainbow trout	General	Provide put-and-take fishery.
Alpine Lakes	/421	Coldwater	Rainbow trout Cutthroat trout Brook trout Grayling	General	Provide a diversity of angling opportunity. Aerial stock selected lakes with fry on a three-year rotational basis.

Pahsimeroi River Drainage



14. PAHSIMEROI RIVER DRAINAGE

A. Overview

At one time the Pahsimeroi River 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 Pahsimeroi Valley is mostly under private ownership and heavily irrigated (particularly in the lower drainage) for hay and grazing. All major tributaries are dewatered in the lower reaches 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 the 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.

A hatchery on the Pahsimeroi River, owned and funded by Idaho Power Company and operated by the Department, traps and rears summer chinook salmon and also traps A-run steelhead which 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. The 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.

Resident fish species include rainbow trout, brook trout, bull trout, whitefish, and cutthroat trout.

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 to upgrade existing screens, pursue consolidations, and install screens in remaining 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 River Model 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.

5. Objective: Manage for quality resident trout fishing in the mainstem Pahsimeroi River.

   Program: Maintain protective fishing regulations on all cutthroat trout and rainbow trout less than 14 inches in the mainstem river.

DRAINAGE: Pahsimeroi River

Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
Mainstem	59/	Coldwater Anadromous	Rainbow trout	Quality	Provide fishery for naturally produced trout over 14 inches and harvest of adipose fin-clipped residual steelhead.
			Brook trout Whitefish	Wild	Maximize brook trout and whitefish yield.
			Steelhead Chinook salmon Cutthroat trout Bull trout	Conservation	Closed to harvest. Trap sufficient numbers of hatchery chinook salmon and steelhead for production programs.
Tributaries	227/	Coldwater Anadromous	Rainbow trout Brook trout Whitefish Cutthroat trout	Wild	Provide harvest fishery for naturally produced trout. Maximize brook trout and whitefish yield.
			Bull trout Steelhead Chinook salmon	Conservation	Closed to harvest. Closed to adult harvest.

Salmon River Drainage

East Fork

15. 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 result in substantial sediment loads to the river, particularly during spring runoff.

The drainage supports runs of spring and summer chinook salmon and steelhead trout. The East Fork is one of the most important tributaries for salmon spawning and rearing in the upper Salmon River drainage. A trapping facility, constructed at approximately river mile 18 in 1984, collects steelhead as part of the Sawtooth Hatchery operation.

B. Objectives and Programs

1. Objective: Maintain existing natural spawning populations of salmon and steelhead.

   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 and steelhead.

2. Objective: Maintain and improve fish habitat and water quality.

   Program: Encourage land use activities that improve the quality of natural production areas. Participate in allotment management plan review. Work with landowners, the Shoshone-Bannock Tribes, and land management agencies to improve grazing practices, fence riparian areas, and take other actions to reduce erosion and eliminate negative grazing impacts to fishery productivity and survival.

   Program: Continue to work cooperatively with willing landowners through the Upper Salmon River Model 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.

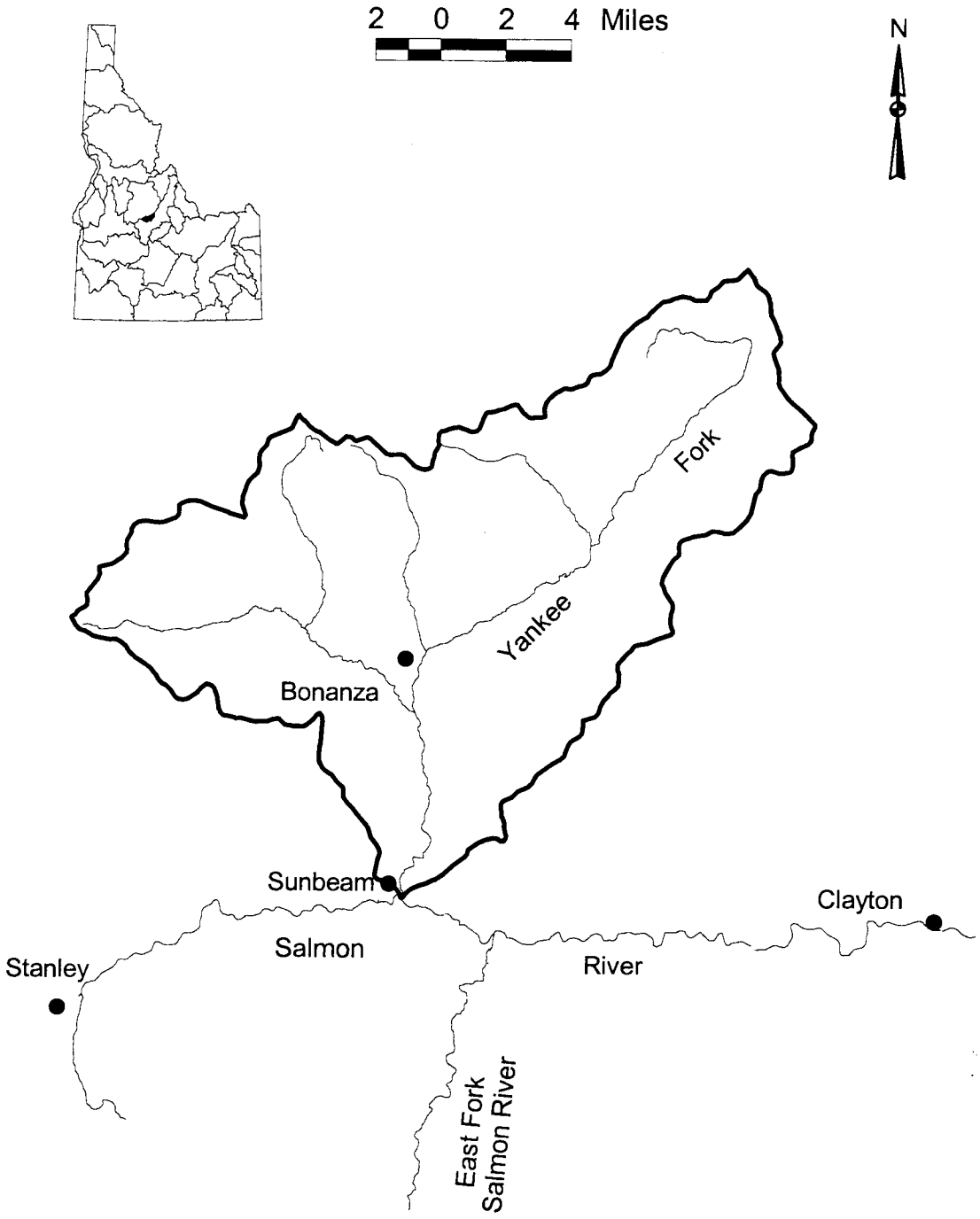
   Program: Maintain restrictive fishing regulations for cutthroat trout in the mainstem river.

4. Objective: Improve anadromous juvenile and adult fish passage in the Salmon River.

Program: Work with landowners to alleviate passage problems due to irrigation diversions. Identify and screen irrigation diversions or repair screens by 2003.

DRAINAGE: East Fork Salmon River					
Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
Mainstem	33/	Coldwater Anadromous	Rainbow trout Whitefish Bull trout Cutthroat trout Steelhead Chinook salmon	Wild Conservation	Provide fishery for naturally produced trout. Maximize whitefish yield. Closed to harvest. Closed to adult harvest.
Tributaries	199/	Coldwater Anadromous	Rainbow trout Whitefish Cutthroat trout Bull trout Steelhead Chinook salmon	Wild Conservation	Provide fishery for naturally produced trout. Maximize whitefish yield. Closed to harvest. Closed to adult harvest.
Jimmy Smith Lake	/62	Coldwater	Rainbow trout	General	Provide fishery supported by natural production.
Herd Lake	/30	Coldwater	Rainbow trout	General	Provide fishery supported by natural production.

Salmon River Drainage
Yankee Fork



16. 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 produce infertile 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.

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 chinook salmon and steelhead trout. Hatchery steelhead have also been outplanted into this drainage and will be used for natural production augmentation. A chinook captive rearing program was initiated in the West Fork Yankee Fork as a short-term approach to species preservation. Resident species include rainbow trout, bull trout and cutthroat trout. Several dredge ponds are stocked with catchable rainbow trout during the summer months.

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 actively pursue funding with the Shoshone-Bannock Tribes, U. S. Forest Service. J.R. Simplot Co., and others, to reestablish 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.

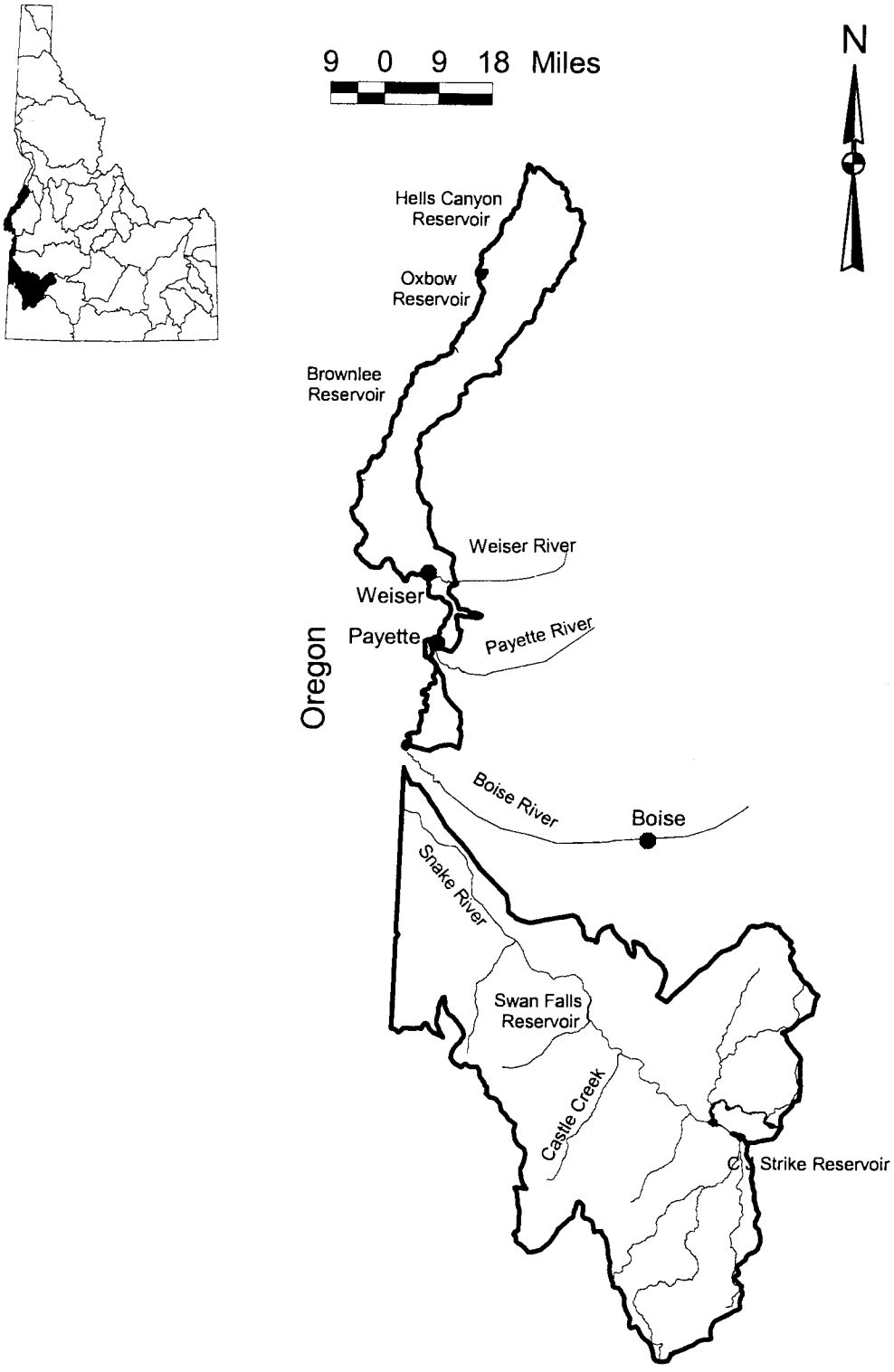
3. Objective: Improve resident fishery in the Yankee Fork system.

Program: Maintain harvest closures on cutthroat trout in the mainstem Yankee Fork.

DRAINAGE: Yankee Fork Salmon River					
Water	Miles/acres	Fishery			Management direction
		Type	Species present	Management	
Mainstem and West Fork	30/	Coldwater Anadromous	Rainbow trout Whitefish	Wild	Provide fishery supported by natural production.
			Chinook salmon Steelhead Bull trout Cutthroat trout	Conservation	Closed to adult harvest. Supplement with hatchery releases. Develop harvest strategies. Closed to harvest.
Tributaries excluding West Fork	70/	Coldwater Anadromous	Rainbow trout Whitefish Cutthroat trout	Wild	Provide fishery supported by natural production
			Steelhead Chinook salmon	Conservation	Closed to adult harvest. Supplement with hatchery releases. Develop harvest strategies.
			Bull trout		Closed to harvest.
Yankee Fork Dredge Ponds	/10	Coldwater Anadromous	Rainbow trout	Put-and-take trout	Provide put-and-take fishery. Increase stocking to provide additional harvest opportunity.

Snake River Drainage

Hells Canyon Dam to C.J. Strike Reservoir



17. SNAKE RIVER DRAINAGE FROM HELLS CANYON DAM to C.J. STRIKE RESERVOIR

A. Overview

The Snake River between Hells Canyon Dam and 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.

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 redband trout (interior rainbow trout). The headwaters of some of these streams also support bull trout. These species will be given management priority to protect wild 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 boulderstrewn 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 and condition of smallmouth bass.

2. Objective: Enhance fisheries for largemouth bass in reservoirs by increasing largemouth bass habitats.

   Program: Continue an artificial reef habitat in C.J. Strike Reservoir in cooperation with Idaho Power Company and Idaho State B.A.S.S. Federation.

3. Objective: Increase abundance of sturgeon.

   Program: Monitor catch rates and conduct mark, recapture, and population estimate studies to determine abundance of sturgeon.

   Program: Sturgeon populations may be supplemented with native stocks where necessary to maintain future management options, to research survival rates, or to utilize suitable rearing habitat where natural recruitment does not occur.

4. Objective: Increase angler awareness of the white sturgeon's unique 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 and distribute.

   Program: Develop a video on sport fishing white sturgeon in Idaho. The videos emphasis will be on proper tackle and technique with a substantial amount of biology and 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.

   Program: Create an angler friendly technical "road show" designed for computer video projection that Regional fishery staff can present to interested groups. This would be more intensive in information about the biology and life history and population status of the Snake River white sturgeon stocks.

5, Objective: Protect native bull trout and redband trout populations in the Snake River tributaries.

   Program: Further define distribution and abundance of tributary populations of bull trout and redband trout.

   Program: Offer appropriate and accurate responses to proposed land management activities of private, state and federal entities.

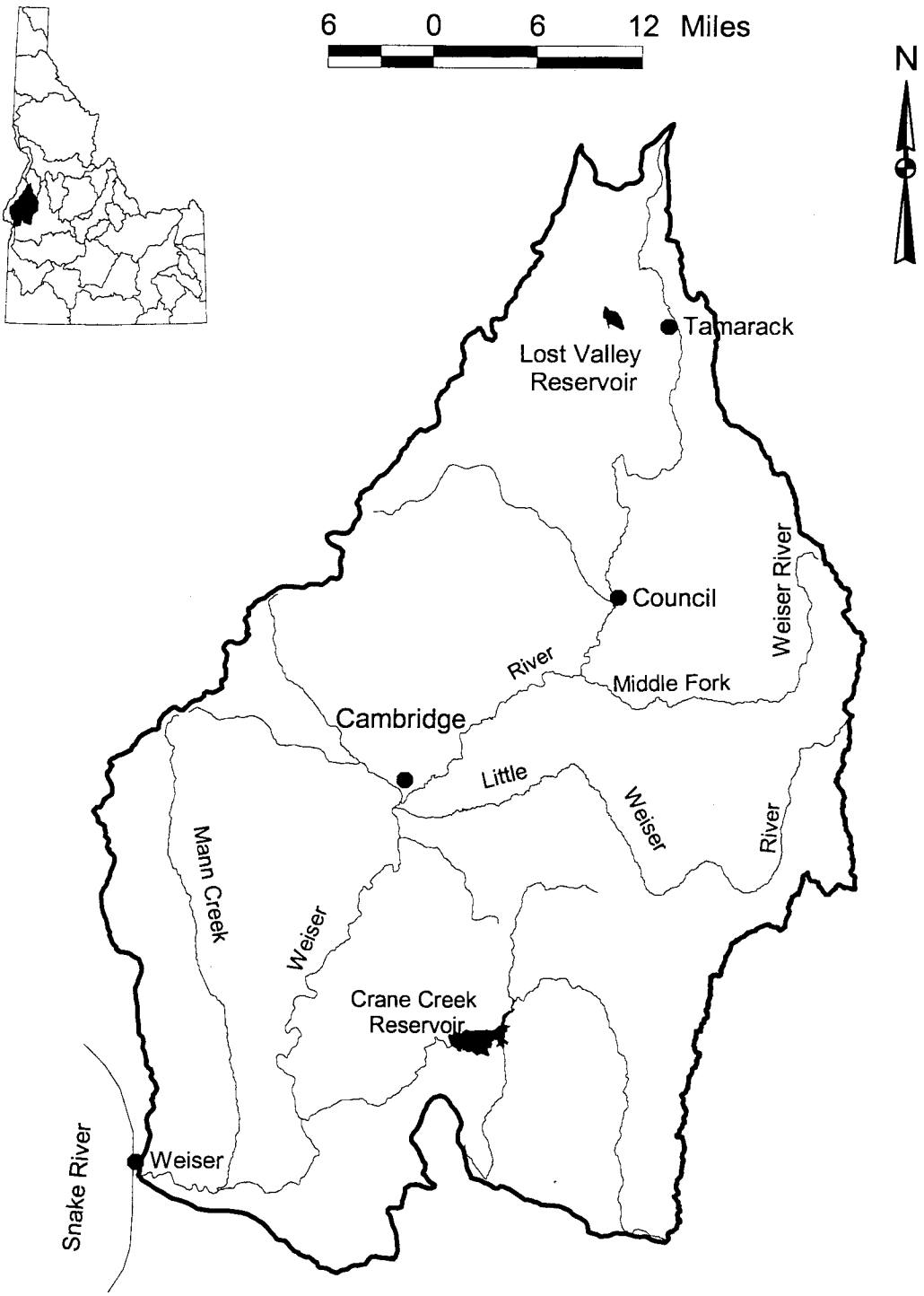
Drainage: SNAKE RIVER - HELLS CANYON DAM TO C.J. STRIKE RESERVOIR					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Hells Canyon Reservoir	26/2500	Mixed/ Anadromous	Steelhead	Anadromous	Maintain limited fishery with hatchery steelhead when adult fish are available.
			Rainbow trout Smallmouth bass Largemouth bass Channel catfish Bluegill Crappie Yellow perch Bullhead Kokanee	General	Continue trout stocking when available for tailrace fishery. Maintain catch rates for warmwater fish at a minimum of 1.0 fish/hour.
			Sturgeon	Conservation	Cooperate with the Nez Perce Tribe to evaluate the methods and desirability of providing a limited no harvest fishery on hatchery-origin sturgeon. Sturgeon populations may be supplemented only with native stocks.
Oxbow Reservoir	12/1150	Mixed	Smallmouth bass Largemouth bass	Quality	Maintain and evaluate quality bass regulations.
			Rainbow trout Bluegill Crappie Yellow perch Channel catfish	General	Continue trout stocking when available to provide a tailrace fishery. Maintain catch rates for warmwater fish at a minimum of 1.0 fish/hour. Maintain involvement with F.E.R.C. relicensing process.
			Sturgeon	Conservation	Cooperate with the Nez Perce Tribe to evaluate the methods and desirability of providing a limited no harvest fishery on hatchery-origin sturgeon. Sturgeon populations may be supplemented only with native stocks.
Tributaries including Wildhorse River and Indian Creek	110/	Coldwater	Rainbow trout Redband trout	Wild	Bull trout and redband subspecies of rainbow trout will receive management priority to prevent overharvest and habitat degradation.
			Bull trout Brook trout	Conservation	Closed to harvest.

Brownlee Reservoir	55/15,000	Mixed	Smallmouth bass Largemouth bass Bluegill Black crappie White crappie Yellow perch Bullhead Rainbow trout Channel catfish Flathead catfish Sturgeon	General Conservation	Investigate turbine losses of game fish. Seek to minimize losses. Document current bass and catfish growth and condition. Monitor crappie and other panfish populations. Seek to maintain strong year classes of panfish. Maintain involvement with F.E.R.C. relicensing process.
Snake River from Brownlee Reservoir to Swan Falls Dam	121/	Mixed	Largemouth bass Smallmouth bass Channel catfish Flathead catfish Bluegill White crappie Black crappie Bullhead Yellow perch Pumpkinseed Rainbow trout Mountain whitefish Sturgeon	General Conservation	Document current bass and catfish population size, growth, and condition. Assess population size structure of sturgeon.
Reynolds Creek	25/	Coldwater	Rainbow trout	General	Improve production of native redband trout by seeking improved range and riparian management through BLM planning process.
Swan Falls Reservoir	/900	Mixed	Largemouth bass Smallmouth bass Bullhead Yellow perch Bluegill Channel catfish Rainbow trout White Crappie Black Crappie Pumpkinseed Mountain whitefish Flathead catfish Sturgeon	General Conservation	Determine fish population species composition and size structure. Monitor sturgeon population status Maintain involvement with F.E.R.C. relicensing process.

Castle Creek	41/	Mixed	Rainbow trout Black crappie	General	Investigate the possibility of developing a reservoir in the lower reach of Castle Creek to create a trophy trout fishery. Manage headwaters for low yield, low participation fishery on native redband trout by seeking improved range and riparian management through BLM planning process.
Snake River from Swan Falls Reservoir to C.J. Strike Dam	25/	Mixed	Largemouth bass Smallmouth bass Channel catfish Bullhead Flathead catfish Black crappie White crappie Bluegill Pumpkinseed Warmouth Yellow perch Rainbow trout Mountain whitefish	General	Enhance smallmouth bass fishery by seeking modification of extreme peaking and flow fluctuations below C.J. Strike Dam. Maintain high catch rates for large bass.
			Sturgeon	Conservation	Monitor sturgeon population between C.J. Strike Dam & Swan Falls Reservoir.
C.J. Strike Reservoir	/7,500	Mixed	Largemouth bass Smallmouth bass Channel catfish Bluegill Yellow perch Pumpkinseed Bullhead White crappie Black crappie Warmouth Rainbow trout Mountain whitefish	General	Add habitat to attract panfish, bass and catfish. Evaluate trout fishery during 2001 with marked fish. Estimate costs of stocked rainbow trout return to creel. Annually stock fingerlings and catchable rainbow trout. Investigate feasibility of an economic return model to evaluate the trout fishery in C.J. Strike Reservoir. Maintain involvement with F.E.R.C. relicensing process.
			Sturgeon	Conservation	Monitor status of sturgeon population.
Crane Falls Lake	/84	Mixed	Largemouth bass	Trophy	Evaluate trophy regulations and response in size of bass and catch rates.
			Bluegill Pumpkinseed Black crappie Bullhead Rainbow trout	General	Monitor return of hatchery rainbow trout. Maintain suitable water quality, pumping the lake down as needed.

Cove Arm Reservoir	/76	Mixed	Largemouth bass Bluegill Pumpkinseed Black crappie Bullhead Channel catfish	General	Investigate opportunity to enhance warmwater fish habitat. Discontinue stocking rainbow trout.

Weiser River Drainage



18. 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. Most of the runoff comes during the spring, with extremely low flows during the remainder of the year.

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 and rainbow trout. All three reservoirs support populations of largemouth bass and crappie. Crane Creek Reservoir is currently impacted by a large population of common carp limiting the fishery. 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 would 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 of rainbow trout and smallmouth bass. Upstream from Cambridge, rainbow trout and 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 rainbow trout/redband trout. The redband trout will be managed for racial preservation with sterile hatchery fish stocked in important drainages.

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 to enhance the native fish populations.

   Program: Quantify and apply for minimum stream flows where unallocated flows are available.

   Program: Work with Soil Conservation Service, Idaho Department of Health and Welfare, and landowners to utilize 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.

2. Objective: Improve methods to control flooding and erosion.

   Program: Work with Soil Conservation Service, Idaho Department of Health and Welfare, and Idaho Department of Water Resources to have environmentally acceptable methods used for stream channel alterations and riparian vegetation restoration.

3. Objective: Preserve disjunct populations of bull trout and work to reconnect them into a metapopulation 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.

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 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.

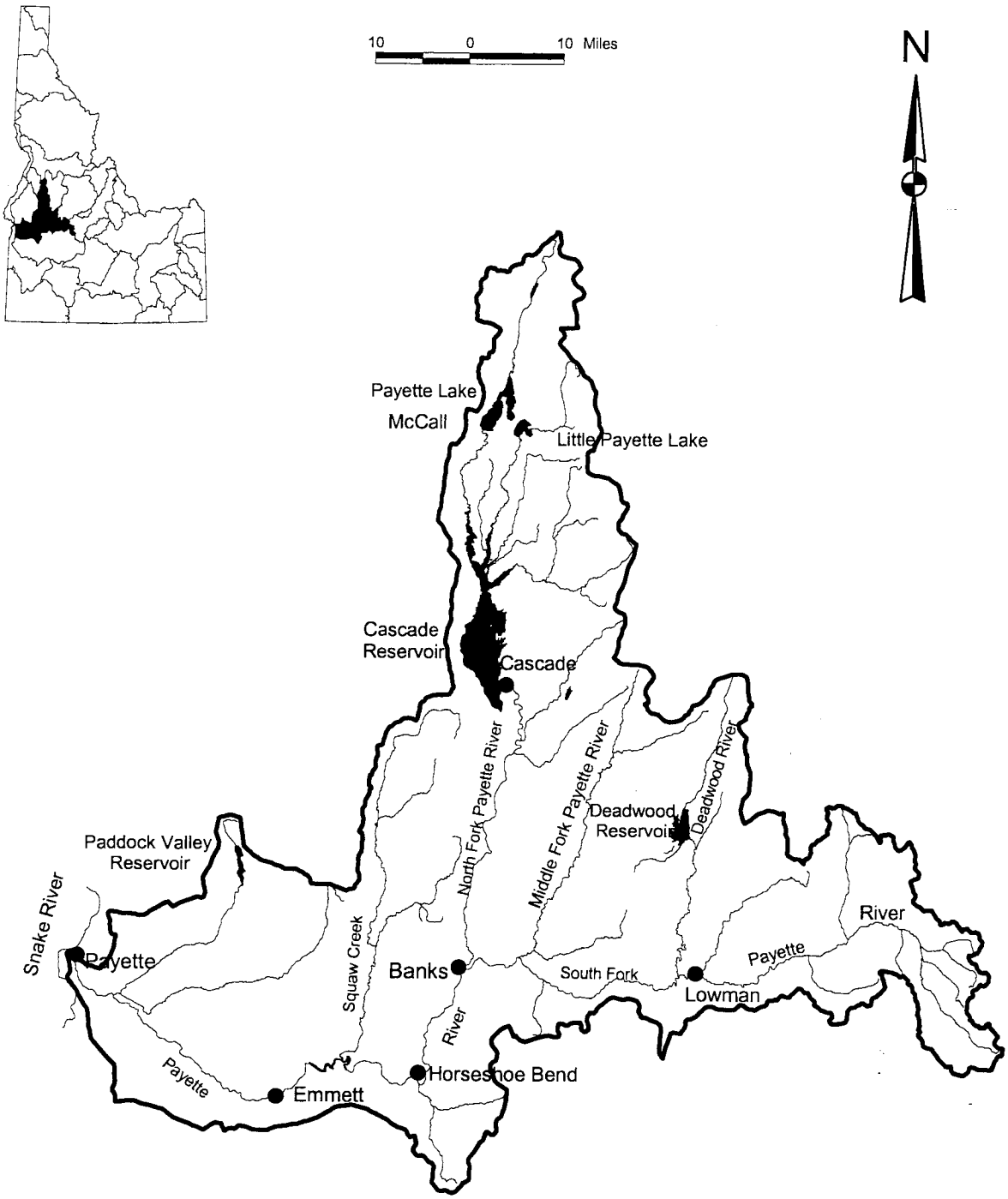
5. Objective: Create local small fishing ponds in cooperation with local city or county governments.

   Program: Utilize federal aide funds for "seed monies" to construct small local fishing ponds in the Weiser drainage.

Drainage: WEISER RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Weiser River from mouth to Little Weiser River	36/	Mixed	Smallmouth bass Channel catfish Rainbow trout Mountain whitefish	General	Evaluate current fishery and angler satisfaction. Identify limiting factors and seek to reduce their impacts on fish production. Identify and procure fishing access sites.
Mainstem from mouth of Little Weiser River upstream including tributaries not listed below	196/	Mixed	Rainbow trout Redband trout Brook trout Smallmouth bass Brown trout Mountain whitefish Bull trout	Wild trout Conservation	Maintain 0.5 fish/hour catch rates on naturally-produced trout. Redband subspecies will be managed for racial preservation and limiting hatchery rainbow trout stocking. Maintain spawning season closure. Closed to harvest.
Little Weiser River and tributaries	62/	Coldwater	Rainbow trout Redband trout Brook trout Mountain whitefish Bull trout	Wild trout Conservation	Maintain 0.5 fish/hour catch rates on naturally-produced trout. Redband subspecies will be managed for racial preservation by limiting hatchery rainbow trout stocking. Maintain spawning season closure. Closed to harvest.
Middle Fork Weiser River and tributaries	28/	Coldwater	Rainbow trout/ Redband trout Brook trout Mountain whitefish Bull trout	Wild trout Conservation	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 subspecies will receive priority management. Closed to harvest.
West Fork Weiser River and tributaries	36/	Coldwater	Rainbow trout Redband trout Brook trout Mountain whitefish Bull trout	Wild trout Conservation	Maintain 0.5 fish/hour catch rates on naturally-produced trout. Redband subspecies will be managed for racial preservation by limiting hatchery rainbow trout stocking. Maintain spawning season closure. Closed to harvest.

Mann Creek Reservoir (Spangler Reservoir)	/281	Mixed	Largemouth bass Black crappie Rainbow trout Redband trout	General	Maintain catchable rainbow trout stocking.
Crane Creek Reservoir	/2,200	Mixed	Largemouth bass Bullhead White crappie	General	Evaluate white crappie population structure every other year. Investigate fishery renovation during drought years.
Ben Ross Reservoir	/353	Mixed	Largemouth bass Bluegill Crappie Bullhead Rainbow trout	Quality General	Maintain quality bass regulation. Evaluate the feasibility of constructing habitat structures. Work with landowner to retain access to shoreline.
Lost Valley Reservoir	/633	Coldwater	Rainbow trout Brook trout 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.

Payette River Drainage



19. 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 excellent populations of wild rainbow 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 very 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 habitat. Paddock Reservoir, on Big Willow Creek, has a good fishery for largemouth bass and bluegill. Cascade Reservoir on the North Fork was once the most heavily fished water in the state. Anglers fishing Cascade had the opportunity to harvest an abundance of yellow perch, coho salmon, and rainbow trout. Since the mid-90s however, the yellow perch population has crashed and success of coho salmon has been marginal. Deadwood Reservoir provides a popular fishery for kokanee and cutthroat trout.

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: Zone the stream areas to 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: Manage for increased catch rates and size in selected stream reaches using quality trout regulations.

   Program: Stock appropriate strains of trout in natural production areas to better utilize the rearing capacity and provide larger and more desirable fish.

   Program: Stock adult steelhead directly downstream from Black Canyon Dam as these fish are available. Low river flow and ample notification of anglers must be accomplished to be successful.

   Program: Increase warm water angling opportunity by acquiring access or title to ponds in the Lower Payette River drainage.

   Program: Seek funding 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: Monitor angler use of trophy trout waters. When use becomes moderate to heavy develop additional trophy trout waters.

2. Objective: Assess the potential for securing stream maintenance flows to protect fisheries on the North Fork Payette River, Lake Fork Creek, and other tributaries.

   Program: Gather needed biological and economic information for the Idaho Water Resource Board to justify pursuing stream maintenance flows for fish and wildlife protection.

3. Objective: Maintain riparian and floodplain values for fish and public access.

   Program: Work with Valley County to limit residential development in the floodplain.

Program: Work with Valley County and landowners to provide public access to the North Fork Payette River.

4. 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: Begin lake trout stocking program to replace old growth fish.

5. Objective: Recover the yellow perch fishery in Cascade Reservoir.

   Program: Determine causes of the yellow perch population crash in Cascade Reservoir.

   Program: Implement solutions to recover yellow perch numbers.

6. Objective: Improve distribution and population status of bull trout.

   Program: Continue angler educational signage about bull trout in the drainage.

   Program: Continue to define and monitor populations of bull trout.

7. Objective: Provide a diversity of alpine lake fishing opportunities.

   Program: Monitor existing trophy alpine lakes.

   Program: Investigate additional alpine lakes for different management opportunity.

Drainage: PAYETTE RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Mouth to Black Canyon Dam	72/	Mixed	Smallmouth bass Channel catfish Largemouth bass Black crappie Flathead catfish Bullhead Bluegill Yellow perch Pumpkinseed Mountain whitefish Rainbow trout	General	Put-and-take with catchable rainbow trout and steelhead directly below Black Canyon Dam. Determine catch rates for existing fishery. Determine angler satisfaction with fishery. Investigate return of stocked hatchery trout below Black Canyon Dam. Develop angler fishery and fishery access brochure for this area.
Black Canyon Reservoir	/1,100	Warmwater	Largemouth bass Black crappie Bullhead Bluegill Channel catfish	General	Monitor fish composition and size structure during this five-year period.
Black Canyon to South Fork/North Fork Confluence	107/	Coldwater	Rainbow trout Mountain whitefish Cutthroat trout Bull trout	General Conservation	Maintain as a non-stocking native fishery. Evaluate fish and habitat by visual and snorkeling techniques. Closed to harvest.
Emmett Airport and Star Lane ponds	/4	Mixed	Largemouth bass Bullhead Bluegill Pumpkinseed Channel catfish	General	Monitor fish composition and size structure. Add appropriate stocks of fish to provide an increased fishery.
Paddock Reservoir	/1,302	Mixed	Largemouth bass Black crappie Bullhead Bluegill Rainbow trout	General	Evaluate past introduction and establishment of black crappie. Investigate the feasibility of planting Lahontan cutthroat trout to develop coldwater fishery. Utilize excess steelhead smolts to supplement fishery.
Warmwater lowland ponds and reservoirs	/200	Warmwater	Largemouth bass Bluegill Pumpkinseed Bullhead Smallmouth bass Channel catfish 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.
Squaw Creek and Willow Creek	71/	Mixed	Rainbow trout Bull trout	Wild Conservation	Maintain native stocks. Inventory for status and distribution of redband trout. Monitor bull trout populations in upper Squaw Creek drainage. Work with federal agencies to remove migration barriers. Closed to harvest.

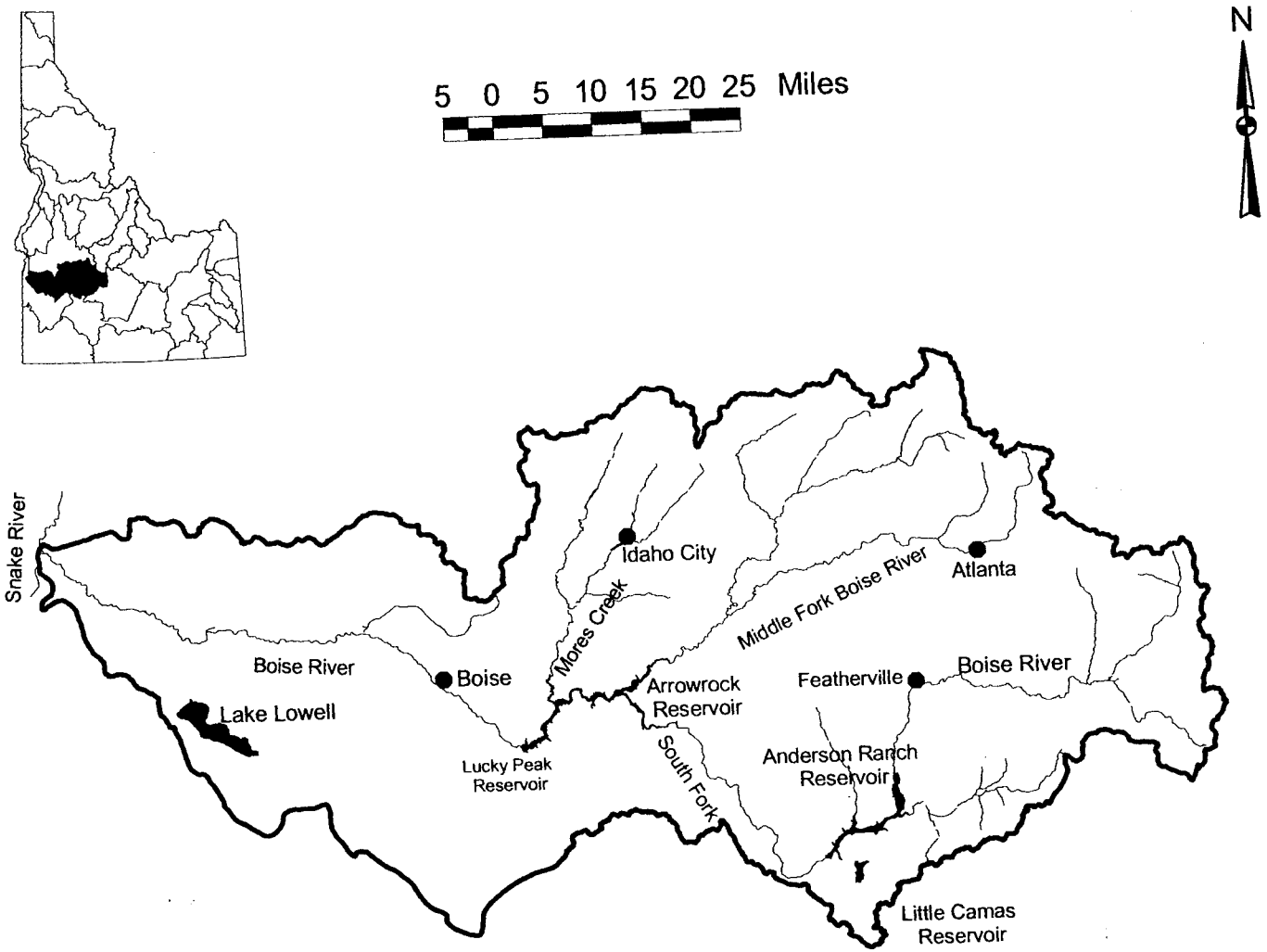
Sagehen Reservoir	/180	Coldwater	Rainbow trout Redband trout	Put-and-take trout	Monitor spawning tributaries to Sage Hen Reservoir. Put-and-take with hatchery catchables. Inventory tributary stream to develop a management plan for the natural spawning stocks.
North Fork Payette River from Banks to Smiths Ferry, including tributaries	78/	Coldwater	Rainbow trout 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	Rainbow trout Yellow perch Mountain whitefish	Wild General	Manage for wild trout. Encourage land management agencies to leave Cabarton Reach unroaded to protect wild trout.
North Fork Payette River from Tamarack Fall Bridge to Lardo Dam	24/	Coldwater	Rainbow trout Brown trout Mountain whitefish Brook trout Kokanee	Put-and-take trout General	Seek to increase the naturally reproducing trout population. Pursue establishment of stream maintenance flow through Water Resource Board. Work with landowners and land management agencies to protect riparian and floodplain. Discourage residential development near the river. 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 Brook trout Mountain whitefish Kokanee Cutthroat trout Bull trout	Put-and-take trout General Wild Conservation	Concentrate supplemental hatchery trout in high angler use areas. Continue stocking westslope cutthroat trout to establish self-sustaining population. Protect spawning habitat for kokanee. Maintain spawning season closure for kokanee. Closed to harvest.
Gold Fork Creek and tributaries	49/	Coldwater	Rainbow trout Brook trout Kokanee Bull trout	Put-and-take trout General Conservation	Concentrate supplemental hatchery trout in high angler use areas. Improve natural trout production in drainage. Assess opportunity to seek habitat improvements in drainage by contacting private landowners and land management agencies. Investigate feasibility of providing fish passage over the Gold Fork irrigation diversion dam. Encourage construction of an enhanced wetland/subimpound to maintain the Gold Fork arm at the Cascade Reservoir full pool level.
Lake Fork Creek from mouth to Little Payette Lake, including tributaries	37/	Coldwater	Rainbow trout Kokanee Coho salmon Brook trout Smallmouth bass	General	Pursue establishment of stream maintenance flow through Water Resource Board to provide quality trout stream fishery. Screen major irrigation ditches to prevent fish loss through canals. 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 Kokanee	Trophy General	Manage for natural trout production to Little Payette. Maintain trophy regulations to protect spawning adults. Allow kokanee harvest.
Lake Fork Creek from Brown's Pond to headwaters		Coldwater	Rainbow trout Brook trout Bull trout	Put-and-take trout General Conservation	Concentrate supplemental hatchery trout in high angler use areas. Evaluate return to creel and adjust stocking strategy as needed. Closed to harvest.

Boulder Creek and tributaries	17/	Coldwater	Rainbow trout Brook trout	General	Concentrate supplemental hatchery trout in high angler use areas. 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 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 Rainbow trout x cutthroat trout hybrids Brook trout Brown trout Yellow perch Splake	General	Maintain as a hatchery-supported fishery due to high angler use and excellent access. Keep year-round season due to public support. Stock trout species and strains that continue to provide good return rates. Monitor perch population and take appropriate management actions to eliminate perch when necessary. Utilize fingerling plants augmented with catchable rainbow trout prior to the general opener. Stock large fingerling brown trout to provide diversity and a large fish component to the harvest.
Trophy Mt. Lakes		Coldwater	Rainbow trout Cutthroat trout Rainbow trout x cutthroat trout hybrids Grayling	Trophy	Monitor success of trophy trout regulations and evaluate need for additional waters.
All other alpine lakes	/1,386	Coldwater	Rainbow trout Arctic grayling Brook trout Cutthroat trout Brown trout 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. Work cooperatively with USFS on all projects. Increase the number of lakes under trophy management.
Cascade Reservoir	/28,300	Mixed	Rainbow trout Kokanee Coho salmon Yellow perch Channel catfish Black crappie Smallmouth bass Tiger muskie	General	Manage Cascade Reservoir for both yellow perch and salmonid species as co-equals. Seek to improve warmwater fishing opportunity. Investigate causes of perch population crash and implement strategies to recover population. 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. Encourage 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.

Little Payette Lake	/1,450	Mixed	Rainbow trout Smallmouth bass Tiger muskie Kokanee	Trophy General	Maintain as trophy trout fishery and overall catch rate of at least 0.5 fish/hour. Refine regulations if warranted to provide large trout for anglers. Monitor nongame fish, trout, and tiger muskie populations . Allow harvest of kokanee. Continue tiger muskie program to utilize sucker and pikeminnow populations.
Upper Payette Lake	/400	Coldwater	Rainbow trout Brook trout 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 Cutthroat trout Kokanee Lake trout	General 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. Monitor lake trout population and maintain as trophy size fish by using restrictive size and bag limits and begin stocking program to replace old growth fish. 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 Cutthroat trout Mountain whitefish Brook trout Bull trout	Put-and-take trout Conservation	Put-and-take with catchable rainbow trout. Evaluate fishery on a tri-year basis using common database and established snorkeling transects. Construct catchable trout stocking pond near Garden Valley. Closed to harvest.
Middle Fork Payette River upstream from Silver Creek and above bridge directly above Silver Creek Plunge	53/	Coldwater	Rainbow trout Cutthroat trout Mountain whitefish Brook trout Bull trout	Wild Conservation	Non-stocking, retain as a native fishery. Evaluate fishery on a tri-year basis using common database and established snorkeling transects. Closed to harvest.
Deadwood River from mouth to Deadwood Dam, including tributaries	30/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Wild Conservation	Wild trout management. Closed to harvest.

Deadwood Reservoir	/3,000	Coldwater	Kokanee Cutthroat trout Rainbow trout Fall chinook salmon Brook trout Mountain whitefish Bull trout	General Conservation	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. Establish self-sustaining population of westslope cutthroat trout. Closed to harvest.
South Fork Payette River from Mouth to headwaters, including tributaries	41/	Coldwater	Cutthroat trout Brook trout Mountain whitefish Rainbow trout Bull trout	Wild Conservation	Maintain wild trout fishery. Evaluate catch rates and wild trout densities with angler interviews and snorkeling surveys. Closed to harvest.
Clear Creek	22/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Wild Conservation	Wild trout management. Closed to harvest.
Bull Trout and Martin Lakes	/90	Coldwater	Brook trout Rainbow trout Kokanee	General	Put and take rainbow trout stocking.

Boise River Drainage



20. 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 (382 square miles), the South Fork Boise River (1,314 square miles) and Mores Creek (426 square miles). 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.

From the mouth of the Boise River upstream to Star, low summer flows and poor water quality limit fishery 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 pressure. Upstream from Lucky Peak and Arrowrock reservoirs, rivers and streams contain excellent populations of wild rainbow 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 except for 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. Wild rainbow trout and mountain whitefish make up the majority of the fish caught in the South Fork. The rainbow trout fishery there is managed with limit, size, and tackle restrictions. In 1978, anglers caught an estimated 19,150 rainbow trout and released 18,059 (94%). In 1988, anglers caught an estimated 18,400 rainbow trout and released 99%.

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 these reservoirs depends heavily on stocked catchable or fingerling size fish. Little Camas and Arrowrock reservoirs also provide excellent fishing for rainbow trout stocked as catchables and/or fingerlings. Neither of these two reservoirs have a conservation pool and both have a history of total water evacuation.

Good spawning conditions in tributary streams provide a continuous supply of kokanee in Anderson Ranch Reservoir, but maintenance stocking is required in Lucky Peak and Arrowrock. At Anderson Ranch Reservoir, one of the more popular kokanee fisheries in southern Idaho, 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 stocking in low number years. Weirs to limit kokanee spawners and low numbers of fall chinook salmon will be considered to crop excess kokanee numbers and to provide a trophy fishery. Fall chinook salmon will only be used if they are not considered a threat to bull trout.

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: Zone the stream areas to 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 increase 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 catchable rainbow trout.

2. Objective: Seek better land management practices that significantly improve fishery habitats.

Program: Provide sediment objectives/standards to land management agencies where sediment is the limiting factor in aquatic habitats.

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 fishery management activities on fish habitat and fish populations.

Program: Collect common data base information on habitat and fish populations throughout the Boise River drainage.

Program: Examine changes and trends in common data base information and attempt to determine causes for any changes that are noted.

4. Objective: Seek improved reservoir management and stream flows.

Program: Pursue development of a minimum pool in Arrowrock Reservoir.

Program: Study water management at Lake Lowell to determine the relationship between fish production and water levels.

Program: Monitor Arrowrock Dam valve replacement project. Maintain involvement in multi-agency fishery mitigation team.

Program: Determine which water levels in Anderson Ranch Reservoir result in downstream losses of bull trout. Develop reservoir management plans 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 US Bureau of Reclamation on bull trout studies in Arrow Rock Reservoir and upper Boise River drainage.

6. Objective: Create local small fishing ponds in cooperation with local city or county governments.

   Program: Utilize federal aid funds for "seed monies" to construct small local ponds where there is demand and appropriate sites in the drainage.

7. Objective: Provide a diversity of alpine lake fishing opportunities.

   Program: Investigate alpine lakes for opportunities to create trophy management.

Drainage: BOISE RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Mouth to Star	34/	Mixed	Rainbow trout Mountain whitefish Largemouth bass Smallmouth bass Channel catfish 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 Steelhead Brown trout Mountain whitefish	Put-and-take trout	Work with state and federal regulatory agencies to improve water quality and habitat condition. Stock with rainbow trout, and steelhead seasonally if available. Stock catchable rainbow trout year-round. Manage for high density of anglers.
Warm Springs Golf Course to Barber Dam	4/	Coldwater	Rainbow trout Brown trout Mountain whitefish	Quality	Evaluate natural production potential with the 14-inch minimum size limit.
Mores Creek		Coldwater	Rainbow trout Mountain whitefish	General	Work with regulatory agencies to enhance habitat. Stock with catchable rainbow trout.
Boise River Drains	92/	Coldwater	Rainbow trout Brown trout Mountain whitefish	General	Work with communities and regulatory agencies to improve water quality and habitat conditions. Improve angler access.
Loggers Creek	2/	Coldwater	Rainbow trout Brown trout 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 Mountain whitefish Bull trout	Put-and-take trout 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. Closed to harvest.

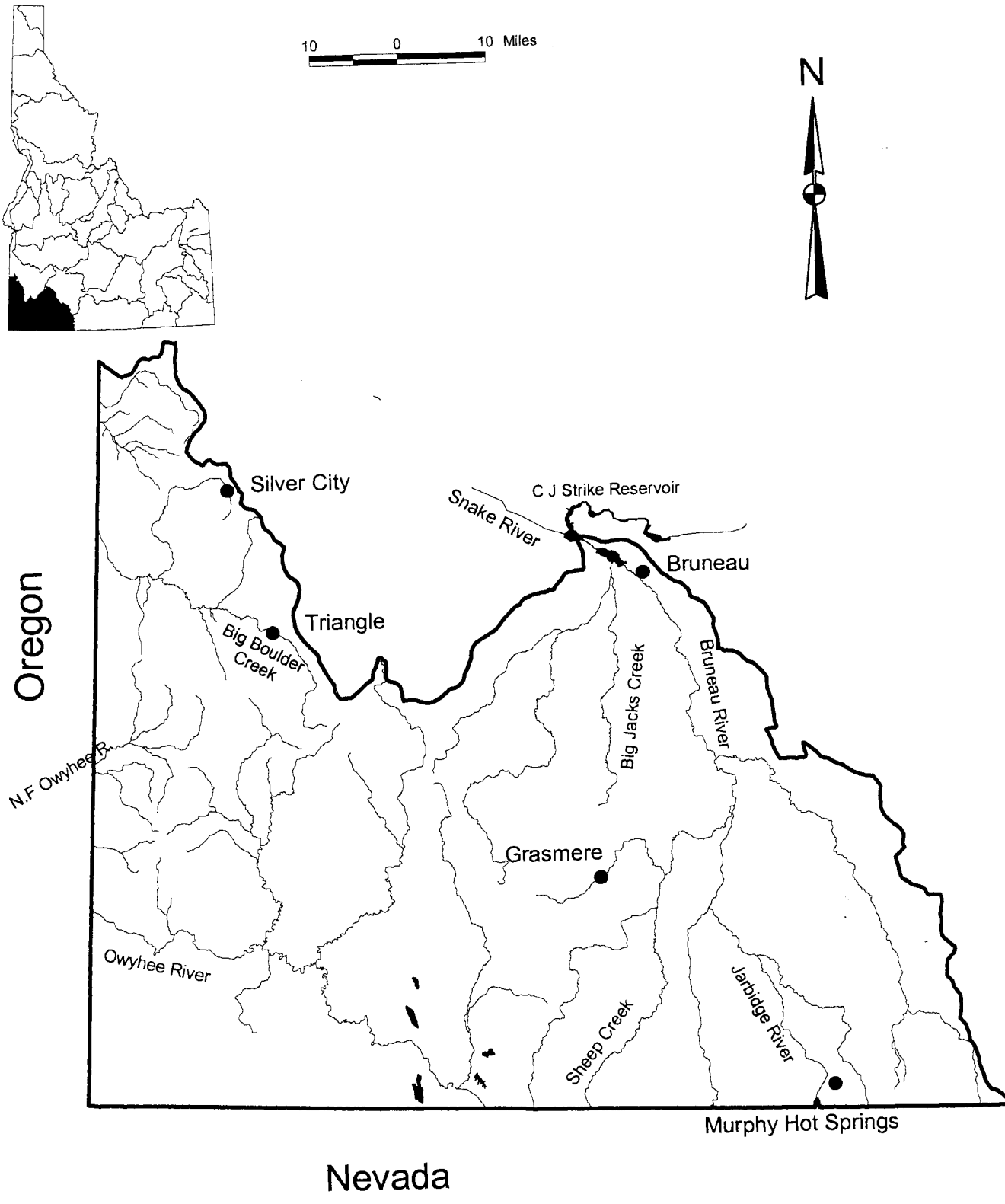
From North Fork to Atlanta Power Dam	32/	Coldwater	Rainbow trout Brook trout Cutthroat trout Mountain whitefish Bull trout	Quality General Conservation	Manage for high catch rates on wild fish. Closed to harvest.
From Atlanta Power Dam to Sawtooth Wilderness Boundary	4/	Coldwater	Rainbow trout Brook trout Cutthroat trout Mountain whitefish Bull trout	Put-and-take trout General Conservation	Stock with sterile catchable rainbow trout following high water period until Labor Day. Evaluate return of hatchery trout. Develop catch-out pond for planting catchables to avoid competition with wild trout. Maintain and operate the Kirby Dam fish ladder. Document fish passage.
Upstream of Sawtooth Wilderness Boundary and all tributaries	30/	Coldwater	Rainbow trout Brook trout Cutthroat trout Mountain whitefish Bull trout	Wild Conservation	Manage for high catch rates and low angler densities. Manage for wild fish. Closed to harvest.
South Fork Boise River from Arrowrock Reservoir to Neal Bridge		Coldwater	Rainbow trout Mountain whitefish Bull trout	General Conservation	Manage for harvest opportunity for stream trout and mountain whitefish. Closed to harvest.
South Fork Boise River from Neal Bridge to Anderson Ranch Dam	10/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Trophy Conservation	Manage for high catch rates for large fish. Conduct creel survey. Collect population estimate and stock structure semi-annually. Closed to harvest.

South Fork Boise River from Anderson Ranch Reservoir to Beaver Creek	26/	Coldwater	Rainbow trout Mountain whitefish Kokanee Fall chinook salmon Bull trout	Put-and-take trout General Trophy Conservation	Good quality habitat with wild trout potential. High accessibility and campgrounds give potential for hatchery return rates of >30%. If fall chinook salmon are reintroduced, monitor and allow harvest on spawning run. Construct kokanee weir at Pine. Closed to harvest.
South Fork Boise River from Beaver Creek to Big Smoky Creek	10/	Coldwater	Rainbow trout Mountain whitefish Kokanee Bull trout	Quality General 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. Closed to harvest.
South Fork Boise River from Big Smoky Creek to headwaters	15/	Coldwater	Rainbow trout Mountain whitefish Kokanee Bull trout	Put-and-take trout General Conservation	Good quality habitat, however low natural stream productivity limits wild trout growth for acceptable size rainbow. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout. Closed to harvest.
Big Smoky Creek from mouth to Calf Creek	4/	Coldwater	Rainbow trout Mountain whitefish Kokanee Bull trout	Put-and-take trout General Conservation	Good quality habitat with wild trout potential. 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. Closed to harvest.
Big Smoky Creek from Calf Creek to headwaters	15/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Wild Conservation	Emphasize bull trout, self-sustaining rainbow trout populations. Maintain limited harvest opportunity. Closed to harvest.
Little Smoky Creek	20/	Coldwater	Rainbow trout Bull trout	Put-and-take trout Conservation	Evaluate hatchery program. Investigate possibility and pursue funding to construct off-river ponds for put-and-take stocking of trout. Closed to harvest.

All other streams in South Fork Boise River drainage upstream from Anderson Ranch Reservoir	277/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Wild Conservation	Investigate potentially unique native rainbow trout and ensure survival. Maintain naturally reproducing populations and harvest opportunity. Closed to harvest.
North Fork Boise River from mouth to Rabbit Creek	7/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Wild Conservation	Manage for high catch rates (3 fish/hour) and low angler densities. Closed to harvest.
Rabbit Creek to Deer Park (Hunter Creek)	13/	Coldwater	Rainbow trout Mountain whitefish Bull trout	Put-and-take trout Conservation	Manage for high yield and moderate angler densities. Closed to harvest.
Deer Park to headwaters and all tributaries	41/	Coldwater	Rainbow trout Mountain whitefish Bull trout	General Conservation	Manage for high catch rates (3 fish/hr) and low angler densities. Closed to harvest.
Lucky Peak Reservoir	/2,850	Mixed	Smallmouth bass Yellow perch Rainbow trout Kokanee Bull trout	General Conservation Conservation	Evaluate status of smallmouth bass fishery. Provide an attractive kokanee fishery for large fish. Investigate feasibility of providing a trout fishery by stocking large numbers of fingerling rainbow trout in Lucky Peak Reservoir to avoid excessive competition for plankton and jeopardizing quality of kokanee fishery. Continue to stock catchable rainbow trout. Closed to harvest.
Arrowrock Reservoir	/4,000	Mixed	Smallmouth bass Yellow perch Rainbow trout Mountain whitefish Bull trout	General Conservation	Seek minimum pool through federal government. Stock annually with fingerling rainbow trout and catchable trout. Monitor fishery impacts of Arrowrock Dam valve replacement project. Closed to harvest

Lake Lowell	/10,000	Mixed	Largemouth bass Smallmouth bass Channel catfish Bluegill Yellow perch Black crappie Pumpkinseed Rainbow trout Cutthroat trout	Quality General	Determine angler use and harvest rates. Manage bass with primary emphasis on quality fishery. Investigate feasibility of planting Lahontan cutthroat trout. Monitor panfish harvest.
Anderson Ranch Reservoir	/4,740	Mixed	Rainbow trout Mountain whitefish Kokanee Yellow perch Smallmouth bass Fall chinook salmon Bull trout	General Trophy Conservation	Emphasize kokanee. Continue developing model to evaluate potential. Goal of 1.0 kokanee/hour with mean size of 12 to 14 inches if productivity allows. Consider fall chinook salmon if kokanee numbers are excessive. Improve trout fishing through hatchery program and public awareness. Maintain smallmouth bass to diversify fishing opportunity. Closed to harvest.
Little Camas Reservoir	/1,455	Mixed	Rainbow trout Smallmouth bass	General	Use fall fingerling plants to improve carryover in high water years.
Mountain Home Reservoir		Mixed	Rainbow trout Largemouth bass	General	Stock with rainbow trout when water levels allow. Work with irrigation companies to leave conservation pool so trout can overwinter.
Indian Creek Reservoir	195	Warmwater	Largemouth bass Bluegill	Quality	Monitor catch-rates. Sample periodically.
Featherville dredge ponds	/3	Coldwater	Rainbow trout	Put-and-take trout	Continue stocking hatchery rainbow trout. Provide 1.0 fish/hour.
Big Trinity Lake	/25	Coldwater	Rainbow trout Cutthroat trout	Put-and-take trout	Accessible by road. Stock annually with catchables. Stock cutthroat trout fingerlings for diversity.
Little Trinity Lake	/3	Coldwater	Rainbow trout Cutthroat trout	Put-and -take trout	Accessible by road. Stock annually with catchables. Stock cutthroat trout fingerlings for diversity.
Other alpine lakes	/801	Coldwater	Rainbow trout Cutthroat trout Golden trout Brook trout Arctic grayling	General	Put-and-grow for trout and char.

Owyhee River Drainage
Bruneau River Drainage



21. 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 Owyhee River drainage contains populations of redband trout. Due to the unique qualities of this fish and the inaccessibility of the Owyhee drainage, this entire drainage will be managed for racial preservation. Lahontan cutthroat trout have been introduced into several reservoirs near Riddle.

No cutthroat trout are present in the Bruneau River drainage. A remnant population of bull trout exists in the Jarbidge River. Populations of native redband trout exist in many tributaries. Redband trout are widely distributed, however, some local populations have been severely affected by land management activities and drought.

From the mouth of the Bruneau River upstream to the hot springs, the water quality is not suitable to support coldwater species. 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 Rivers status.

Livestock grazing on some tributary streams has impacted fish habitat, and efforts should be made 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 desert 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.

Program: Restock streams with depleted populations where habitat conditions have been restored with redbands by collecting fish or eggs from adjacent areas that contain native redband trout.

2. 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: Monitor stations on major tributaries of the Owyhee and Bruneau river systems to determine trends in riparian conditions, aquatic habitat, and fish production.

3. 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: Renovate reservoirs with rough fish populations that limit the fishery.

4. Objective: Maintain and improve bull trout populations in the Jarbidge River drainage.

   Program: Maintain no harvest rules for bull trout on river and tributaries.

   Program: Support effort by state and federal agencies to remove man-made migration barriers.

   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.

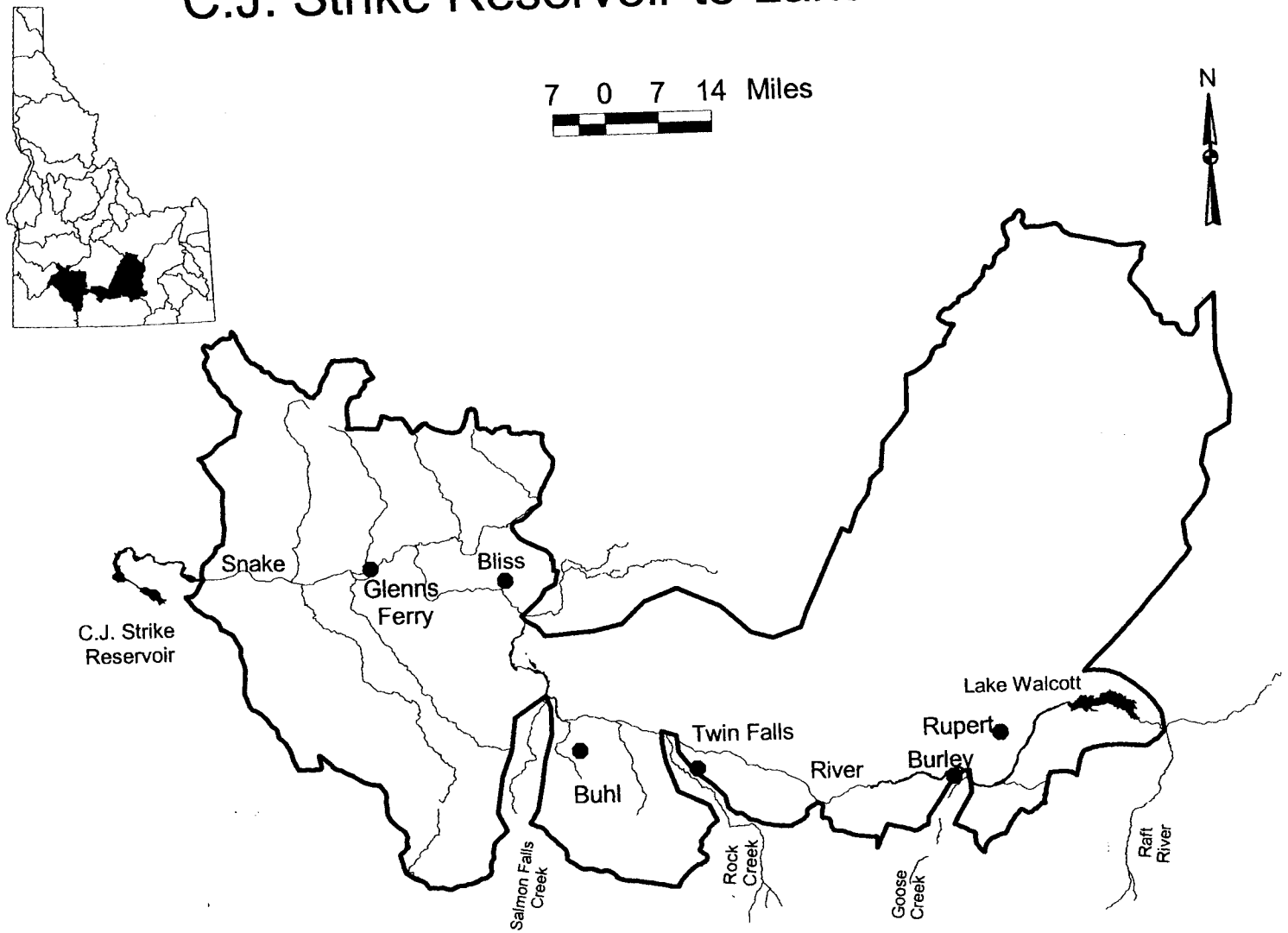
Drainage: OWYHEE RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Owyhee River (downstream of the South Fork) including tributaries	239/	Mixed	Smallmouth bass Redband trout	Wild	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	Smallmouth bass Redband trout	Wild	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	Smallmouth bass Redband trout	Wild	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 Cutthroat trout	Wild	Investigate feasibility of treating drainage above reservoir to eliminate pikeminnows.
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 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	Stock annually with Lahontan cutthroat trout. 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 Channel catfish 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 Mountain whitefish Bull trout	Wild Conservation	Manage for redband trout and bull trout. Access limited by deeply incised canyon. Work with BLM and private land owners to improve riparian habitat Closed to harvest.
East Fork Bruneau River (Clover Creek) and tributaries	165/	Coldwater	Redband trout Brook trout Mountain whitefish Bull trout	Wild Conservation	Maintain wild trout populations and investigate status of bull trout. Work to improve riparian habitats. Closed to harvest.
Blackstone Reservoir	/85	Coldwater	Redband trout Sterile rainbow trout	General	Maintain wild redband trout populations and stock sterile hatchery rainbow trout.
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 Mountain whitefish Bull trout	Wild Conservation	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. Evaluate current growth, size and age structure, and exploitation. Evaluate potential response to special regulations and public desire for quality management. If appropriate, impose quality regulation. Closed to harvest.
Jarbidge River and tributaries	87/	Coldwater	Redband trout Mountain whitefish Bull trout	Wild Conservation	Maintain wild populations of native trout. Monitor bull trout population to evaluate recovery. Catch rate of 1.0 fish/hour. Closed to harvest.

Snake River Drainage

C.J. Strike Reservoir to Lake Walcott



22. 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. It is best in the section between Shoshone Falls and King Hill, where large amounts 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 cfs. Water quality from these springs has been excellent but continuing development of the springs by commercial fish farmers 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, low dissolved oxygen levels at night has 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 the major spawning area for cutthroat trout and the rainbow trout x cutthroat trout hybrid trout.

Many of the minor tributary streams entering the Snake River also contain good trout habitat and support good populations of wild trout, primarily rainbow 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. The trout fishery in Lower Salmon Falls Reservoir can be the best of the six 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. During recent years, loss of aquatic vegetation from unknown reasons in Lower Salmon Falls Reservoir has severely reduced its potential for trout habitat. Many of the smaller lakes, ponds and reservoirs close to the Snake River are also highly suitable for rainbow trout.

White sturgeon are found in varying numbers throughout the Snake River from Shoshone Falls downstream. The best sturgeon population, however, occurs in the free flowing river section between Bliss Dam and C.J. Strike Reservoir, where they are successfully reproducing. However, reproduction may be declining in low water years. Reproduction may also be negatively affected by water flow management in the Snake River. Recent studies have shown 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. 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.

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. 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. 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.

Major existing hydropower facilities on the Snake River are in the process of being relicensed. Mitigation for these facilities needs to be adequately addressed to provide the opportunities to improve habitat and river conditions for fish in the river.

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 instream flows, especially during irrigation season, apparently deteriorating water quality, and loss of spawning areas appear to be the factors most significantly affecting fish populations in the Snake River. Should water become available, every effort should be made to improve summer flows.

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 owners to improve water quality in the Snake River.

   Program: Assist in the development of wetlands at the ends of 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 improve flows during white sturgeon spawning periods.

Program: Work with Idaho Power Company and FERC to reduce or eliminate load following practices at Lower Salmon Falls Dam to improve fish rearing habitat down river to CJ Strike Reservoir.

Program: Work with Idaho Dept. 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 connectivity between isolated white sturgeon populations to increase viability of wild populations.

Program: Work with Idaho Power Company and FERC to see if upstream passage facilities or sturgeon transporting operations are feasible to reestablish connectivity between isolated white sturgeon populations.

4. Objective: Return the trout fishery in Lower Salmon Falls Reservoir to the excellent fishery it has been in the past.

Program: Attempt to determine the reasons for the decline of this fishery and build the fishery back to its former level. Determine if the lack of fishery is water quality, water quantity or fish stocking related and manage accordingly.

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 Idaho Power Company and other private developers to reestablish natural spring habitat at Banbury Springs and other sites at the opportunity arises.

Program: Work with Idaho Department of Parks and Recreation to develop a management plan for Box Canyon to maintain native habitat 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: Evaluate selective common carp rotenone pellets to see if they are an economical and biological efficient tool to control carp in Big Sand Dunes Pond and other ponds in Idaho.

Program: Acquire and 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.

Drainage: SNAKE RIVER - C.J. STRIKE RESERVOIR TO LAKE WALCOTT					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Snake River from Loveridge Bridge to Bliss Dam	47.3/	Mixed	Sturgeon	Conservation	Maintain no harvest regulation on sturgeon unless studies indicate otherwise. Do not stock sturgeon during this planning period while evaluating previous releases. Emphasize high quality sturgeon fishery and habitat protection. Maintain suitable coldwater temperatures during sturgeon spawning and larval rearing. Investigate potential of fingerling stocking to improve trout fishery if daily river flows are stabilized. Determine if stocking is necessary to maintain fishery for catfish. Improve angler access.
			Rainbow trout Brown trout Mountain whitefish Channel catfish Smallmouth bass Largemouth bass Yellow perch	General	
Bliss Reservoir	5/250	Mixed	Rainbow trout Largemouth bass Smallmouth bass Channel catfish Sturgeon	General	Investigate feasibility of other warmwater species in the reservoir.
Backwaters of Bliss Pool to Lower Salmon Falls Dam	8/	Mixed	Sturgeon	Conservation	Maintain no harvest regulation on sturgeon. Evaluate sturgeon stocked from experimental program to improve sturgeon fishing opportunity. Do not stock sturgeon during this planning period while evaluating previous releases. Continue to investigate potential of stocking fingerlings or subcatchable trout to improve trout fishing. Consider experimenting with other strains or species of trout. Evaluate potential for quality or trophy fishery and implement a program if socially and biologically acceptable.
			Rainbow trout Brown trout Mountain whitefish Channel catfish Smallmouth bass Largemouth bass Yellow perch	General	
Lower Salmon Falls Reservoir	7/840	Mixed	Rainbow trout Largemouth bass Channel catfish Bluegill	General	Continue annual rainbow trout stockings in the Bell Rapids area. Consider use of other strains or species. Study feasibility and stock if studies so indicate. Investigate causes of loss of aquatic vegetation which provides trout habitat.
Upper Salmon Falls Reservoir	5/810	Mixed	Rainbow trout Largemouth bass Smallmouth bass Channel catfish	General	Investigate potential for improving fishery stocking 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 Rainbow trout Brown trout Mountain whitefish Channel catfish Largemouth bass Smallmouth bass Yellow perch	Conservation General	Maintain no harvest regulation on sturgeon. Do not stock sturgeon during this planning period while evaluating previous releases. Maintain Dolman Rapids as large-size trout water. Strongly oppose 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 Smallmouth bass	General	Investigate potential of catchable rainbow trout to provide fishery in high turnover reservoir. Consider stocking smallmouth bass.
Backwaters of Shoshone Falls Reservoir to Twin Falls Dam	1/	Mixed	Rainbow trout Smallmouth bass	General	Manage as a yield fishery with approximate catch rate of 0.5 fish/hour. Investigate need to supplement smallmouth bass.
Twin Falls Reservoir	1/96	Coldwater	Cutthroat trout Rainbow trout Rainbow trout x cutthroat trout hybrids	General	Emphasize protection of native cutthroat trout and rainbow trout x cutthroat trout hybrid populations. Oppose any project, which would increase size of reservoir. Manage as a unit with reach upstream to Murtaugh Bridge.
Backwaters of Twin Falls Reservoir to Murtaugh Bridge	11.6/	Coldwater	Cutthroat trout Rainbow trout x cutthroat trout hybrids Rainbow trout	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.
Murtaugh Bridge to Milner Dam	8.5/	Coldwater	Cutthroat trout Rainbow trout Smallmouth bass	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	22/3,000	Warmwater	Smallmouth bass Largemouth bass Yellow perch Brown bullhead Channel catfish	General	Emphasize establishment of self-sustaining warmwater fish species. Continue stockings of channel or blue catfish. Improve warmwater fish habitat by placing cover structures on reservoir bottom.
Backwaters of Milner Reservoir to Minidoka Dam	15/	Coldwater	Cutthroat trout Rainbow trout Smallmouth bass	General	Use fingerling program to improve recruitment. Stocking in Lake Walcott may need to be increased to improve downstream fishery. Maintain catch rate of 0.5 fish/hour. Work to improve flow management.
Lake Walcott (Minidoka Reservoir)	29/11,850	Mixed	Rainbow trout Cutthroat trout Yellow perch Brown bullhead Smallmouth bass Largemouth bass	General	Stock subcatchable or catchable rainbow trout on an annual basis. Monitor bass and trout populations and adjust management direction to conform with findings.

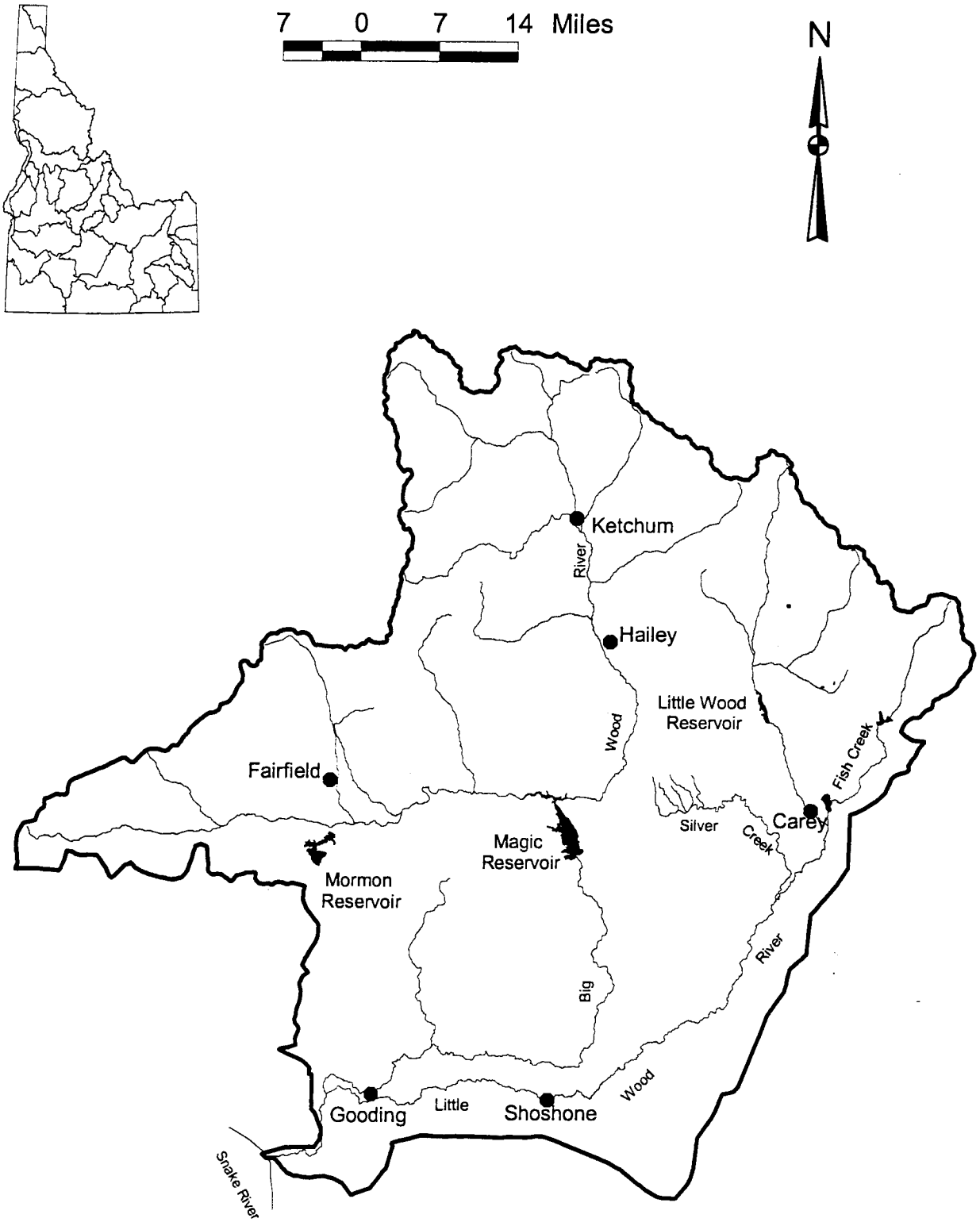
Billingsley Creek from mouth to Tupper Grade Crossing	5.5/	Coldwater	Rainbow trout Brown trout	General	Evaluate annual stocking of brown trout fry. Oppose impacts of any future commercial fish rearing operations. Place necessary requirements on any proposed hydropower projects to protect fisheries and wildlife values. Maintain catch rate of approximately 0.5 trout/hour.
Billingsley Creek from Tupper Grade Crossing to Vader Grade	2.5/	Coldwater	Rainbow trout Brown trout	Trophy	Manage as high-quality trophy fishery. Maintain catch rate of approximately 1.0 trout/hour. Fly fishing only as condition of free public access.
Billingsley Creek from Vader Grade Crossing to headwaters	1/	Coldwater	Rainbow trout	Wild	Maintain catch rate of approximately 1.0 trout/hour.
Riley Creek	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.
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 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 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 Cutthroat trout Rainbow trout x cutthroat trout hybrid Brown trout Smallmouth bass Largemouth bass 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 Bluegill	Trophy 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 Bluegill	Put-and-take trout General	Put-and-take fishery. Consider stocking smallmouth bass.
Morrow Reservoir	/60	Warmwater	Largemouth bass Bluegill Brown bullhead Black crappie	General	Manage as yield fishery.
Pioneer (Clover Creek) Reservoir	/220	Warmwater	Tiger muskie Largemouth bass Bluegill Bullhead	General	Rotenone reservoir and portions of tributaries to eliminate extremely high carp populations. Use drawdown to manage bluegill populations. Consider introducing tiger muskie. Develop boat access. Investigate methods to increase capacity.
Bray Lake	/204	Mixed	Rainbow trout	General	Work with landowners to acquire minimum reservoir level. Stock sterile rainbow trout. Introduce forage such as redside shiner. Evaluate potential for trophy fishery.
Frank Oster lakes, and Riley Creek impoundments	/30	Mixed	Rainbow trout Largemouth bass Bluegill	General General	No motors water. Maintain catch rate of 0.7 fish/hour with catchable rainbow trout. No motors water.
All other lakes and ponds on the Hagerman Wildlife Management Area	/35	Mixed	Rainbow trout Largemouth bass Bluegill Channel catfish	Put-and-take trout 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. 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 1.0 fish/hour.
Crystal Lake	/8	Coldwater	Rainbow trout	Put-and-take trout	Put-and-take for 1.0 fish/hour catch rate. Continue cooperative program with Clear Springs Trout Company to stock fish.

Scott Pond	/1	Coldwater	Rainbow trout	Put-and-take trout	Stock catchable rainbow trout on an annual basis. Enlarge existing pond area for trout if funds are available.
Dierkes Lake	/100	Mixed	Rainbow trout Largemouth bass Bluegill Smallmouth bass	Put-and-take trout Trophy General	Put-and-take for rainbow trout. Work to improve bass/bluegill fishery. Consider smallmouth bass introduction. Monitor trophy bass regulation to improve bluegill population structure.
Murtaugh Reservoir	/827	Warmwater	Channel catfish Yellow perch Brown bullhead	General	Low winter pool limits fishery potential.
Wilson Lake	/484	Warmwater	Brown bullhead Yellow perch Channel catfish Largemouth bass	General	Experimentally stock channel and/or blue catfish in lake periodically and evaluate. Continue to emphasize high quality bullhead angling in the lake. Consider other introductions, including tiger muskie, smallmouth bass, and bluegill.
Emerald Lake	/30	Mixed	Rainbow trout Channel catfish Largemouth bass Bluegill	Put-and-take trout General	Stock regularly with hatchery rainbow trout as needed to maintain catch rate of approximately 0.7 fish/hour. Investigate methods of controlling avian predators.
Freedom Park Pond	/1	Coldwater	Rainbow trout	Put-and-take trout	Put-and-take fishery for rainbow trout. Consider establishing as a juvenile-only water.
Thousand Springs Nature Conservancy Area	2/	Coldwater	Rainbow trout	Wild	Preserve unique aesthetic qualities of area. Manage for native wild trout and preserve Shoshone sculpin.
Box Canyon Springs	1.2/	Coldwater	Rainbow trout	Wild	Preserve unique aesthetic qualities of stream and fish species. 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 development low impact public use opportunities. Manage on a wild trout basis and to preserve Shoshone sculpin.
Banbury Springs	0.2/	Coldwater	Rainbow trout	Wild	Preserve unique aesthetic qualities of area and oppose development, which would adversely impact area. Manage on a wild trout basis, with approximate catch rate of 1.0 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 1.0 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 Rainbow trout Rainbow trout x cutthroat trout hybrids	Wild	Preserve aesthetic qualities of area. Strongly oppose any development of trails into area. Protect unique population of cutthroat trout and hybrid trout, which spawn and rear in stream. Strongly oppose any project, which would raise height of Twin Falls Dam and inundate Vinyard Creek. 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



23. 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 Dam, 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. 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 are in Dog Creek Reservoir.

Angler pressure is very high in portions of the drainage. One of the most intensely 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 helicopter 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 allow for 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, water rights holders and interest members of the public to acquire sufficient water rights from willing sellers to maintain flows between Glendale Diversion and Stanton Crossing during average or better water years. If flows are acquired, implement best methods of diverting lost production in irrigation diversions into the river and Magic Reservoir.

3. Objective: Improve returns of hatchery fish and reduce impacts on wild trout populations in streams.

   Program: Work with the USFS 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 ecosystem in 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: Install fish ladders on irrigation and other barriers between the Dietrich Diversion and Shoshone to create connectivity between isolated fish populations in the Little Wood River.

   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 economic and physical feasibility of increasing the height of the dam on Thorn Creek Reservoir.

Program: Negotiate with the owners of Cow Creek Reservoir near Hill City on acquiring public access for fishing.

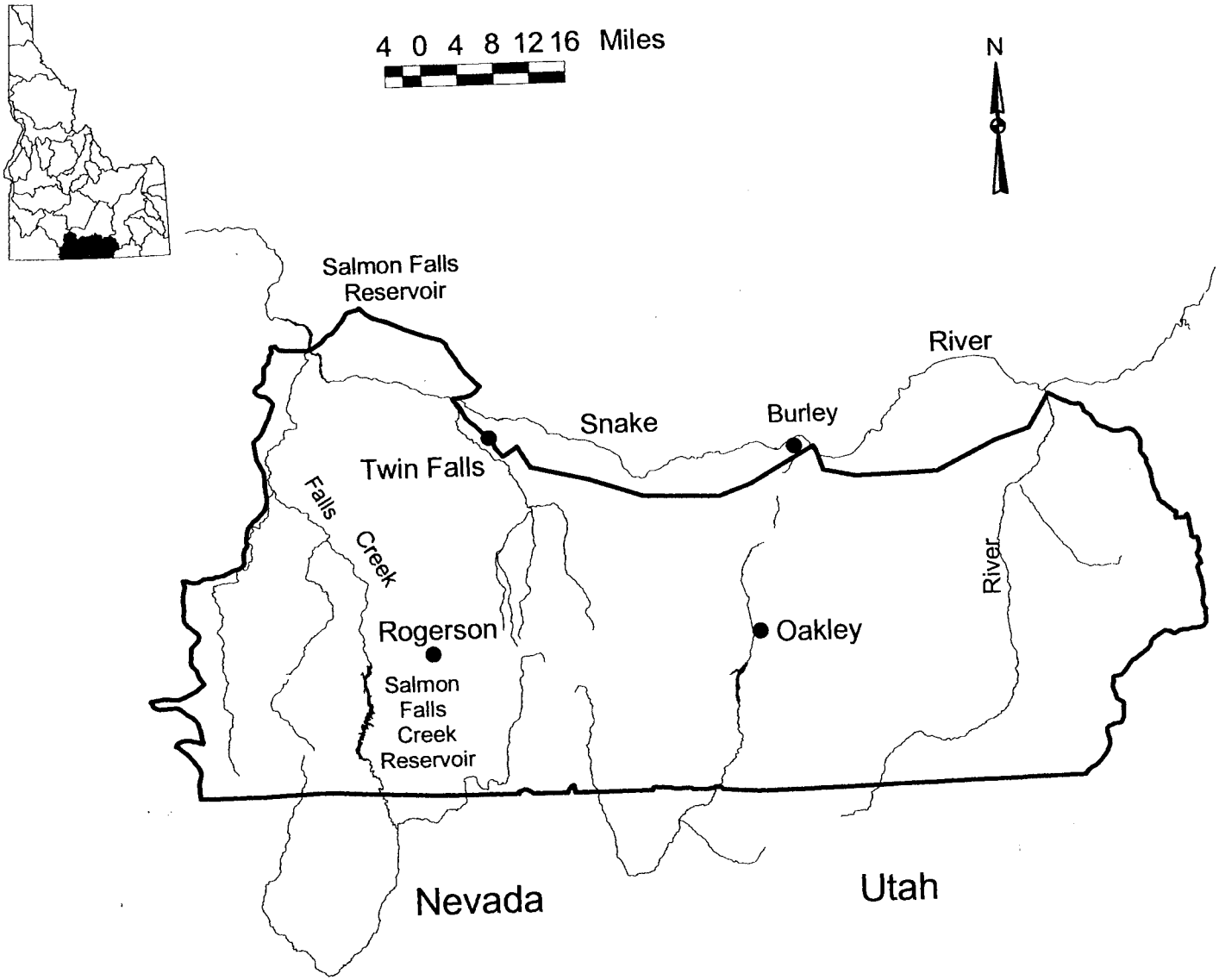
Drainage: BIG WOOD RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Big Wood (Malad) River from mouth to I-84 Bridge	3/	Mixed	Rainbow trout Smallmouth bass	Wild General	Wild trout populations. Maintain catch rates at 0.7 fish/hour. Work on hydro relicensing to re-establish fish passage as needed.
Big Wood River from I-84 Bridge to Richfield Canal Diversion	60/	Mixed	Rainbow trout 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 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.
Big Wood River from Magic Reservoir upstream to Glendale diversion	14/	Coldwater	Rainbow trout Brown trout Brook trout	General	Establish catch rate goals based on ability to get year-round water.
Big Wood River from Glendale diversion upstream to Mile 122 Bridge on Highway 75	12/	Coldwater	Rainbow trout Mountain whitefish Brook trout	Quality	Improve habitat and river stability using native woody material where possible. Oppose further flood plain development. Catch rate goal of 1.0 fish/hour..
Big Wood River from Mile 122 Bridge on Highway 75 upstream to mouth of North Fork	14/	Coldwater	Rainbow trout Mountain whitefish Brook trout	Trophy	Wild trout water, catch-and-release. Improve habitat and river stability using native woody material where possible. Oppose further floodplain development. Maintain catch rate 1.0 fish/hour.
Big Wood River from mouth of North Fork to headwaters	18/	Coldwater	Rainbow trout Brook trout Mountain whitefish	Put-and-take trout	Yield fishery for wild and hatchery trout and mountain whitefish. Maintain catch rate of 0.7 fish/hour. Investigate possibility of developing off river ponds for put-and-take stocking.
Trail Creek mouth to Wilson Creek	9/	Coldwater	Rainbow trout Brook trout	Put-and-take trout	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 Brook trout	Put-and-take trout	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.
Little Wood River from mouth to Shoshone (Milner-Gooding Canal)	18/	Warmwater	Smallmouth bass	General	Maintain as smallmouth bass fishery with catch rate of 0.5 fish/hour.

Little Wood River from Shoshone to Dietrich diversion dam	17/	Coldwater	Rainbow trout Brown trout	Put-and-take trout	Stock hatchery rainbow trout in potential high use areas to increase opportunity. Work to provide year-round flows and fish passage for this reach.
Little Wood River from Dietrich diversion dam to downstream boundary of Bear Track Williams State Recreation Area	10/	Coldwater	Rainbow trout Brown trout	General	Brown and rainbow trout fishery with catch rate of 0.7 trout/hour. Make supplemental plantings of sterile rainbow trout and/or brown trout as needed and evaluate. Develop habitat improvement program in conjunction with BLM. Reverse declining trend of rainbow trout. .
Little Wood River through Bear Track Williams State Recreation Area	3/	Coldwater	Rainbow trout Brown trout	Trophy	Quality brown and rainbow trout fishery with catch rate of 1.0 fish/hour. Fly fishing only, catch-and-release basis as an access stipulation. Improve riparian conditions. Stock fingerling trout as needed.
Little Wood River from upper boundary Bear Track Williams State Recreation Area to mouth of Silver Creek	4/	Coldwater	Rainbow trout Brown trout	General	Brown and rainbow trout fishery with catch rate of 0.7 fish/hour. Develop improvement program in conjunction habitat with BLM. Reverse declining trend of rainbow trout. Stock fingerling trout as needed.
Little Wood River from mouth of Silver Creek to canal diversions north of Carey	13/	Coldwater	Rainbow trout Brown trout	General	Support proposed instream flow through area to develop fishery.
Little Wood River from canal diversions to dam	3/	Coldwater	Rainbow trout Brown trout	Put-and-take trout	Stock hatchery rainbow trout to provide fishery and evaluate. Work for year-round flow downstream to diversions.
Little Wood River from Little Wood Reservoir upstream to second bridge	2/	Coldwater	Rainbow trout	Put-and-take trout	Continue stocking program in high use area at campground.
Little Wood River from second bridge above Little Wood Reservoir to headwaters	20/	Coldwater	Rainbow trout Brook trout	Wild	Maintain wild trout fishery with catch rates of 1.0 fish/hour.
Silver Creek from mouth upstream to county road bridge near Picabo	14/	Coldwater	Rainbow trout Brown trout	Wild General	Wild trout fishery with average catch rate of 0.7 fish/hour. Maintain or improve rainbow trout population. Improve riparian habitat. Work to acquire additional public access.
Silver Creek from county road bridge north of Picabo to Highway 20 Bridge at Milepost 187	6/	Coldwater	Rainbow trout Brown trout Mountain whitefish	Quality General	Catch rate of 1.0 fish/hour. Improve riparian habitat.
Silver Creek and tributaries upstream of Highway 20 Bridge at Milepost 187 Bridge and Sullivan Lake within Nature Conservancy property	8.5/	Coldwater	Rainbow trout Brown trout Mountain whitefish	Trophy	Catch-and-release. Fly fishing only on Nature Conservancy as access stipulation. Maintain catch rate of 1.0 fish/hour.

Stalker Creek from public fishing portion of Nature Conservancy property upstream (including tributaries)	10/	Coldwater	Rainbow trout Brook trout Brown trout	Wild	Catch rates of 1.0 fish/hour. Inform landowners/developers of need for maintaining habitat.
Loving Creek, from Nature Conservancy boundary upstream to headwaters, except Hayspur Hatchery grounds	3/	Coldwater	Rainbow trout Brook trout Brown trout	Wild	Maintain catch rate of 0.7 fish/hour.
Loving Creek, (Butte Creek) Hayspur Hatchery grounds	1/	Coldwater	Rainbow trout Brown trout Brook trout	Trophy	Maintain habitat for trophy fishery in new stream channel. Catch rates of 1.0 fish/hour.
Gavers Lagoon	/1	Coldwater	Rainbow trout	Put-and-take trout	Stock with catchable rainbow trout and occasional broodstock culls. Provide catch rate of 1.0 fish/hour.
Grove Creek	5/	Coldwater	Rainbow trout Brook trout Brown trout	Wild	Catch rate of 0.7 fish/hour.
Camas Creek	50/	Coldwater	Rainbow trout Brown trout	Wild	Investigate potential for fishery development. Improve habitat where feasible to increase carrying capacity.
All other streams in Big Wood River drainage	265/	Coldwater	Rainbow trout Brook trout Brown trout	Wild	Maintain or improve existing habitat to increase carrying capacity for resident fish and spawning and rearing of migratory fish. Where habitat is suitable, 1.0 fish/hour.
Dog Creek Reservoir	/95	Mixed	Largemouth bass Bluegill Rainbow trout Channel catfish Yellow perch Tiger muskie Brown bullhead	General Trophy	Supplement warmwater fishery with put-and-take rainbow trout fishery in winter months. Continue use of tiger muskie to utilize forage species. Investigate use of water level management to control vegetation and carp reproduction.
Thorn Creek Reservoir	/126	Coldwater	Rainbow trout	General	Cooperate with BLM to improve carryover of water and fish in low water years. Catch rate of 0.7 fish/hour. Investigate possibilities of creating a warmwater fishery with bluegill and bass.

Magic Reservoir	/3,776	Coldwater	Rainbow trout Brown trout Yellow perch	General	Emphasize rainbow trout fishery with large annual fingerling rainbow trout stockings and limited catchable rainbow trout stockings after extreme drawdown. Maintain overall catch rate of 1.0 trout/hour on opening weekend of general season and 0.5 trout/hour through remaining season.
Mormon Reservoir	/2,700	Coldwater	Rainbow trout Yellow perch	Quality General	Consider brown trout if forage fish become excessive. Work to acquire minimum pool.
Carey Lake	/200	Warmwater	Largemouth bass Bluegill Yellow perch Brown bullhead Channel catfish	General	Yield warmwater fishery. Conduct fish population and limnological studies of lake to aid in assessing fisheries and to determine management direction. Cooperate with habitat managers to maintain adequate water volume to prevent winterkill.
Little Wood River Reservoir	/575	Coldwater	Rainbow trout	General	Maintain fishery with fingerling and catchable rainbow trout stocking. Maintain catch rate of 1.0 fish/hour for ice fishery and 0.5 fish/hour in summer.
Fish Creek Reservoir	/516	Coldwater	Rainbow trout	General	Maintain fishery with fingerling and catchable rainbow trout stockings as determined desirable. Maintain catch rate of 1.5 fish/hour for ice fishery and 0.5 fish/hour during summer.
Lava Lake	/20	Coldwater	Rainbow trout	Put-and-take trout	Evaluate potential for improving fishery using restrictive regulations. Work to maintain access.
Baker Lake	/10	Coldwater	Cutthroat trout	Trophy	Maintain trophy fishing opportunity.
Upper Box Canyon Lake	/2	Coldwater	Brook trout	General	Evaluate methods to control brook trout numbers.
All other stocked alpine lakes (total of 11; 3 in Little Wood River drainage and 8 in Big Wood River drainage)	/80	Coldwater	Cutthroat trout Rainbow trout Arctic grayling Brook trout	General	Maintain diverse angling opportunity by stocking different lakes with different species. Stock every three years in cooperation with USFS to provide catch rates of 0.7 fish/hour.

Salmon Falls Creek, Rock Creek, Goose Creek, and Raft River drainages of the Snake River



24. 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, cutthroat trout, brown 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 other species, particularly rainbow trout. Programs for maintaining or improving existing cutthroat trout populations and restoring remnant populations will be emphasized. Leatherside chub, a species of concern, is present in 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 in past years.

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, 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 has been extremely well received and is very popular with a large segment of 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. Some walleye in the reservoir are now reaching trophy sizes, with the current state record being a 16 pound 2 ounce fish caught in 1996. Walleye have also been 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 need to be variable and adjusted on at least a two-year cycle. Trout fishing remains good in the reservoirs with the stocking of larger catchable rainbow trout instead of fingerings.

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 very high use.

There are three alpine lakes, which support game fish in the Raft River drainage: The 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 of Age 1 and 2 walleye. Develop suitable biennial fishing rules based on year class strength to take advantage of strong year classes.

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 wild Yellowstone cutthroat populations in drainages above Shoshone Falls.

   Program: Work with land management agencies on reestablishing watersheds and riparian habitats in drainages with recent fire damage.

   Program: Work with land management agencies on improving degraded riparian habitats with the implementation of improved grazing practices.

   Program: Maintain Yellowstone genetic integrity by stocking only sterile rainbow trout in cutthroat drainages.

   Program: Work with local WAG's to improve water quality and reduce sediment loadings.

   Program: Identify 319 grant funding opportunities to improve water qualilty.

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.

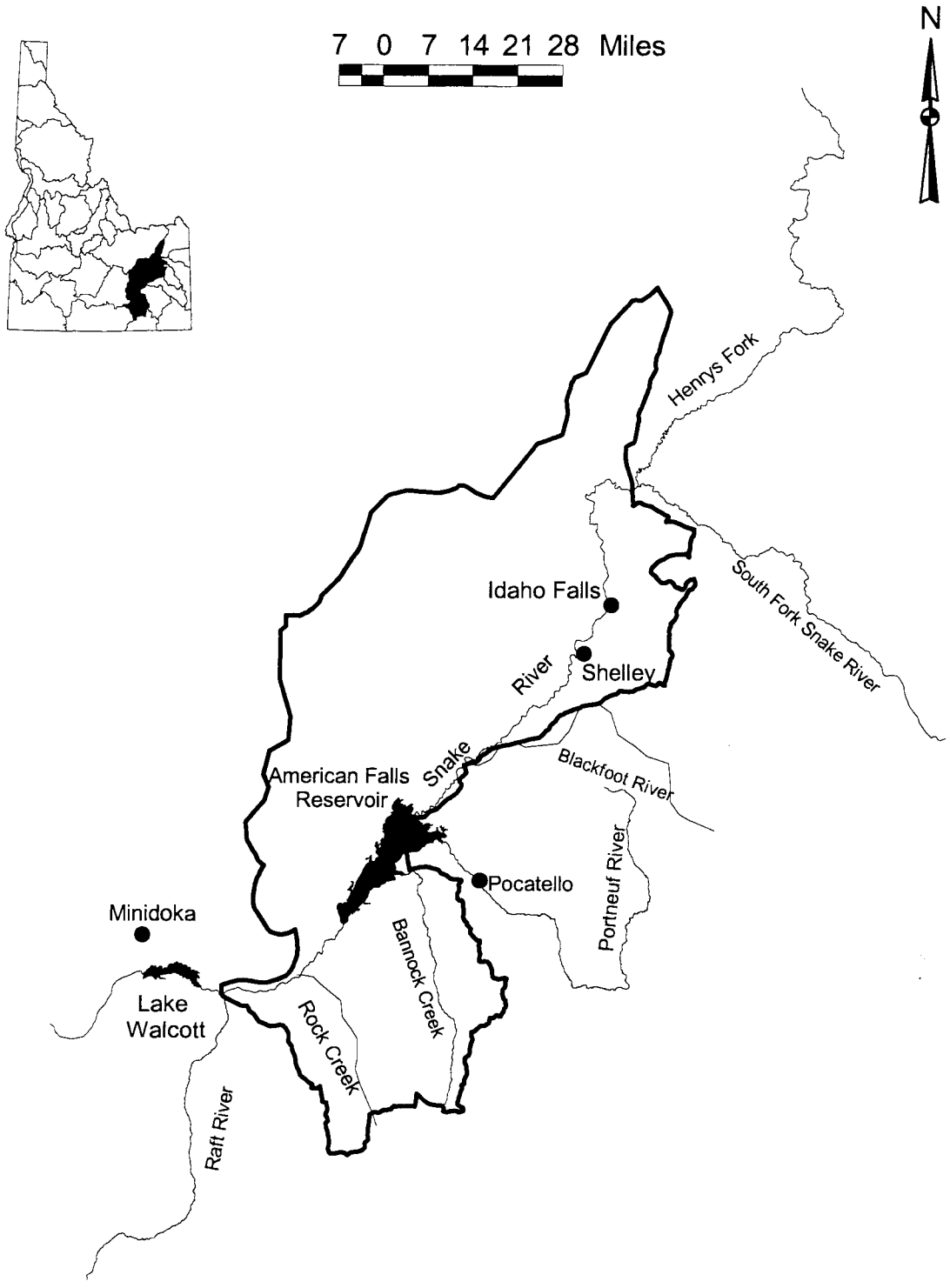
   Program: Work with regulatory agencies and landowners to reduce sediment and nutrient loads in streams flowing into the Snake River.

Drainage: SALMON FALLS CREEK, ROCK CREEK, GOOSE CREEK, AND RAFT RIVER DRAINAGES					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Salmon Falls Creek from mouth to Balanced Rock Park	26/	Mixed	Rainbow trout Smallmouth bass	Put-and-take trout	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 Brook trout 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 Brown tout Smallmouth bass Walleye	General	Maintain wild trout fishery.
Shoshone Creek from Nevada border to mouth of Big Creek	10/	Coldwater	Rainbow trout Brown trout	Wild	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 Brown trout	Wild	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 Rainbow trout Kokanee Yellow perch Smallmouth bass Black crappie	General	Intensify management of walleye with annual monitoring of both walleye and forage species. Establish fishing rules depending on walleye year class strength. Emphasize species diversity. Catch rate of 0.5 fish/hour on salmonids.
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 Falls Highline Canal	21/	Coldwater	Rainbow trout Brown trout	Put-and-take trout	Continue cooperation with local and state agencies to continue Rock Creek rural clean water projects. Continue stocking hatchery rainbow trout at high use sites. Assure adequate minimum instream flows and other environmental protection at hydro sites. Work to improve fish passage. Experiment with rainbow trout fingerlings to improve catch rates to 0.7 fish/hour. Year-round season.

Rock creek and tributaries from Twin Falls Highline Canal to headwaters	15/	Coldwater	Rainbow trout Brown trout Brook trout	Put-and-take trout	Continue cooperation on Rock Creek rural clean water project. Stock catchables in high use areas.
Goose Creek from Oakley Reservoir to headwaters (within Idaho)	44/	Coldwater	Cutthroat trout Rainbow trout	Wild	Improve quality of cutthroat trout fishery. Improve catch rate to 1.0 fish/hour. Use only sterile rainbow trout in drainage. Stock only in Oakley Reservoir and Trapper Creek.
Big Cottonwood Creek from Walls Ranch to headwaters	15/	Coldwater	Cutthroat trout	Wild	Place emphasis on cutthroat trout and preservation of stream habitat. Maintain catch rate of 1.0 fish/hour.
Oakley Reservoir	/1,350	Mixed	Walleye Rainbow trout Cutthroat trout Yellow perch	General	Intensify management of walleye with annual monitoring of both walleye and forage species. Establish flexible fishing rules depending on walleye year class strength. Maintain catch rate of 0.5 trout/hour.
Tributaries to Sublett Reservoir	30/	Coldwater	Cutthroat trout Brown trout Rainbow trout	Wild	Manage as a wild trout fishery with emphasis on preservation of stream qualities for spawning and rearing. Consider re-establishing native cutthroat trout. Continue cooperation with USFS and Sublett Irrigation District to maintain riparian vegetation and protect stream habitat. Maintain catch rate of 1.0 fish/hour.
Sublett Reservoir	/113	Coldwater	Cutthroat trout Rainbow trout Brown trout Kokanee	General	Stock with fall fingerling cutthroat trout. Closely monitor spawning runs of rainbow trout, cutthroat trout, and brown trout for spawning success. Experiment with kokanee and evaluate. Maintain close cooperation and coordination with Sublett Irrigation District to assure public access. Catch rate of 0.5 fish/hour.
Cassia and Clyde creeks Conner to Forest boundary.	5/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Put-and-take trout	Stock and evaluate return to creel. Catch rate 0.7 fish/hour.
Other streams in Raft River and Goose Creek drainages	361/	Coldwater	Cutthroat trout Rainbow trout Brook trout	Wild	Emphasize protection of native cutthroat trout in streams where present. Maintain catch rate of 1.0 trout/hour. Evaluate streams for reintroduction of native cutthroat trout. Emphasize harvest opportunity for brook trout. Work with landowners and land management agencies to improve habitat.
Independence lakes #1 and #2	/28	Coldwater	Cutthroat trout Rainbow trout Arctic grayling	General	Stock cutthroat trout every three years and Arctic grayling as available in Independence #2. Catch rates of 0.7 fish/hour. Support USFS policy of non-motorized access only.
Lake Cleveland	/6	Coldwater	Rainbow trout Cutthroat trout	Put-and-take trout	Accessible by road. Stock annually with hatchery rainbow trout and cutthroat trout fingerlings. Evaluate fingerling plants. Catch rates of 0.7 fish/hour.

Snake River Drainage

Lake Walcott to Confluence of South Fork and Henrys Fork



25. 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.

The six miles of river from Eagle Rock upstream to American Falls Dam is considered a Class 1 trout stream. In 1998, fishing effort was 63,555 hours for a catch of 34,066 fish of which 26,912 were trout. Almost all the trout were hatchery produced, with an estimated catch of only 238 wild cutthroat trout. This section is noted for trophy size trout; numerous trout taken were between 20 and 24 inches long. 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. Many of the large trout in the river reach were reared in the reservoir.

Some of the trout stocked in American Falls Reservoir annually migrate downstream in mid to late summer because the reservoir becomes too warm, may be drawn down too low and may lack sufficient oxygen. Reservoir releases in mid-summer sometimes result in high temperatures and low oxygen in the tailrace. Winter storage of water in the reservoir reduces river flows, placing additional stress on trout. During winter following heavy demand on stored water, the Bureau of Reclamation generally releases flows into the Snake River below American Falls Dam that are less than 5% of mean annual flow. Flows less than 10% of mean annual flow cause severe degradation to fishery resources.

American Falls Reservoir covers 58,078 surface acres and has a usable storage of 1,671,300 acre-feet. It is a popular fishing reservoir, with an estimated 26,000 rainbow trout harvested and 125,000 hours fishing during the season when water volume has been sufficient in previous years. During 1993, immediately following a six-year long drought, effort decreased to 69,000 hours and catch decreased to 8,000 trout. American Falls Reservoir is stocked annually with catchable trout in early May. 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 were evaluated and found to be successful for developing a 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. Yellow perch has been present in American Falls Reservoir for decades. However, anglers rarely encounter large numbers of harvestable sized perch due to occasional several drawdown. 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 newly established 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, is a Class 1 stream. 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. 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 have been stocked in that reach since 1991 and the fisheries in the river and reservoir below have 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.

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. A decreased number of larger trout (16 to 17 inches long) are stocked now and stocking time is 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 highly endorsed 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 and are stocked with catchable size trout. Largemouth bass, bluegill, and channel catfish were stocked there in 1993, but high water in 1997 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. 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 wild 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. Experience in similar river reaches in Idaho and Oregon has shown that smallmouth bass are compatible with both resident and anadromous salmonids.

B. Objectives and programs

1. Objective: Maintain and improve the newly developed 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.

   Objective: Look for opportunity to restore Yellowstone cutthroat trout.

   Program: Improve spawning and rearing habitat in tributaries to this river reach.

2. Objective: Maintain quality trout fishery from Eagle Rock to American Falls Dam.

   Program: Seek improved minimum flow. Biologically, a minimum flow of 20% (1,791 cfs) of the mean annual flow would be appropriate in this reach. However water managers currently reduce winter flow to as low as 300 cfs during low water years to maximize potential of reservoir refill.

3. Objective: Maintain boating access and an adequate minimum conservation pool in American Falls Reservoir.

   Program: Work with the Bureau of Reclamation, Department of Water Resources and Bonneville Power Administration to obtain a minimum conservation pool of 340,000 acre-feet (20% of full-pool). This level would keep at least one boat ramp accessible for anglers and maintain enough depth and surface area to reduce entrainment loss of trout and bass. This level would also minimize water quality impacts from sediment entrainment. This volume would also maintain some rocky habitat to encourage smallmouth bass to stay in the reservoir.

   Objective: Increase catch rate to 0.3 trout/hour.

   Program: Increase number of fish stocked by decreasing average size.

4. Objective: Protect and restore wild 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's interest in closing harvest to cutthroat trout while maintaining current limit on rainbow trout and brown trout.

5. Objective: Create dependable warmwater fisheries in McTucker Ponds.

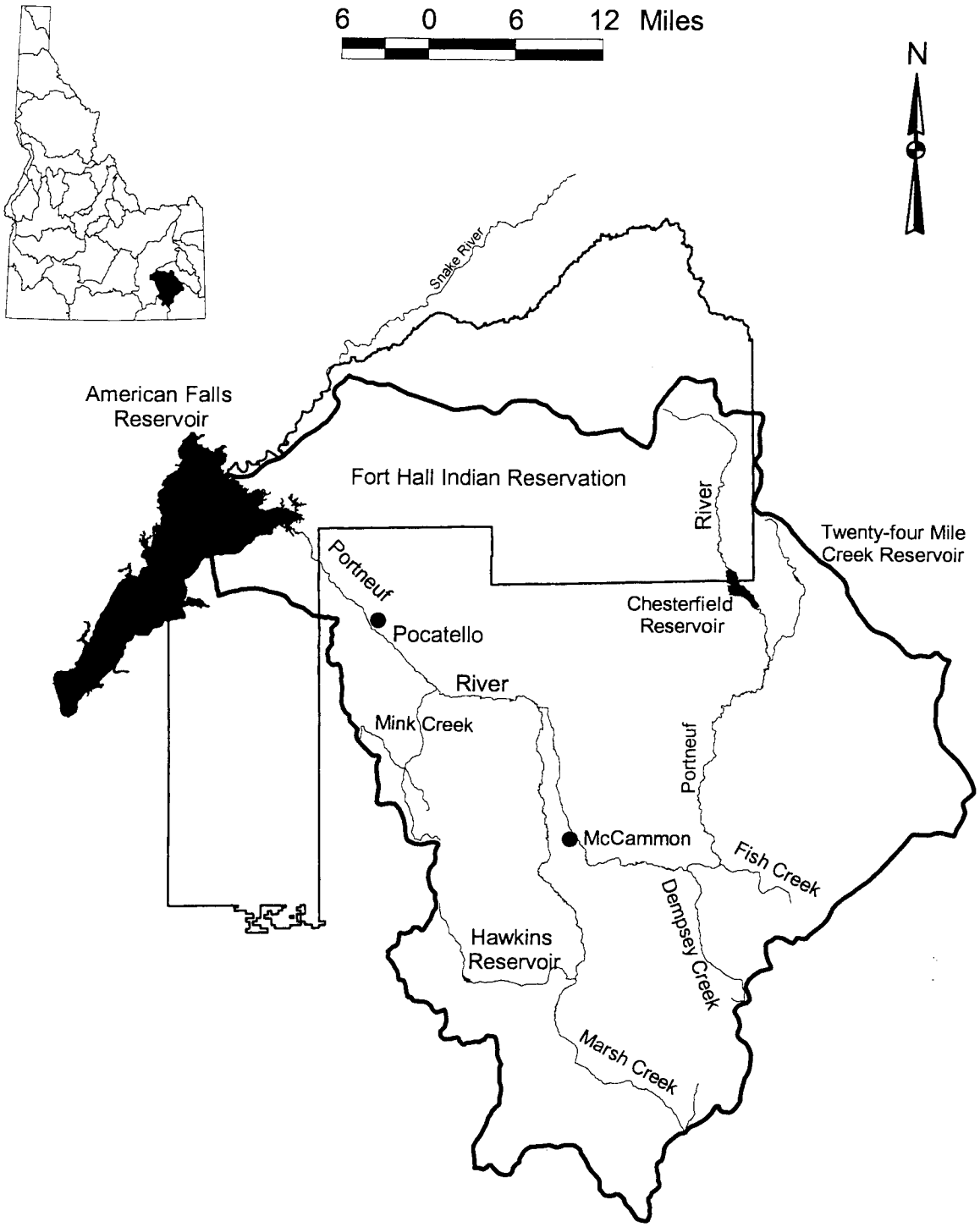
   Program: Work with Bingham County to create a berm around the McTucker Ponds to prevent flood-plain flows from entering the ponds and contaminating them with nongame fish.

   Program: Renovate the eight McTucker ponds with rotenone and restock with largemouth bass and bluegill.

DRAINAGE: Snake River-Lake Walcott to Confluence of South Fork and Henrys Fork					
Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Snake River from eastern boundary of Minidoka Wildlife Refuge to Eagle Rock	8/	Mixed	Rainbow trout Brown trout Smallmouth bass Cutthroat trout	General	Assess status of the fishery including status of recently introduced channel catfish, smallmouth bass, and sturgeon.
Snake River from Eagle Rock to American Falls Dam	7/	Mixed	Rainbow trout Brown trout Cutthroat trout Smallmouth bass Sturgeon	Put-and-grow trout and sturgeon Quality wild cutthroat trout	Develop a fishery management plan for the reach consistent with research findings and public input. Maintain quality trout rules, maintain sturgeon population and assess public's interest in quality bass rules.
American Falls Reservoir	/56,000	Mixed	Rainbow trout Cutthroat trout Brown trout Smallmouth bass	Put-and-grow trout Rainbow trout. Natural reproduction of other species	Develop a fishery management plan using research findings and public input.
Rock Creek and tributaries	55/	Coldwater	Cutthroat trout Rainbow trout	Quality General	Develop angler access. Work with other agencies to minimize grazing impacts through NRCS programs
Springfield Lake	/66	Coldwater	Rainbow trout	Put-and-grow trout	Assess public support and potential partners to increase water depth.
McTucker ponds	/10	Mixed	Rainbow trout.	Put-and-take trout	Seek funding for a berm around the ponds that will separate the ponds from the Snake River.
Rose Pond	/5	Mixed	Rainbow trout.	Put-and-grow trout	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 Brown trout Rainbow trout Mountain whitefish	Quality Wild trout Put-and-grow trout	Increase catch rate for all trout to 0.5 fish/hour. Rely on hatchery rainbow trout and brown trout fingerling recruitment.
Gem State Dam to outflow of Idaho Falls upper power plant	12/	Coldwater	Rainbow trout Brown trout Whitefish Cutthroat trout	General 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 Brown trout Rainbow trout Whitefish	Quality 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 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 Cutthroat trout	General 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



26. 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 acres.

The Portneuf River headwaters upstream from Chesterfield Reservoir are on the Fort Hall Indian Reservation and flows into American Falls Reservoir. The upper end of Chesterfield Reservoir is on the reservation. The Portneuf River flows into American Falls Reservoir. From this confluence upriver to Siphon Road the Portneuf River is on the Fort Hall Reservation. The Shoshone-Bannock Tribes manage reaches of the river and reservoir on this 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 floiws through Pocatello, was channelized and directed through a flat-bottom, vertical sided cement flume that is a 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 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 by livestock and exacerbated by bankfull flows during the summer growing season. 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 feral rainbow trout population and was a very popular fishery. 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 during 1979. 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.

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 project to construct grade control structures in the outlet canal.

Major tributaries to the Portneuf River include Mink, Marsh, Rapid, Dempsey, 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 is unknown.

Four irrigation reservoirs are located in this drainage: Hawkins, Wiregrass, Chesterfield, and Twentyfour Mile. The lack of suitable spawning areas and annual irrigation drawdown precludes the development of wild trout fisheries in these waters. The return of Utah chub to Chesterfield Reservoir in the mid 1990s has limited management options to stocking of catchable size trout. Trout grow rapidly and a high percentage is caught the first season. Carryover occurs when water levels are favorable, and fish are caught at much larger size (two to four pounds) in succeeding years. Chesterfield Reservoir was last renovated in 1992 after it was mostly drained for irrigation by June 20.

Five years ago the Department was optimistic that the Highway Pond near Pocatello was soon to become a perennial urban fishery. However, two things have happened since then to indicate there is very little likelihood this will happen. First, the water table has dropped much lower than anticipated. Second, water pollution in the aquifer has led to a recommendation to fill in the Highway Pond pit to prevent possible pollution at this location. Currently water level in the highway pond is too low to consider even a temporary fishery.

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.

2. Objective: Improve conditions for wild 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.

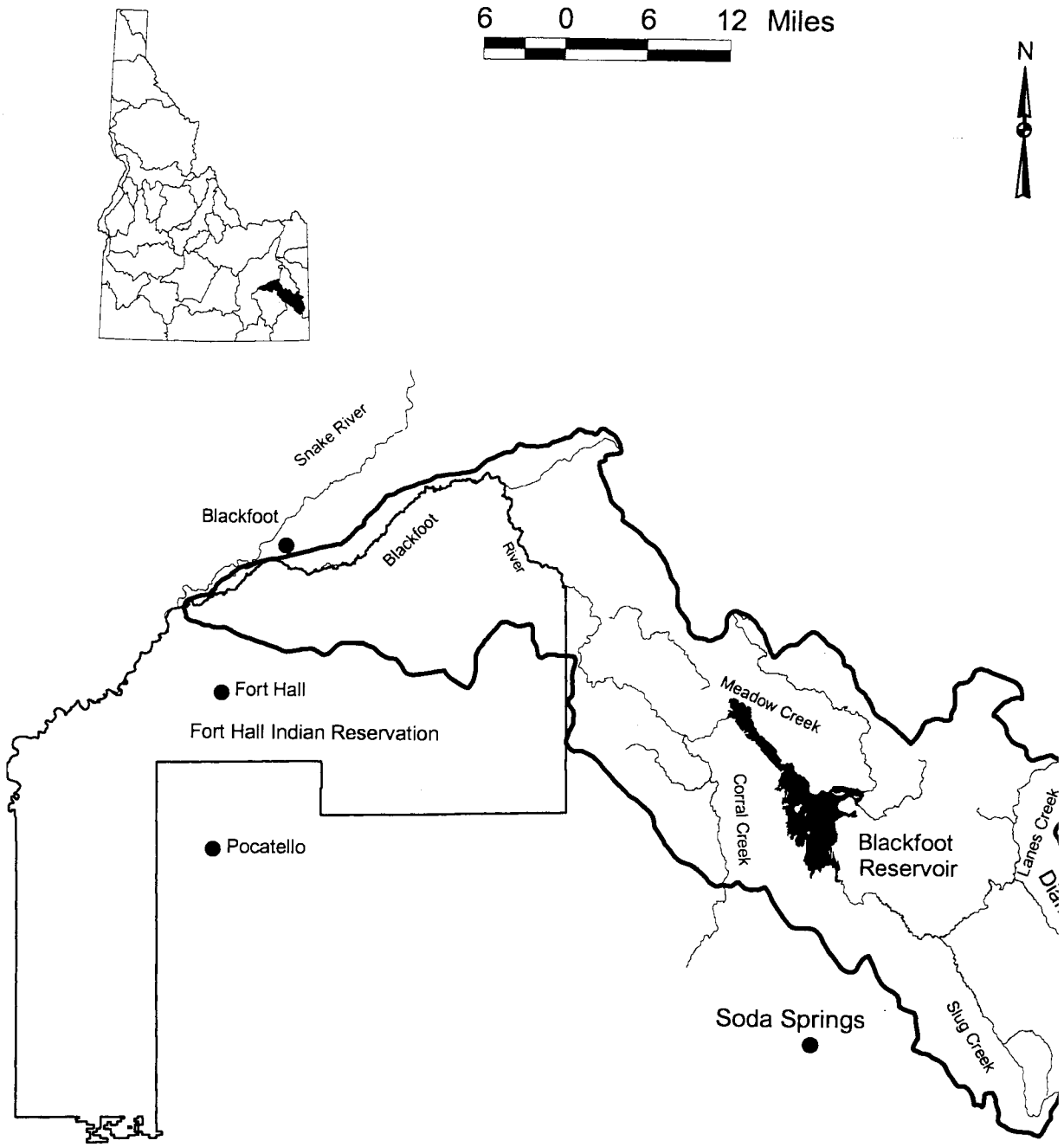
Program: Reduce the number of hatchery trout stocked.

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.

Drainage: PORTNEUF RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Portneuf River from American Falls Reservoir to Marsh Creek, including Marsh Creek upstream from the Ft Hall Reservation	12/	Coldwater	Rainbow trout Brown trout Cutthroat trout	General Quality	Stock catchable size rainbow trout in the Edson Fichter area upstream of Pocatello. Pursue better water quality and quantity management.
Portneuf River from Marsh Creek to Marsh Valley Canal diversion	20/	Coldwater	Brown trout Rainbow trout Cutthroat trout	General Quality	Stock catchable rainbow trout.
Marsh Creek	40	Coldwater	Cutthroat trout Brown trout Rainbow trout	Wild trout General Put-and-take	Work with landowners to improve habitat. Seek better irrigation return flow quality through NRCS projects.
Hawkins Reservoir	/54	Coldwater	Rainbow trout	Put-and- grow trout	Stock catchable size rainbow trout in early spring. Water supply is often insufficient for fish survival.
Wiregrass Reservoir	/6	Coldwater	Rainbow trout	Put-and-take trout	Stock catchables in early spring.
Portneuf River from Marsh Valley Canal to Lava Hot Springs	7/	Coldwater	Rainbow trout Brown trout Cutthroat trout	Put-and-take trout General Quality	Work on access permits with Lava Chamber of Commerce and landowners. Limit hatchery zone to upper three miles near Lava. Improve riparian habitat.
Portneuf River from Lava Hot Springs to Broxon Road	6/	Coldwater	Rainbow trout Brown trout Cutthroat trout	Put-and-take trout Quality	Seek public access from landowners.
Portneuf River from Broxon Road to Kelly Road Bridge	8/	Coldwater	Rainbow trout Cutthroat trout	Quality Wild trout	Reduce sediment problems via upstream habitat improvement in canal and tributaries. Consider quality trout regulations if water quality and substrate habitat improve. Maintain riparian corridor fences and access agreements with landowners.
Portneuf River from Kelly Road Bridge to Chesterfield Reservoir	9/	Coldwater	Rainbow trout Cutthroat trout	General Quality	Monitor habitat improvement and fish population after canal and stream bank improvements mature.
Chesterfield Reservoir	/1,600	Coldwater	Cutthroat trout Rainbow trout Rainbow trout x cutthroat trout hybrids Brown trout	General	Stock catchable size rainbow trout due to competition with fingerling trout by Utah chubs. Department will work with the Shoshone-Bannock Tribes to modify stocking when the tribes produce Yellowstone cutthroat trout for stocking.
Portneuf River above Chesterfield Reservoir		Coldwater	Cutthroat trout		

Pebble Creek	10/	Coldwater	Cutthroat trout Rainbow trout	Wild trout Put-and-take trout	Seek habitat improvement project opportunities.
Toponce Creek	12/	Coldwater	Cutthroat trout Rainbow trout	Wild trout Put-and-take trout	.
24-Mile Reservoir	/44	Coldwater	Rainbow trout x cutthroat trout hybrid Rainbow trout	Trophy	Maintain moderate stocking rate. Stock with fingerling cutthroat trout and rainbow trout.

Blackfoot River Drainage



27. BLACKFOOT RIVER AND TRIBUTARIES

A. Overview

The Blackfoot River and tributaries total 346 miles covering 734 surface acres. Blackfoot Reservoir covers 19,000 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.

Habitat conditions generally are fair in the upper river 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 been minimal to date. However, there is an on-going investigation into affects of selenium from mines 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 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 between 1987 and 1992, 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. Wild cutthroat trout must be released, and hatchery cutthroat trout have not been stocked since 1995. Wild cutthroat trout made up about 90% of the catch from the river and tributaries upstream from Slug Creek. However, feral rainbow trout are pioneering into the upper Blackfoot River at an alarming rate.

The Blackfoot River, its tributaries, and the Blackfoot Reservoir serve integral roles in the life history and ecology of wild 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. Most juvenile cutthroat trout then return to Blackfoot Reservoir 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 wild 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 Bear Lake cutthroat trout in Blackfoot Reservoir. These fish were reared for one year in the Grace Hatchery prior to release as five-inch fingerlings. Bear Lake cutthroat 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 was an attempt to maintain the separate strains of cutthroat trout. Egg survival from Bear Lake cutthroat trout spawners captured in the Little Blackfoot River was poor. Beginning in 1990 the Bear Lake cutthroat trout were released in the Blackfoot River. Beginning in 1991 the Department attempted to trap all trout ascending the upper Blackfoot River from Blackfoot Reservoir. All trout, except native Yellowstone 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.

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. From 1990 through 1997, anglers could keep two cutthroat daily, but only those at least 18-inches long. No bait fishing is allowed on the river upstream from 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 drought got this program off to a slow start. As of the year 2000 restoration appears good with large numbers of spawners observed on spawning grounds and upper river anglers reporting good catches of large cutthroat trout.

The management plan also deals with hatchery programs for the reservoir. Originally the Department was going to stock Bear Lake cutthroat trout and rainbow trout. The Department discontinued the Bear Lake cutthroat trout program because there was a chance these fish would escape to the upper river and interbreed with native Yellowstone cutthroat trout. In 2000, anglers and Department biologists observed numerous rainbow trout in the upper reach of the Blackfoot River. During the current five-year planning period, the Department will work toward removing this new vain on trout population. The Department's new sterile rainbow trout stocking program is the first measure for this effort.

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 will evaluate the relative benefits of these two size groups of trout to the anger's catch. Size of trout to be stocked in the future will be based on this evaluation.

Dike Lake (35 surface acres) was created by a barrier across the mouth of the 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 freeze. During the next five years the Department will attempt to control aquatic weed growth as a means of reducing oxygen demand and subsequent fish kill during winter.

B. Objectives and Programs

1. Objective: Improve migration conditions in spawning tributaries in the Blackfoot River from its mouth upriver to Blackfoot Reservoir.

   Program: Repair potential migration barrier on Miner Creek below the highway bridge.

2. Objective: Stock rainbow trout in Blackfoot Reservoir of a size that has the best return to anglers.

   Program: Conduct season-long creel survey to compare the relative return to anglers of a large number of small fingerlings (3-inches) and a small number of large catchables (9- to 10-inch). Use the results to update the stocking program for Blackfoot Reservoir.

3. Objective: Protect genetic integrity of wild Yellowstone cutthroat trout in the Upper Blackfoot River.

   Program: Remove harvest limits for rainbow trout and hybrids if anglers can differentiate between these fish and native cutthroat trout.

   Program: Install a trap and weir near the reservoir to prohibit existing rainbow trout from migrating up from the reservoir to spawn in the river.

   Program: Stock only sterile rainbow trout in Blackfoot Reservoir.

   Program: Install signs to help anglers distinguish among rainbow trout, cutthroat trout and their hybrids.

   Program: Install traps below significant spawning areas on important spawning tributaries so that rainbow trout and hybrid spawners can be culled.

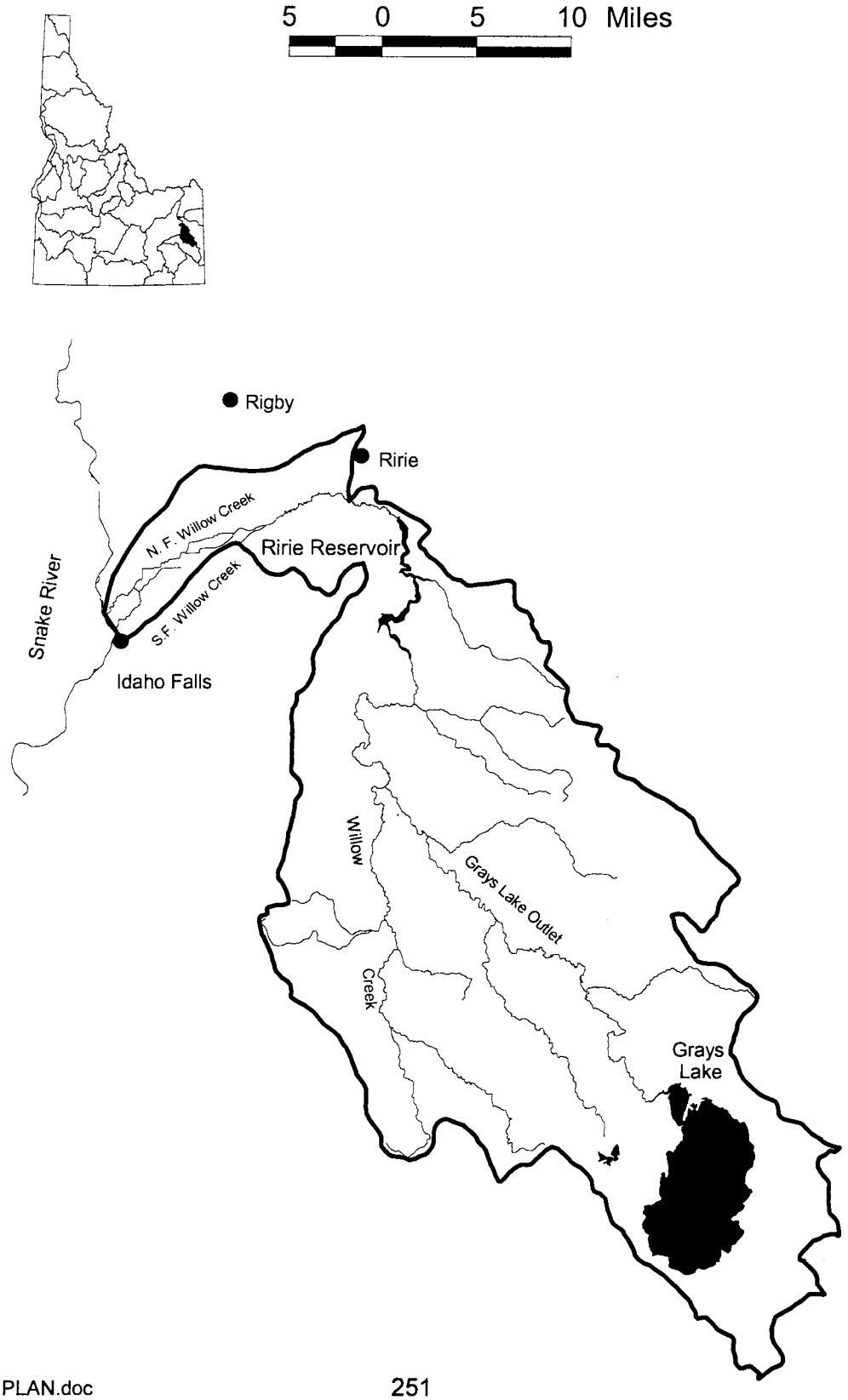
4. Objective: Maintain sufficient oxygen and decrease anaerobic gasses so that trout can live through the winter under ice-cover in Dike Lake (a diked-off arm of Blackfoot Reservoir.

   Program: Apply herbicide to reduce growth of aquatic macrophytes throughout the growing season.

Drainage: BLACKFOOT RIVER

Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Blackfoot River from mouth to equalizing reservoir	14/	Coldwater	Rainbow trout Mountain whitefish Cutthroat trout	General 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 Mountain whitefish Cutthroat trout	General Quality	
Blackfoot River from Wolverine Creek to Rawlins Creek	14/	Coldwater	Rainbow trout Mountain whitefish Cutthroat trout	General Quality	Assess potential for habitat improvement. Improve fish passage from river into tributaries.
Rawlins and Brush creeks (lower three miles)	3/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Put-and-take trout General Wild trout	Stock hatchery zone in lower three miles of Rawlins and Brush creeks.
Rawlins and Brush creeks (above hatchery zone)	9/	Coldwater	Cutthroat trout Brook trout	Wild trout General	
Blackfoot River from Rawlins Creek to Cutthroat trout Campground	11/	Coldwater	Rainbow trout Cutthroat trout	General Quality	
Blackfoot River from Cutthroat trout Campground to Government Dam	10/	Coldwater	Rainbow trout Cutthroat trout	Put-and-take trout Quality	
Corral Creek		Coldwater	Rainbow trout Brook trout Cutthroat trout	Put-and-take trout General Wild trout	
Other Blackfoot River tributaries from mouth to Government Dam		Coldwater	Cutthroat trout	Wild trout	
Blackfoot Reservoir	/18,000	Coldwater	Rainbow trout Yellowstone cutthroat trout trout	Put-and-grow trout Conservation	Evaluate benefit to anglers of small fingerlings v catchable size trout. Stock sterile rainbow and maintain cutthroat populations.
Dike Lake	/35	Coldwater	Rainbow trout	Put-and-take trout	Attempt aquatic herbicide application to prevent excessive buildup of rooted vegetation that leads to winter-kill.
Blackfoot River and tributaries above the reservoir	60/	Coldwater	Rainbow trout Brook trout Cutthroat trout	 Quality	Develop angler access throughout drainage. Work on habitat improvement, particularly on upper valley tributaries. Remove rainbow trout and rainbow trout hybrids.

Willow Creek Drainage



28. 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 a year have been diverted 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. Catch rates declined to 0.33 trout/hour and 3,000 hours of effort in 1980. Game fish found in this area are primarily cutthroat trout and brown trout. Lesser numbers of rainbow trout and whitefish are also present.

Ririe Reservoir, 20 miles from Idaho Falls, has developed into a popular fishery. It supports one of the most intensive salmonid reservoir fisheries in Idaho. In 1983, angler use was approximately 60,000 hours with a catch rate of 0.20 trout/hour. This fishery is supported primarily through hatchery releases of rainbow trout and kokanee. Minor catches of cutthroat trout and brown trout are also made. Steep banks and limited access restrict bank fishermen to 35% of the effort. Kokanee have been stocked since 1990. 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 western Idaho impoundments. Without restrictive harvest regulations, angling exploitation will keep the upper size distribution of this population at less than 12 inches, the minimum harvest length allowed.

The 95 miles of streams in the Willow Creek drainage above Ririe Reservoir are mainly in narrow canyons and contain pure wild cutthroat trout populations. Water flows vary from extremes of several thousand second-feet during runoff to a few second-feet in late summer and winter in Willow Creek. Intense agricultural practices 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 topsoils 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 wild populations of cutthroat trout, brown and/or brook trout. Native cutthroat trout populations are presently depressed in the drainage but remain viable. 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 and brown trout presently dominate the catch in tributaries. 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 limit is two cutthroat trout none less than 16 inches. This regulation has contributed to the restoration of cutthroat trout populations in the Willow Creek system from above Ririe Reservoir. Severe drought conditions in the late 1980s through 1994 caused the fish habitat quality and trout populations in this system to at best maintain status quo. By 1995, increased numbers and size of cutthroat trout were documented.

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: Evaluate private stockings of fish in the drainage for possible negative effects on native cutthroat trout and regulate accordingly.

   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 sterile hatchery rainbow trout at a size and on a schedule that provides high quality fishing with economic efficiency.

   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 fishery in Ririe Reservoir.

   Program: Monitor the bass population, primarily with data provided by organized tournament bass anglers and regularly scheduled creel surveys.

   Program: Evaluate public demand for higher quality bass angling experiences on Ririe Reservoir. If public demand indicates quality bass management practices are desirable, evaluate acceptable restrictive harvest rules to increase the mean length of Ririe Reservoir smallmouth bass. Investigate bioenergetics and bass growth potential to determine if quality bass rules will work biologically.

Program: Work with organized bass anglers to minimize the biological and social impacts of bass tournaments.

4. Objective: Increase utilization and appreciation of abundant yellow perch in Ririe Reservoir.

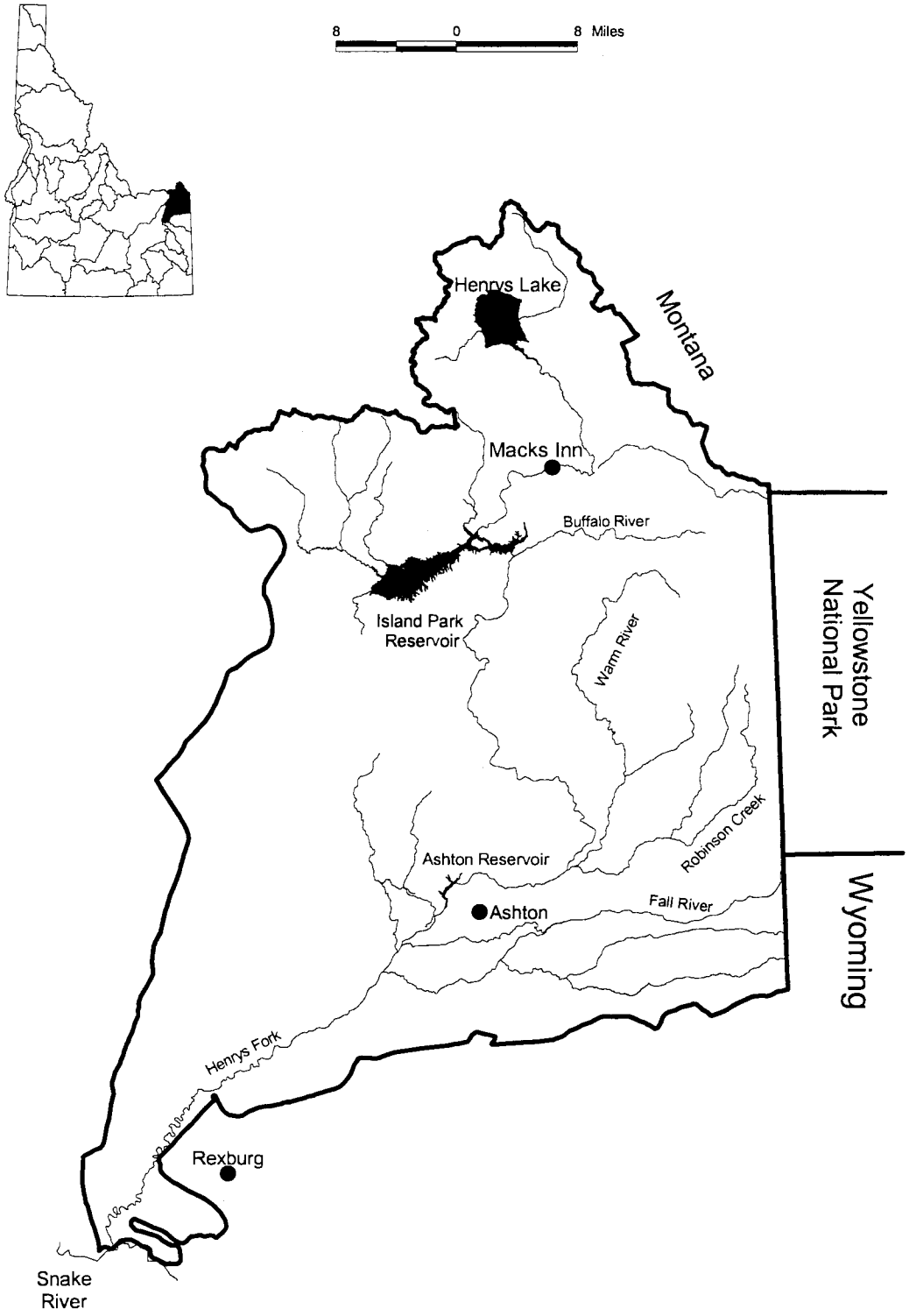
   Program: Continue efforts to educate the public about the positive aspects of yellow perch (quality table fare, catchability, and unlimited harvest opportunities).

5. Objective: Increase use of chubs and suckers by predators.

   Program: Evaluate introduction of tiger muskie, a sterile hybrid (muskellunge x northern pike).

DRAINAGE: Willow Creek					
Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Willow Creek from Eagle Rock Canal to Ririe Dam	5/	Coldwater	Rainbow trout Brown trout Cutthroat trout	General Quality	Area seasonally de-watered.
Ririe Reservoir	/1,470	Mixed	Rainbow trout Kokanee Brown trout Yellow perch Smallmouth bass Cutthroat trout	Put-and-take-trout General Quality	Sterile rainbow trout put-and-take fishery Put-and-grow kokanee fishery. Maintain catch rates of 0.6 fish/hr with lengths 10 inches to 12 inches. Manage bass under general statewide bass limits. Monitor populations. Monitor cutthroat trout harvest rates in reservoir and evaluate need for restrictive reservoir harvest rule.
Willow Creek and Grays Lake Outlet above Ririe Reservoir	80/	Coldwater	Cutthroat trout Brown trout	Quality General	Restore wild populations of native cutthroat trout through restricted harvest regulations and habitat enhancement.
All other tributaries	83/	Coldwater	Cutthroat trout Brown trout Brook trout	Quality General	Restore wild populations of native cutthroat trout through restricted harvest rules, delayed season openers and habitat enhancement. Catch rates of 1.0 fish/hr. Maintain bonus brook trout possession limit.

Henrys Fork Snake River Drainage



29. HENRYS FORK SNAKE RIVER DRAINAGE

A. Overview

In terms of habitat, the Henrys Fork drainage provides one of the most important rainbow trout fisheries in the state in fish populations and angler use. Important tributaries include the Teton, Fall, Warm, and Buffalo rivers. Henrys Lake and Island Park Reservoir are important components of the Henrys Fork fishery. The Teton River is discussed as a separate drainage.

The Henrys Fork Snake River below St. Anthony suffers from impacts of irrigation withdrawals and low flows, which limit salmonid populations. The habitat below the confluence of the Teton River is severely degraded as a result of the Teton Dam failure and flood in 1976.

Electrofishing surveys have documented a population of large cutthroat trout, which apparently recruit from the Teton River. The Upper Snake Region restricted cutthroat trout harvest regulation has increased survival and recruitment of wild cutthroat trout from the Teton River into this river reach. With supplemental stocking of cutthroat trout fingerlings, the lower Henrys Fork could provide catch rates of 0.3 fish/hour, or more.

The Henrys Fork above 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. Annual angler use along this segment was 175,000 hours of effort, with catch rates of 1.25 fish/hour in 1976. Wild rainbow trout comprised 53% of the catch, hatchery rainbow trout 19%, brook trout 16%, and native cutthroat trout 1%. Hybrids (rainbow trout-cutthroat trout) and whitefish made up the remaining 12%, although whitefish are the most numerous game fish present.

Management of the Henrys Fork from St. Anthony to Island Park Dam will emphasize wild, natural populations without hatchery supplementation. This section of river is currently producing good numbers of wild rainbow trout and some brown and cutthroat trout. Whitefish are very abundant. Monitoring will continue, especially below Ashton Reservoir to ensure maintenance of current catch rates of 1.0 fish/hour or better. 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. Research conducted by Montana State University and the Department from 1995 to 1999 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. This reach will remain a trophy fishery, managed under catch-and-release regulations. Ashton Reservoir will be managed for a yield fishery under general regulations.

Island Park Reservoir is a widely fluctuating irrigation reservoir with a mean surface area of 8,400 acres. It provides an important reservoir fishery for rainbow trout and kokanee, with catch rates of up to 0.6 fish/hour. Supplemental stocking of cutthroat trout fingerlings in Island Park Reservoir will remain an option pending further evaluation of public attitudes about their use in the reservoir. Fall spawned rainbow trout fingerlings will be utilized for fall release in the east end of the reservoir to minimize avian predation of recently stocked fingerlings. Kokanee stocking will be maintained or increased in the future to provide both an open water fishery and a spawning fishery, and a viewing opportunity in the Upper Henrys Fork. Establishment of a late kokanee run (Pend Oreille Lake stock) in addition to the present early fall run will be considered. Lahontan cutthroat trout were stocked from 1993 to 1997 and splake were stocked from 1995 through 1998 to develop a quality trout fishery supported by an abundant forage base of Utah chubs and suckers. Subsequent monitoring has indicated that both species performed as well as, but no better than rainbow trout and kokanee. Lahontan cutthroat trout and splake stockings have been discontinued.

From Island Park Reservoir upstream to Henrys Lake, the Henrys Fork provides a yield fishery supported by natural production and supplemented by hatchery catchable rainbow trout.

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. Trout emigration from Henrys Lake supports the majority of angler harvest. 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. 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.

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 trophy 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 and 0.10 fish/hour for brook trout. Size goals are 20% of hybrids 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. Cutthroat trout provide the majority of the catch, and good populations of pure strain cutthroat trout are necessary so that adequate eggs are available to produce rainbow trout x cutthroat trout hybrids. Declines in cutthroat trout stocks due to low water flows in the tributaries from 1977 to 1981 caused drastic declines in the spawning runs, which restricted the hybrid program at that time. A two-fish limit was instituted in 1980 to protect reduced populations of cutthroat trout. Since 1981, cooperative agreements between the Department, the Henrys Lake Foundation, and area ranchers have improved riparian and instream spawning and rearing habitat through protective fencing of spawning tributaries of Henrys Lake. Fish losses to irrigation ditches have also been reduced by cooperative diversion screening projects. These activities will continue on Duck Creek, Howard Creek, Targhee Creek and Kelly Springs. Evaluations of enhanced trout recruitment from these

spawning tributaries to Henrys Lake have been ongoing since 1997 and will continue over the next five years.

From 1981 through 1984, emphasis on hatchery cutthroat trout enhancement provided cutthroat trout releases of 2,000,000 or more fry 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. Increased densities of cutthroat trout depressed growth rates, thereby threatening the trophy management goals of Henrys Lake. During 1981 to 1984, hybrid and brook trout enhancement goals were not consistently met, resulting in declining catch rates of hybrids and brook trout. Beginning in 1985, cutthroat trout stocking was reduced to 1,000,000 per year with increased stocking of hybrid and brook trout production. Emphasis was targeted on producing a consistent number of larger hybrid fingerlings with further experimentation on sterilized hybrid crosses.

Stockings of cutthroat trout-rainbow trout hybrids were increased to approximately 250,000 per year. Hybrids in 1987 provided 34% of the catch, exceeding the management target of 20% of the Henrys Lake catch. The Henrys Lake hybrid program is now supported entirely by the production of sterile hybrid trout to protect the genetic integrity of the cutthroat trout population. Sterile hybrids (200,000) will be stocked in 2001. 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.

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. The consequences of an increasing Utah chub population in Henrys Lake cannot be accurately predicted at this time. Intensive surveys of Utah chubs in Henrys Lake will continue for the next five years. The Department will work to facilitate cooperative research with area universities to learn more about the Henrys Lake Utah chub population and its potential impacts to the Henrys Lake fishery.

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. It 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.

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. Cutthroat trout and cutthroat trout-rainbow trout hybrids make up an incidental portion of the catch, but could contribute more under the Upper Snake Region cutthroat trout enhancement regulation and habitat enhancement efforts in the Conant and Squirrel Creek drainages. There is little recent information on the Fall River fishery. The lower four miles of the river is seasonally degraded by irrigation water withdrawals. The remainder of the drainage is in good condition.

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, propose regulation changes as biologically or socially necessary.

   Program: Maintain from the mouth to Del Rio its general harvest regulations for all trout with seasons and area closures as needed for protection of spawners.

   Program: Work for habitat and stream flow protection and/or enhancement.

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, propose regulation changes as biologically or socially necessary.

   Program: Work for 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.

4. Objective: Maintain maximum fishing opportunity necessary without detriment to ecologically sensitive species (trumpeter swans) throughout the Henrys Fork drainage.

   Program: Monitor, through and in coordination with the Department wildlife bureau and the USFWS and its contractors, the spring nest distribution of trumpeter swans and potential impacts to swans by anglers, implementing emergency regulations (area closures, etc.) as needed.

5. Objective: Produce and maintain a quality, consumptive salmonid fishery in Island Park Reservoir.

   Program: Continue stocking hatchery rainbow trout and kokanee at a size and on a schedule that provides high quality fishing with economic efficiency.

   Program: Work towards reservoir tributary habitat and stream flow protection and enhancement.

6. Objective: Understand the status of Henrys Lake Utah chub population.

   Program: Continue annual spring gillnetting surveys with emphasis on trend chub data.

7. Objective: Evaluate management strategies to minimize negative impacts of Utah chubs to the trout fishery.

   Program: Develop cooperative research projects with area universities to better understand chub population dynamics in Henrys Lake and develop potential management strategies.

8. 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.

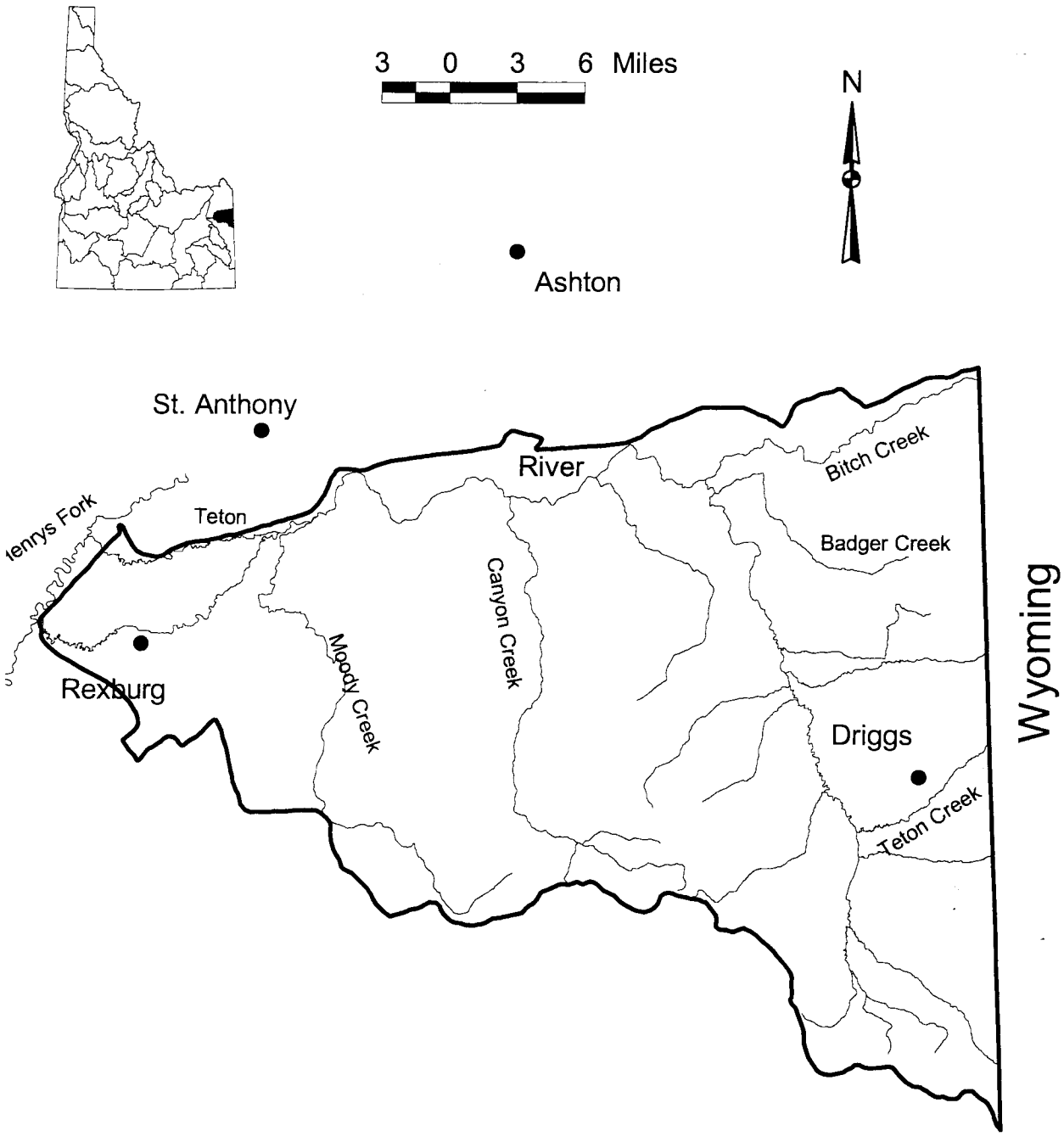
   Program: Continue regular genetic monitoring of the Henrys Lake cutthroat trout population.

DRAINAGE: Henrys Fork Snake River					
Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Mouth to St. Anthony	30/	Coldwater	Rainbow trout Brown trout Whitefish Cutthroat trout	General Quality	Upper Snake cutthroat trout restricted harvest rule. Manage for cutthroat trout below Teton River.
St. Anthony to Fritz Bridge	10/	Coldwater	Rainbow trout Brown trout Whitefish	Quality General	Manage as a fishery supported by natural production. Maintain catch rate of 1.0 fish/hr.
Fritz Bridge to Ashton Dam	3/	Coldwater	Rainbow trout Brown trout Whitefish	Quality General	Spawning season closure for rainbow trout. No motors.
Ashton Dam to U.S. 20 Bridge	4/400	Coldwater	Rainbow trout Brown trout Kokanee Whitefish	General	Stock catchable rainbow trout to maintain catch rates of 1.0 fish/hr. Kokanee are downstream drift from Island Park Reservoir.
U.S. 20 Bridge to Lower Mesa Falls	25/	Coldwater	Rainbow trout Brown trout Whitefish	Quality General	Maintain wild population of rainbow trout to provide 12-inch average size and overall catch rate of 1.0 fish/hr.
Lower Mesa Falls to Riverside Campground	12/	Coldwater	Rainbow trout Whitefish	Quality General	Maintain 1.0 fish/hr catch rate for trout.
Riverside Campground to Island Park Dam, except Harriman State Park	9/	Coldwater	Rainbow trout Whitefish	Trophy General	Catch-and-release to maintain catch rate above 1.0 fish/hr for wild rainbow trout, with 5% of population over 18 inches.
Harriman State Park	8/	Coldwater	Rainbow trout Whitefish	Trophy General	Fly fishing only as access stipulation. Short season for waterfowl protection. Catch-and-release to produce trophy fish and protect spawning population. Maintain catch rate above 1.0 fish/hr.
Island Park Reservoir (up to McCrea Bridge)	/8,400	Coldwater	Rainbow trout Cutthroat trout Brook trout Kokanee 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 Brook trout Cutthroat trout	General Quality	Maintain present fisheries with catch rate of 0.7 fish/hr. Habitat improvement needed in tributaries. Upper Snake cutthroat trout restricted harvest rule.
McCrea Bridge to Henrys Lake Outlet	9/	Coldwater	Rainbow trout Rbt x ctt hybrids Brook trout Whitefish Cutthroat trout	General Quality	Upper Snake cutthroat trout restricted harvest. Put-and-take fishery on catchable rainbow trout. Maintain catch rates of 0.7 fish/hr.
Henrys Lake Outlet to Big Springs	2/	Coldwater	Rainbow trout Cutthroat trout Brook trout Whitefish	Conservation	Total angling closure for spawning, rearing, and fish observation.
Henrys Lake Outlet	12/	Coldwater	Cutthroat trout Rbt x ctt hybrids Rainbow trout Brook trout Whitefish	Quality General	Spawning area closure below dam to protect spawners and redds. Maintain wild trout populations to provide catch rates of 1.0 fish/hr. Habitat improvement needed.
Henrys Lake	/6,500	Coldwater.	Cutthroat trout Rbt x ctt hybrids Brook trout	Wild trout and 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. Manage with sterile hybrids and develop cutthroat trout stock.
Henrys Lake Tributaries	13/	Coldwater	Cutthroat trout Brook trout	Wild trout	Upper Snake cutthroat trout restricted harvest. Manage for spawning and rearing of cutthroat trout. Seek remedies to dewatering, continue irrigation ditch screening, and riparian fencing program.
Warm River and tributaries except Robinson Creek	92/	Coldwater	Rainbow trout Brook trout Whitefish Brown trout Cutthroat trout	General Quality	Upper Snake cutthroat trout restricted harvest. Maintain wild trout population. Supplemental put-and-take fishery in heavily fished areas of Warm River. Maintain catch rates of 1.0 fish/hr. Increase utilization of brook trout in tributaries.
Warm River from mouth of Robinson Creek to Highway 47 Bridge	0.2/	Coldwater	Rainbow trout Brown trout Brook trout Whitefish	Conservation	Spawning, rearing, and fish observation area.
Robinson Creek and tributaries	91/	Coldwater	Rainbow trout Brook trout Whitefish Brown trout Cutthroat trout	General Quality	Upper Snake cutthroat trout restricted harvest. Maintain wild trout population. Encourage increased utilization of brook trout.

Buffalo River and tributaries	50/	Coldwater	Rainbow trout Brook trout	General	Maintain populations and continue hatchery rainbow trout catchable supplementation to produce catch rates of 1.0 fish/hr.
Moose Creek and tributaries	6/	Coldwater	Rainbow trout Brook trout Kokanee	General Conservation	Season restriction to protect kokanee spawning run from Island park Reservoir.
Sand Creek WMA	/167	Coldwater	Rainbow trout Cutthroat trout Brook trout	General	Put-and-take fishery for rainbow trout; Put-and-grow fishery 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 Brook trout Cutthroat trout	Conservation	Golden Lake and Thurmon Creek drainage upstream managed for native cutthroat trout population
Other lakes and ponds	/345	Coldwater	Rainbow trout Cutthroat trout Brook trout Grayling	General	Maintain present fisheries with catch rate of 0.8 fish/hr. Supplemental stocking of rainbow trout, cutthroat trout fingerlings.

Teton River Drainage



30. 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. Prior to the construction and collapse of the Teton Dam in 1976, the river supported a trout fishery with a 1974 and 1975 overall catch rate of 1.34 and 1.31 fish/hour. Cutthroat trout were in the highest concentration below the dam (57%) followed by the canyon (31%) and upper valley (22%). Wild rainbow trout, hybrid cutthroat/rainbow trout, brook trout and whitefish are also present.

The Teton River Fishery Enhancement Program began in 1988 to improve fishing by restoring habitat lost by the flood and by gradual, cumulative changes from land use practices. Objectives are to: (1) rehabilitate habitat; (2) increase overall catch rate to 1.5 fish/hour; (3) increase the average size in the catch to 14 inches; and (4) increase angler access.

Since the implementation of the program, several activities are ongoing to accomplish these objectives. Cooperative fencing, pasture management, and livestock non-use agreements with landowners are being used to protect and improve riparian habitat in tributaries and river sections. Re-vegetation and tree revetments will speed recovery and reduce sediment. Fish passage problems at culverts and canal diversions are being resolved. In-stream flow negotiations are being pursued.

Beginning in 1990, all cutthroat trout between 8 and 16 inches have been protected under the Upper Snake Region cutthroat trout slot limit. In 1988 prior to the regulation, 93% of the cutthroat trout harvested in the Teton River were within this window, and 51% of all cutthroat trout caught were harvested. In 1994, after the regulation, only 4% of all cutthroat trout caught were harvested. The restrictive regional cutthroat trout harvest rule has been successful in providing more and larger wild cutthroat trout to anglers, and in 2000 the rule was modified to protect all cutthroat trout under 16 inches. The July 1 season opener was established to protect spawning cutthroat trout in Fox and Trail creeks. In addition to Teton Creek, a July 1 season opener was established to protect spawning cutthroat trout in Fox and Trail creeks. Annual cutthroat trout fingerling stocking in excess of 1,000,000 fish in the mid-1980s was reduced to 150,000 in the late 1980s. Fingerling plants were discontinued in 1992 due to poor returns and increasing numbers of wild fish. The Department will work with local conservation groups to evaluate the benefits of experimental supplementation of fluvial Snake River Yellowstone cutthroat trout produced by Jackson National Fish Hatchery.

Catchable rainbow trout were stocked in the Teton Valley reach at about 7,500 per year from 1990 to 1994. These fish returned to the creel at 47% in 1994 (an increase from 36% in 1988), and the remaining 53% were estimated to have been caught and released. However, about 80% of the estimated total catch in 1994 was wild trout. The catchable rainbow trout allocation has been transferred to the Trail Creek Pond to provide an easily accessible year-round fishery. Catchable rainbow trout stocked below the Teton Dam returned at only 3% in 1988 and the program was discontinued the next year.

Although exotic wild rainbow trout and hybrid trout provided a significant component of the catch throughout the Teton River drainage (26% in 1988 and 41% in 1994), they pose a threat to the genetic integrity and long-term viability of native cutthroat trout populations. A genetic analysis has been conducted by the University of Idaho Hagerman laboratory on the South Fork Snake River trout population. Using two nuclear DNA markers to examine tissue samples from 65 Yellowstone cutthroat trout, rainbow trout, and hybrid trout sampled in 1998 and 1999, the population introgression level is estimated to be 21%. The analysis failed to detect rainbow trout alleles in 75% of the 65 trout examined. Additional sampling and analysis will continue. Harvest of exotic rainbow trout, hybrid, and brook trout will be encouraged through the general six fish and bonus brook trout limits. Stocking of Snake River Yellowstone cutthroat trout or sterile rainbow trout will be employed as necessary to meet management objectives. Monitoring of exotic trout populations will continue and additional control measures may be used if warranted.

Whirling disease was first detected in the Teton Valley reach in 1995. Additional research was initiated in 1997 to assess the potential impacts to wild salmonid populations. The investigation included sentinel exposures of hatchery trout fry, wild trout fry monitoring and population estimates in Teton and Fox creeks. Results showed high infection rates for both hatchery and wild rainbow trout and cutthroat trout. Despite increased riparian habitat protection since 1988, restrictive harvest regulations since 1990 and above normal snowpack since 1994, declines in all trout species have been documented in the river and its tributaries. The principal factor is suspected to be whirling disease, although Yellowstone cutthroat trout in Teton Valley show higher survival rates than rainbow trout or brook trout in natural conditions.

Habitat protection and enhancement, improved fish access to spawning and rearing habitat, and continued regulation of cutthroat trout harvest to protect them through at least one spawning season will increase their numbers, size, and catch rates. 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: Where habitat conditions have been restored and depleted populations warrant, restock streams with cutthroat trout by collecting fish or eggs from adjacent areas.

   Program: Work to obtain special consideration, protection, and improvement of critical cutthroat trout habitat in land use decisions.

   Program: Protect cutthroat trout through at least one spawning season with late openers on important tributaries, minimum size limits, and reduced bag limits.

   Program: Continue to monitor genetic status of wild cutthroat trout populations.

2. Objective: Increase consumptive trout fishing opportunity for bank anglers near population centers.

Program: Acquire or lease small, highly accessible ponds to provide an intensive hatchery supported fishery. Develop handicapped facilities where feasible.

Program: Adjust rate and timing of stocking to provide 80% to 100% return to the creel.

Program: Inform anglers of hatchery supported trout fishing opportunities through maps, brochures, media coverage, and signs.

3. Objective: Monitor incidence of fish disease and minimize its threat to wild trout populations.

Program: Continue to evaluate the effects of whirling disease on wild trout populations.

Program: Educate private pond owners on the threat of whirling disease and strictly enforce fish transport regulations.

Program: Educate the public on the threat of whirling disease and methods to control its spread.

Program: Evaluate the effects of black spot disease on wild trout populations.

4. Objective: Monitor status of illegal fish releases and minimize their threat to wild trout populations.

Program: Monitor status of illegal brown trout and hatchery fish introductions.

Program: Educate the public on the threat of illegal fish releases and strictly enforce regulations.

5. Objective: Minimize impacts of land use and development on fish habitat and water quality.

Program: Work with government agencies, private landowners and developers, and interested conservation groups to make protection and enhancement of fish habitat and water quality a primary concern in land use decisions.

Program: Maintain cooperative fencing, pasture management, and livestock non-use projects with local landowners.

Program: Ensure restoration of habitat or mitigation of habitat loss whenever possible.

6. 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.

7. Objective: Obtain adult fish passage around or through barriers.

   Program: Identify and obtain passage around irrigation diversions in cooperation with local irrigators. Continue to operate and maintain the South Fork Teton fish ladder.

   Program: Identify barriers and obtain passage through road culverts.

   Program: Negotiate with local irrigators for minimum stream flows when possible.

8. Objective: Improve angler compliance with special regulations.

   Program: Develop informational programs to encourage compliance. Educate anglers on the need for regulations, the kinds and location of regulations, and alternative fishing opportunities. Continue to publish and distribute the Teton Valley fishing map.

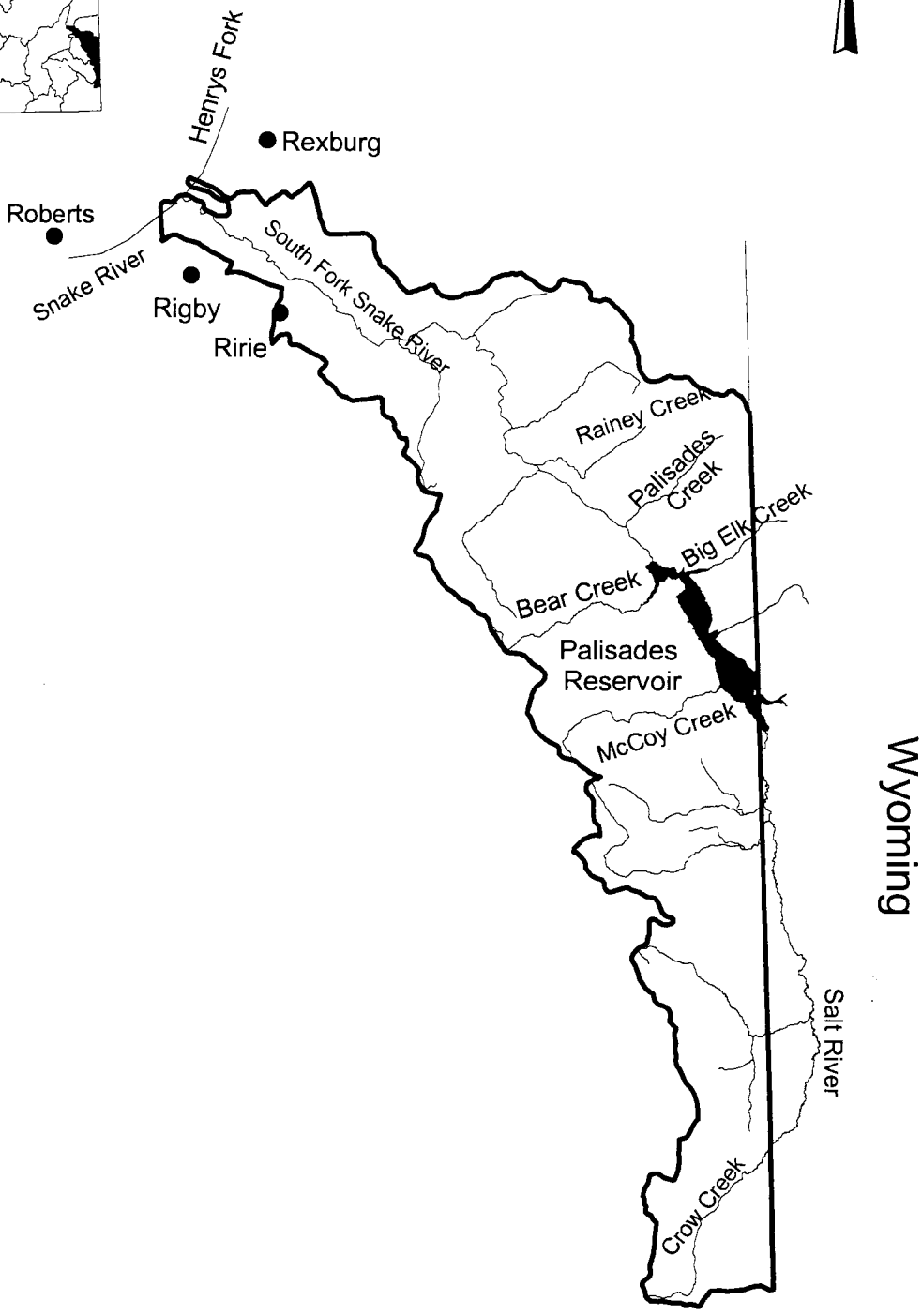
   Program: Focus available enforcement to reduce poaching losses.

DRAINAGE: Teton River

Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
North and South Forks, mouth to Felt Dam	78/	Coldwater	Cutthroat trout Rainbow trout Whitefish	Quality General	Upper Snake cutthroat trout restricted harvest rules. Improve access in canyon, near dam, and below forks. Protect and improve habitat and flows. Manage for cutthroat trout catch rate of 0.6 fish/hr. Improve overall catch rate to 1.0 fish/hr.
Felt Dam to Trail Creek	22/	Coldwater	Cutthroat trout Rainbow trout Brook trout Whitefish	Quality General	Upper Snake cutthroat trout restricted harvest rules. Protect and improve habitat. Improve cutthroat trout catch rate to 0.6 fish/hr. Improve overall catch rate to 1.0 fish/hr.
Teton, Fox, Trail, Bitch, Badger, Moody, Canyon creeks	27/	Coldwater	Cutthroat trout Rainbow trout Brook trout Whitefish	Quality General	Upper Snake cutthroat trout restricted harvest rules. Protect and improve habitat. Improve spawner access where necessary.
All other tributaries	84/	Coldwater	Cutthroat trout Brook trout	Quality General	Upper Snake cutthroat trout restricted harvest rules. Protect and/or improve habitat.
Trail Creek Pond	/2	Coldwater	Sterile rainbow trout Cutthroat trout	General	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 every three years. Monitor catch, size on irregular basis.

Snake River Drainage

South Fork



31. SOUTH FORK SNAKE RIVER DRAINAGE

A. Overview

The South Fork Snake River drainage includes the mainstem and tributaries from its confluence with the Henrys Fork upstream to the Idaho-Wyoming State boundary. This management drainage area includes Palisades Reservoir and its tributaries and Salt River tributaries, which originate in Idaho (including Jacknife, Tincup, Stump, and Crow creeks).

The South Fork Snake River has been called Idaho's most unique riparian ecosystem containing the largest continuous cottonwood ecosystem in the state. The South Fork provides habitat for nine nesting bald eagle pairs and up to 100 wintering eagles. The U.S. Fish and Wildlife Service considers this river section to be the most important fish and wildlife habitat in the state of Idaho.

In the South Fork Snake River and tributaries below Palisades Dam, wild native cutthroat trout supported 71% of the catch in 1986. Jackson National Fish Hatchery cutthroat trout are stocked in Palisades Reservoir as catchables and sub-catchables and are flushed into the South Fork with reservoir drawdowns. The reservoir recruitment affects only the first 2 to 3 miles of river below Palisades Dam. Brown trout provided only a small portion of the catch (12%) but offer the opportunity to catch a trophy fish. The brown trout catch has remained almost identical since 1979. The present state record brown trout weighing 26.4 lbs was caught from this river.

Special regulations restricting harvest of cutthroat trout were enacted upstream from the Heise Measuring Cable to Irwin in 1984 and to Palisades Dam in 1988. Increased cutthroat trout numbers and fish size in these areas resulted in an estimated 300% increase in fishing effort by 1989. Based on this success, the Upper Snake restricted cutthroat trout harvest regulation was implemented in 1990 and included the lower South Fork (below Heise) and all tributaries. The two fish, 8- to 16-inch slot limit was extended to all trout species in the mainstem in 1992. In 1996 a comprehensive creel survey was conducted to measure changes in the fishery since the last survey in 1982. Total angling effort increased by 318%, the total catch increased by 396% and the total harvest decreased by 84%. In 2000 the special regulation was modified to a two fish, none under 16-inch rule. Rainbow trout and rainbow trout x cutthroat trout hybrid trout were also placed under general harvest rules for cutthroat trout conservation.

Although exotic wild rainbow trout and their hybrids, provide a component of the catch throughout the South Fork drainage, they pose a threat to the genetic integrity and long-term viability of wild cutthroat trout populations. Stocking in the mainstem and tributaries was discontinued in the early 1980s. A research initiative was begun in 1996 to determine the status of the rainbow trout and rainbow trout x cutthroat hybrid trout populations and describe where and when rainbow trout, hybrid and cutthroat trout are spawning. Rainbow trout and hybrid trout use mainstem side channel habitat almost exclusively for spawning while cutthroat trout use both mainstem side channel and tributary habitat extensively. Following these results, a intensive tributary management program is being implemented to reserve Burns Creek, Pine Creek, Rainey Creek, and Palisades Creek exclusively for cutthroat trout spawning and production. Fish screening was implemented

in 1994 on Palisades Creek. The Department constructed improved irrigation diversion structures incorporating fish passage and fish trapping capabilities on Rainey Creek in 1997, Palisades Creek in 1999, and Burns Creek in 2000. Permanent tributary weir and trapping facilities will allow regional personnel to block escapement of rainbow trout and hybrid spawners and allow passage of genetically pure cutthroat trout spawners. Genetic research has confirmed low levels of introgression in the South Fork population and we have documented near 100% accuracy in field identification of genetically pure cutthroat trout. As a matter of policy, Department personnel will remove rainbow trout and hybrid trout from the river in the course of all management activities in the South Fork watershed and release them in waters where there is no threat to cutthroat trout.

Mountain whitefish are the most abundant game fish in the drainage but are not extensively utilized by anglers. Through the adoption of fishing contest regulations in 1989, the Department and sportsman groups have sponsored whitefish derbies to enhance angler awareness and utilization of whitefish. We will continue to pursue innovative opportunities to promote the value of whitefish to the angling community.

Habitat in the South Fork main-stem is generally in good condition. Winter flow releases, regulated to manage Palisades Reservoir storage, have resulted in significant de-watering of secondary channels of the South Fork. The de-watering causes major losses of juvenile salmonids during winter. De-watering during the late 1980s resulted in reduction of the cutthroat trout population, which temporarily offset gains made through harvest regulation. A multi-agency study completed in 1992 defined a minimum winter flow release of 1,500 cfs at Palisades Dam. Implementation of this minimum stream flow will enhance long-term population stability.

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. One such canal, an old side channel of the river called the Great Feeder or Dry Bed, utilized as a feeder canal, is 20 miles in length and provides adequate habitat to support a fishery. De-watering of the Dry Bed annually in the spring for head-gate maintenance results in a loss of fish and a salvage season is in affect.

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.

Size, brood source, and location of stocking hatchery cutthroat trout are being fine tuned in cooperation with Wyoming Game and Fish and the U.S. Fish and Wildlife Service to produce higher catch rates on the reservoir. Presence of mysis shrimp was documented for the first time in 1994 while trawling for kokanee. Mysis density was low and will be monitored concurrent with future trawling efforts for kokanee. The Big Elk Creek kokanee spawning run will be monitored, but no further kokanee introductions will be made under agreement with Wyoming Game and Fish.

Tributary streams to the South Fork and Salt River can benefit from habitat restoration and modified grazing management for riparian restoration.

Salt River (Wyoming) tributaries, which originate in Idaho include Jacknife, Tincup, Stump, and Crow creeks. These tributaries will be managed for restricted cutthroat trout harvest to 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.

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: Complete construction and operate fish trapping weirs on Burns, Pine, Rainey, and Palisades creeks to manage those tributaries strictly for cutthroat trout spawning and production.

   Program: Continue to monitor genetic status of wild cutthroat trout populations.

   Program: Work to obtain special consideration, protection, and improvement of critical cutthroat trout habitat in land use decisions.

   Program: Protect cutthroat trout through at least one spawning season by late openers on important tributaries, minimum size limits, and reduced bag limits.

2. Objective: Obtain adequate winter stream flows to reduce juvenile fish mortality.

   Program: Work with Bureau of Reclamation to maintain at least 1500 cfs release from Palisades Dam during winter. Establish ramping rates to minimize water level fluctuations.

3. Objective: Monitor incidence of fish disease and minimize its threat to wild trout populations.

   Program: Continue to monitor for presence of whirling disease.

   Program: Educate private pond owners on the threat of whirling disease and strictly enforce fish transport regulations.

   Program: Educate the public on the threat of whirling disease and methods to control its spread.

4. 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.

5. 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.

6. Objective: Improve angler compliance with special regulations.

Program: Develop informational programs to encourage compliance. Educate anglers on the need for regulations, the kinds and location of regulations, and alternative fishing opportunities.

Program: Focus available enforcement to reduce poaching losses.

8. 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.

9. Objective: Maintain adfluvial cutthroat trout populations in Palisades Reservoir.

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.

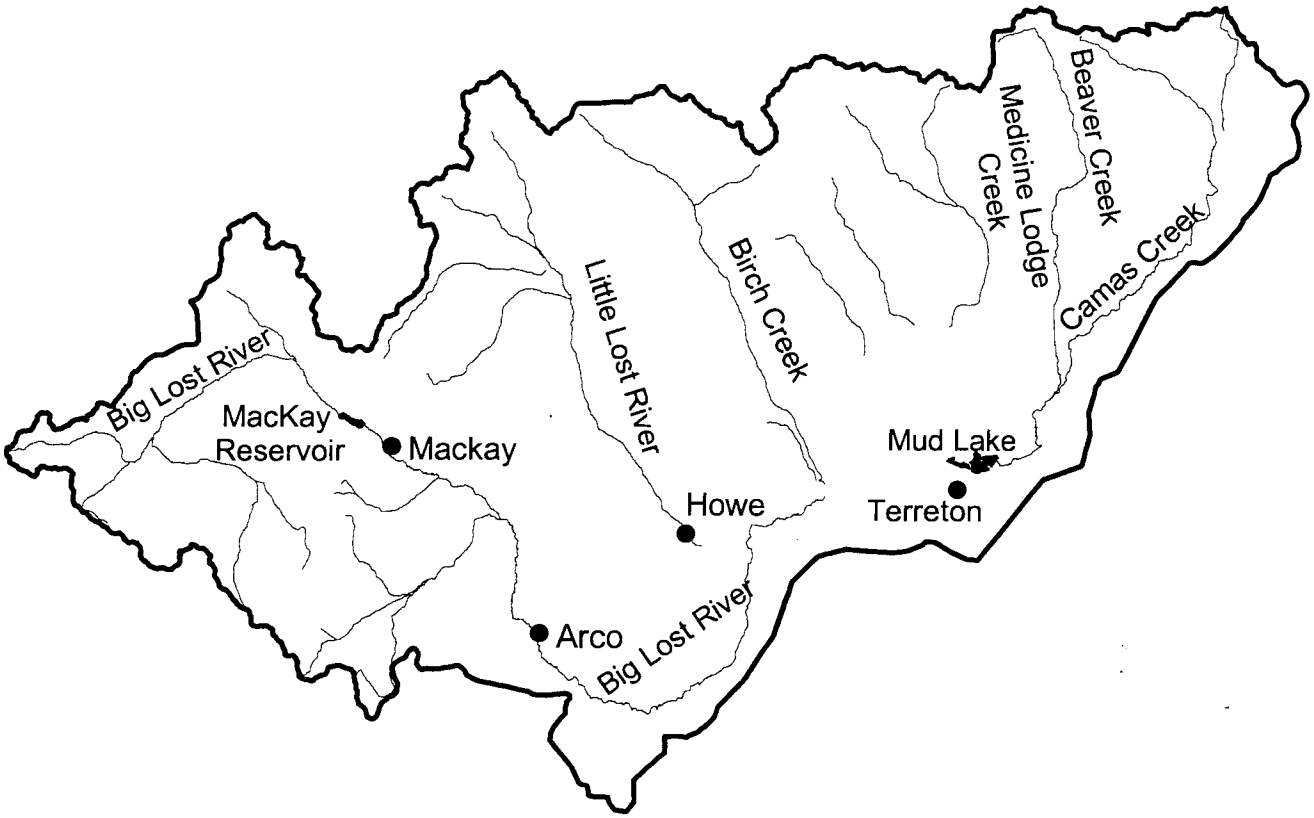
Program: Evaluate agency and private stockings of fish in the drainage for possible negative effects on native cutthroat trout, restrict and or comment on accordingly.

Program: Provide habitat and stream flow protection and enhancement.

DRAINAGE: South Fork Snake River					
Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Mouth to Heise	23/	Coldwater	Cutthroat trout Brown trout Rainbow trout Whitefish	Quality General	Upper Snake cutthroat trout with restricted harvest regulation. Maintain overall catch rates at 0.7 fish/hr. Emphasize rainbow trout and whitefish harvest.
Heise to Palisades Dam	40/	Coldwater	Cutthroat trout Brown trout Rainbow trout Whitefish	Quality General	Upper Snake cutthroat trout with restricted harvest regulation Maintain overall catch rates at 1.0 fish/hr with 10% larger than 16 inches in population. Emphasize rainbow trout and whitefish harvest.
Dry Bed Canal	32/	Coldwater	Cutthroat trout Rainbow trout Brown trout Whitefish	General (not protected in canals)	Put-and-grow fishery with rainbow trout below Lewisville. April salvage season Lewisville to Ririe. Minimize de-watering through agreements with irrigation districts.
Burns, Pine, Rainey, and Palisades creeks	38/	Coldwater	Cutthroat trout Rainbow trout	Quality General	Upper Snake cutthroat trout restricted harvest regulation. Conserve resident cutthroat trout populations. Manage exclusively for cutthroat trout production. Enhance stream habitat and cutthroat trout recruitment with riparian livestock management and diversion screening.
McCoy Creek and tributaries	35/	Coldwater	Cutthroat trout Brown trout	Quality General	Delayed opener to protect cutthroat trout spawning. Habitat protection from mine impacts.
Tincup Creek from Idaho line to Highway 34 Bridge	12/	Coldwater	Cutthroat trout Brown trout	Quality General	Stock fall spawning hatchery rainbow trout in segment heavily altered by road construction. Evaluate returns.
Tincup Creek from Highway 34 Bridge to Headwater	8/	Coldwater	Cutthroat trout Brown trout	Quality General	Maintain "semi-primitive" access to the fishery. Develop hatchery rainbow trout management zone and evaluate returns.
Stump Creek and tributaries	12/	Coldwater	Cutthroat trout Brown trout Brook trout	Quality General	Work with federal agencies on habitat rehabilitation. Develop hatchery rainbow trout management zone and evaluate returns.
Crow Creek and tributaries	25/	Coldwater	Cutthroat trout Brown trout	Quality General	Investigate development of quality brown trout fishery in Sage Creek in conjunction with habitat improvement. Develop hatchery rainbow trout management zone and evaluate returns.
Jacknife Creek and tributaries	12/	Coldwater	Cutthroat trout Brown trout	Quality General	Assess needs for habitat improvement program.

All other tributaries	354/	Coldwater	Cutthroat trout	Quality	Upper Snake restricted cutthroat trout harvest regulations. Enhance habitat with riparian livestock management.
Palisades Reservoir	/16, 50	Coldwater	Cutthroat trout Brown trout Lake trout Kokanee	General	Put-and-grow fishery for cutthroat trout. Only cutthroat trout will be stocked. Maintain average size of cutthroat trout of 14 inches. Remnant kokanee population in Big Elk Creek.
Upper and Lower Palisades Lakes	/16	Coldwater	Cutthroat trout	Wild trout	Manage for wild trout benefits. Maintain catch rate at 0.6 fish/hr.

Sinks Drainages



32. 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 are dominant. Native bull trout and cutthroat trout are maintaining fishable populations in some limited areas. Whitefish are found only in the Big Lost 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. Productivity is generally high due to large amounts of groundwater input. Stream improvement structures, to restore losses of riparian habitat due to grazing, on lower Birch Creek and Summit Creek (Little Lost River drainage) have provided 100% to 400% increases in trout populations.

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.

1. Big Lost River

The Big Lost River is the largest of the Sinks drainages. Included in the drainage is Mackay Reservoir. Major tributaries include Antelope, Summit, and Wildhorse creeks and the East, West, and North forks of the Big Lost River.

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 about every three years, causing flushing of most trout and kokanee through the outlet structure of the dam into the Big Lost River. This results in a poor fishery the following year in the reservoir and makes it impossible to manage Mackay Reservoir for a wild trout fishery. Hatchery rainbow trout comprise the majority of fish caught with some brook trout and wild rainbow trout present. Kokanee have recently become a significant component of the reservoir fishery, particularly in the winter. The kokanee population is naturally sustained without hatchery supplementation.

The 60 miles of Big Lost River below Mackay Reservoir has been extensively modified by numerous irrigation diversions and channelization for flood control, which has destroyed about 25% of the channel. Drought conditions have affected the Sinks drainages from 1987 through 1990. 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 Engineering and Environmental Laboratory boundary. Well development combined with lower natural flows has reduced or eliminated most salmonid populations downstream from the Moore Diversion. In years of normal or above-normal precipitation, restoration of a fishery is possible below the Moore Diversion.

From Moore Diversion to Mackay Reservoir, the Big Lost River supports wild rainbow trout, brook trout and whitefish populations. Fish from Mackay Reservoir produce an excellent fishery immediately downstream of Mackay Dam and may provide a significant amount of recruitment supporting the river fishery below the dam. The fishery in this section of river has grown in popularity. Angler attitudes and preferences are changing at the same time. Concerns about the health of the fishery and adequacy of the current management program are increasingly expressed. The Department will focus efforts during the next five years on creel and angler surveys below Mackay Dam. The Department will also evaluate the contribution of hatchery trout from Mackay Reservoir, to the Big Lost fishery downstream. Public involvement will be emphasized as evaluation is done on the health of the fishery, and development of recommendations will be done for the optimal fishery management program to meet public angling desires..

The Big Lost River from Mackay Reservoir upstream to Chilly Bridge is annually de-watered 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. From Bartlett Point Road upstream to the West Fork-East Fork Confluence, the main-stem and East Fork of the Big Lost River had been under restricted harvest for rainbow trout since 1988. This section of the Big Lost River was managed under a quality trout regulation of two trout over 14 inches, until 2000. Due to limitations imposed by whirling disease, this reach is now managed under general regulations. Lost River tributaries, with the exception of Wildhorse Creek, are productive for small brook and rainbow trout. Supplemental stocking of catchable rainbow trout will continue in Wildhorse Creek and other high use sections of the North, East and West Forks of the Big Lost River. Wild trout numbers and catch rates in Antelope Creek and the upper Big Lost River drainage have plummeted since 1988. Recent research has confirmed that the Big Lost River drainage above the North Fork and the Antelope Creek drainage is heavily infested with the parasite *Myxobolus cerebralis*, the causative agent for whirling disease. Management options to provide a sustainable wild trout fishery in these waters are being evaluated. One option, 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.

2. Little Lost River

The Little Lost River drainage contains primarily wild rainbow trout, although brook trout are abundant in headwater areas. Healthy populations of native 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.

3. Birch Creek

Birch Creek provides a high catch rate supported by hatchery supplementation and a strong wild rainbow trout population. Birch Creek is a popular destination fishery for consumption oriented anglers. In 1987, catch rates averaged 1.5 fish/hour. Birch Creek is primarily a hatchery catchable fishery although a creel census during 1982 indicated a 46% wild rainbow trout contribution.

4. Medicine Lodge Creek

Estimated effort for Medicine Lodge Creek was 3,700 hours with a catch rate of 1.1 fish/hour in 1987. Estimated effort for the Medicine Lodge drainage was 5,300 hours with a catch rate of 1.1 trout/hour during 1982. Effort and catch rates were lower than those observed during 1963 (11,000 hours fished with 1.4 fish/hour). Rainbow trout comprised 94% of the fish harvest during 1982. 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.

5. Camas Creek

The Camas Creek drainage includes Mud Lake, Beaver and Camas creeks as important waters. Good populations of wild rainbow trout and brook trout exist in most streams in the headwater areas. Brown trout fingerling releases have provided a limited fishery for larger trout in Camas Creek. Water conditions limit trout populations in the lower ends of these streams. Native cutthroat trout are found in minor numbers in headwater areas. Little comprehensive angler use and harvest information is available on streams in the Camas Creek drainage. Creel surveys have shown catch rates averaging 0.86 trout/hour and ranging up to 1.8 trout/hour in some tributaries.

Mud Lake originally contained large numbers of cutthroat trout. Presently, it supports a warmwater fishery with yellow perch, largemouth bass, brown bullhead and tiger muskie. Nongame fish are still abundant with Utah chubs and Utah suckers the major species. The lake supports a few hatchery rainbow trout, which move down out of Camas Creek, but the high summer temperatures, fluctuating water levels and low winter dissolved oxygen have greatly decreased the suitability for trout.

In 1988, introductions of tiger muskie were made into Mud Lake to create a trophy fishery while utilizing the nongame biomass available in the lake. Tiger muskies are sterile hybrids of northern pike and muskellunge, and will be managed through fingerling releases every three years. Bluegill were introduced from 1983-1985. No population has developed. From 1987-1989 black crappie introductions were made into Mud Lake to try to create a self-sustaining population. This effort was also unsuccessful.

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, but consistent fishery, primarily during the winter ice season. Stocking of Lahontan cutthroat trout will continue.

B. Objectives and Programs

1. Objective: Improve angling quality in Antelope Creek and upper Big Lost River drainage.

   Program: Continue stocking of Snake River Yellowstone cutthroat trout, monitor and evaluate for success.

2. Objective: Improve water quality conditions in Mud Lake by maintaining higher year-round pool levels to provide for stable game fish populations and improved year-round fishing opportunity.

   Program: Work with irrigation storage space-holders and private fishing organizations to facilitate enhanced winter lake volumes.

3. Objective: Continue to provide for balanced quality and general harvest oriented stream fishing opportunity.

   Program: Continue wild trout management for Medicine Lodge Creek drainage to protect isolated cutthroat trout populations and maintain wild trout fishing opportunity.

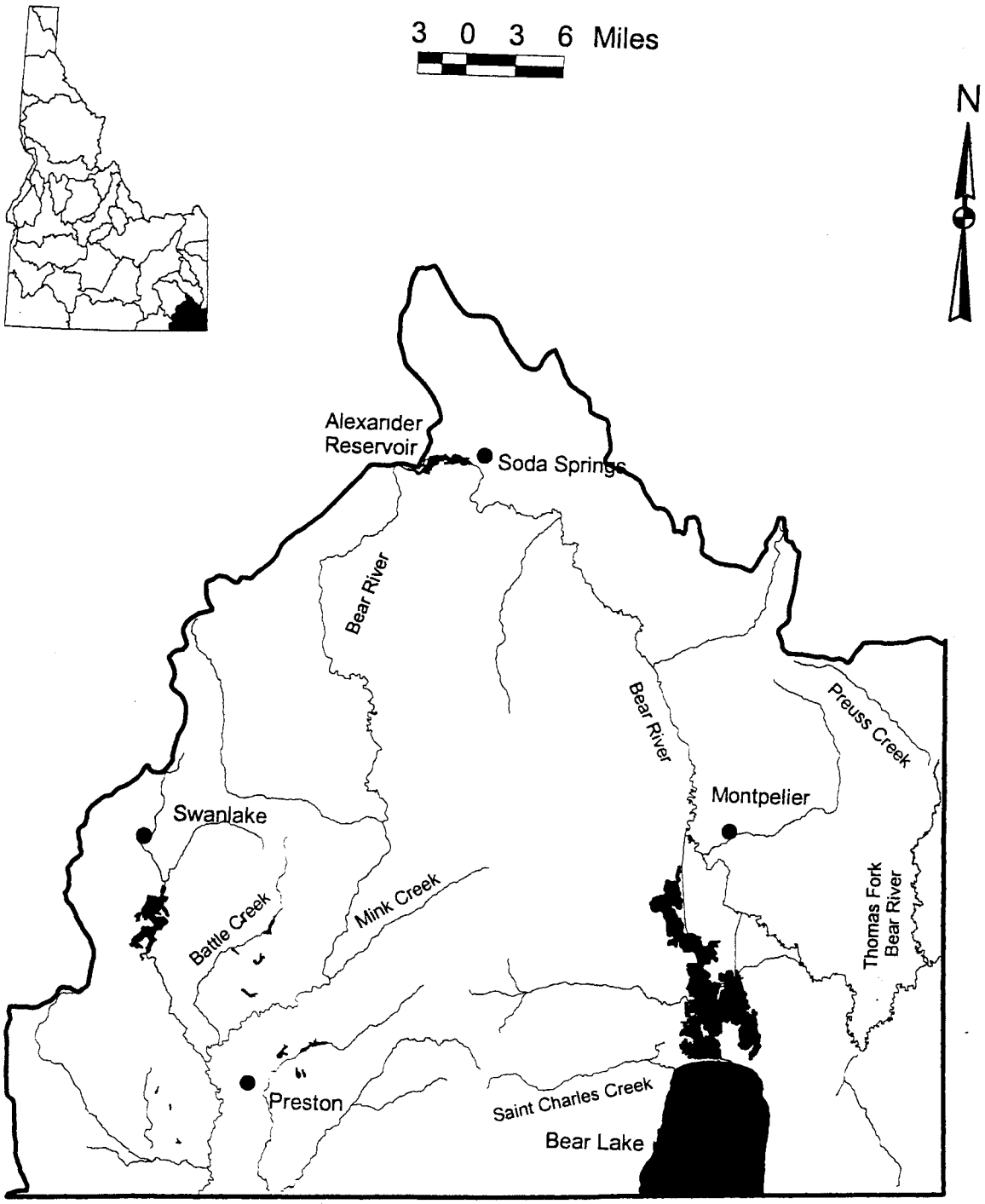
   Program: Continue to manage Camas Creek drainage and Birch Creek under general regulations for consumptive fishing opportunity.

   Program: Evaluate the adequacy of current fishing regulations and management direction for the Big Lost River fishery below Mackay Reservoir to satisfy public angling desires.

DRAINAGE: Sinks - Big and Little Lost rivers, Birch, Medicine Lodge and Camas creeks					
Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Big Lost River within Idaho National Engineering and Environmental Laboratory (INEEL) property	5/	Coldwater	Rainbow trout Brook trout Whitefish	Closed	All access and fishing closed by INEEL. System seasonally de-watered.
INEEL boundary to Moore Diversion	22/	Coldwater	Rainbow trout Brook trout Whitefish	General	System de-watered in short water years. Good fishery potential during sustained wet years.
Moore Diversion to Mackay Dam	20/	Coldwater	Rainbow trout Brook trout Whitefish	General	Maintain wild trout populations. Supplement with catchable rainbow trout in areas of high effort to maintain catch rates of 1.0 fish/hr. Evaluate returns of catchable rainbow trout. Winter whitefish and winter no-harvest rainbow trout season.
Mackay Reservoir	/1,000	Coldwater	Rainbow trout Kokanee	General	Put-and-take fishery for rainbow trout. Manage for catch rate of 0.6 fish/hr.
Mackay Reservoir to Chilly Bridge	15/	Coldwater	Rainbow trout Brook trout	General	Seasonally de-watered through diversions and natural sinks. Winter whitefish and winter no-harvest rainbow trout season.
Chilly Bridge upstream to West Fork	45/	Coldwater	Rainbow trout Brook trout Whitefish	General	Catch rates of 1.0 fish/hr. Winter whitefish and winter no-harvest rainbow trout season.
Tributaries: including North Fork, West Fork, Upper East Fork, Wildhorse, and Summit creeks	232/	Coldwater	Rainbow trout Brook trout Whitefish	General	Maintain wild trout populations to produce catch rates of 1.0 fish/hr. Use supplemental put-and-take stocking in areas of high use. Evaluate success of cutthroat trout supplementation. Winter whitefish and winter no-harvest rainbow trout season.
Little Lost River and tributaries	110/	Coldwater	Rainbow trout Bull trout Brook trout	Wild trout Conservation General	Maintain wild trout populations to provide catch rates of 1.0 fish/hr. Manage bull trout population under statewide no-harvest regulation. Encourage brook trout harvest.
Birch Creek and tributaries	32/	Coldwater	Rainbow trout Brook trout	General	Put-and-take rainbow trout fishery to supplement wild trout populations. Maintain catch rates of 1.0 fish/hr.

Medicine Lodge Creek and tributaries	64/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Wild trout General Quality	Maintain populations of wild trout. Upper Snake restricted harvest for cutthroat trout. Maintain catch rates of 1.0 fish/hr.
Mud Lake	/7,000	Mixed	Yellow perch Largemouth bass Tiger muskie Lahontan cutthroat trout	General	Provide warmwater fishery primarily supported by perch. Stock Lahontan cutthroat trout for viable coldwater fishery. Stock tiger muskies every three years to provide trophy fishery.
Camas Creek from Mud Lake to Camas National Wildlife Refuge	4.5/	Coldwater	Lahontan cutthroat trout	General	Put-and-take fishery to provide spring catch rates of 0.5 fish/hr.
Camas National Wildlife Refuge (Camas Creek and ponds)	9/600	Warmwater	Yellow perch Largemouth bass	Closed	Closed for waterfowl sanctuary. Evaluate fishery in refuge waters and develop plan to allow limited angler entry.
Remainder of Camas Creek and tributaries	70/	Coldwater	Rainbow trout Brook trout Brown trout	General General	Maintain present wild trout populations to provide catch rates of 1.0 fish/hr.
Beaver Creek from mouth to Spencer	22/	Coldwater	Rainbow trout Brook trout Cutthroat trout	General Quality	De-watered seasonally.
Beaver Creek and tributaries above Spencer	18/	Coldwater	Rainbow trout Brook trout Cutthroat trout	General Quality	Provide catch rates of 0.6 fish/hr. Supplement with catchable rainbow trout stocking in areas of high use.
Alpine Lakes	/290	Coldwater	Rainbow trout Cutthroat trout Brook trout Golden trout Grayling	General	Maintain present fishery by use of hatchery fry where needed. Expand use of golden trout and grayling to meet public demand in suitable lakes. Identify lakes to receive golden trout. These lakes should receive no supplemental stocking with alternate species. Adjust stocking rates and frequency to correspond to lake size, productivity, natural production and public use.

Bear River Drainage



33. 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.

Habitat for trout in the Bear River is marginal due to high, turbid irrigation flows in summer and inadequate 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 peak power which severely fluctuates water levels in the river below. The river receives the heaviest fishing pressure downstream from the 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 these two tailrace reaches. Harvest in these areas is primarily hatchery rainbow trout and brown trout. The Department has stocked walleye into Oneida Reservoir since 1974. Due to concern for Bonneville cutthroat trout, the Department plans to terminate walleye stocking in this reservoir.

Main tributaries to the Bear River include the Malad and Cub rivers, Thomas Fork, Bloomington, Paris, Montpelier, Georgetown, Eight-Mile, Whiskey, Trout, Williams, Cottonwood and Mink creeks. St. Charles Creek is a major spawning stream for cutthroat trout from Bear Lake. Fish Haven Creek should also be a significant spawning tributary to Bear Lake, but most of, and frequently all, the water is diverted for irrigation through much of the summer.

Bonneville cutthroat trout was petitioned for listing under the Endangered Species Act in February 1998. To date a finding has not been issued by the U.S. Fish and Wildlife Service.

Headwater tributaries of the Thomas Fork contain populations of Bonneville cutthroat trout, which were identified from these tributaries in 1979 and 1981. In 1993 and 1994 Bonneville cutthroat trout were identified in most of the other tributaries of the Bear River. The upper ten miles of the Cub River contains wild cutthroat trout populations 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.

Most tributaries to the Bear River support populations of self-sustaining cutthroat trout, brook, or brown 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. Catchable size rainbow trout are planted in accessible streams where habitat conditions and returns are favorable. Beginning in 1999, the Department is phasing in stocking of sterile rainbow trout. By 2001, all rainbow trout stocked in the Bear River system will be sterile.

A number of irrigation reservoirs support gamefish populations in the Bear River drainage and if sufficient water remains at the end of the irrigation season excellent growth and overwinter survival occur. Most are stocked with hatchery rainbow trout. In addition, a high percentage also contain spiny-rayed game fish such as bluegill, yellow perch and largemouth bass. Collectively, these reservoirs provide a significant amount of fishing opportunity. Irrigation storage reservoirs in the Bear River basin include Condie, Crowther, Daniels, Deep Creek, Devil Creek, Foster, Glendale, Johnson, Lamont, Little Valley, Montpelier, Oxford, Pleasantview, St. Johns, Treasureton, Twin Lakes, Weston, and Winder reservoirs.

Condie, Deep Creek, Foster, Glendale, Johnson, Lamont, Oxford, St. Johns, Twin Lakes, Weston and Winder reservoirs contain largemouth bass. All these reservoirs either have warmwater prey species of bluegill, yellow perch or crappie except Deep Creek Reservoir. Bass were illegally stocked into Deep Creek Reservoir. The Department wishes to minimize the impacts of warmwater fish on native cutthroat trout in this reservoir, so no warmwater prey species have been stocked.

Condie is managed for trophy bass, with a 20-inch minimum size limit. Yellow perch were illegally stocked in Condie Reservoir in the late 1980s. This appears to have 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.

Quality bass rules are in effect at Glendale, St. Johns and Weston reservoirs. Do 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 improved opportunity to catch large trout.

Bear Lake historically contained populations of cutthroat trout that matured at a large size, some exceeding 20 pounds. Due to overfishing, 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 Lake 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 stocked 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. Lake trout numbers were controlled. Due to concern that stocked lake trout might eventually form self-sustaining populations and then negatively impact the lake's four endemic species, the Department is strongly considering ending the lake trout stocking program at Bear Lake. 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 will increase the spawning and rearing habitat for Bear Lake cutthroat trout and reduce loss of juvenile cutthroat trout to irrigation diversions. In addition, Bear Lake contains four other

species of endemic fish. These are Bear Lake whitefish, Bonneville whitefish, Bonneville cisco and Bear Lake sculpin. Annual studies by Utah State University and Utah's Division of Wildlife Resources have determined that populations of these species are large and stable.

B. Objectives and Programs

1. Objective: Ensure that exotic lake trout do not over-exploit endemic fish species in Bear Lake.

   Program: Develop sterilization procedure for hatchery reared lake trout or end the lake trout stocking program.

2. Objective: Increase number of wild Bonneville cutthroat spawners and fry production in St. Charles Creek.

   Program: Continue a graduate student project to investigate limiting factors for spawning and recruitment in St. Charles Creek.

   Program: Seek ways to divert less water from St. Charles Creek.

   Program: Reduce numbers of brook and rainbow trout in St. Charles Creek.

3. Objective: Improve habitat for Bonneville cutthroat trout.

   Program: Seek reduced flow fluctuations through the FERC relicensing process below Alexander and Oneida dams.

   Program: Stabilize reservoir levels through less dependence by irrigation on water from Alexander and Oneida reservoirs rather than from Bear Lake storage.

   Program: Seek appropriate minimum flow below Bear River dams through the FERC relicensing process.

   Program: Seek a fish ladder for the Cove Dam through the FERC relicensing process.

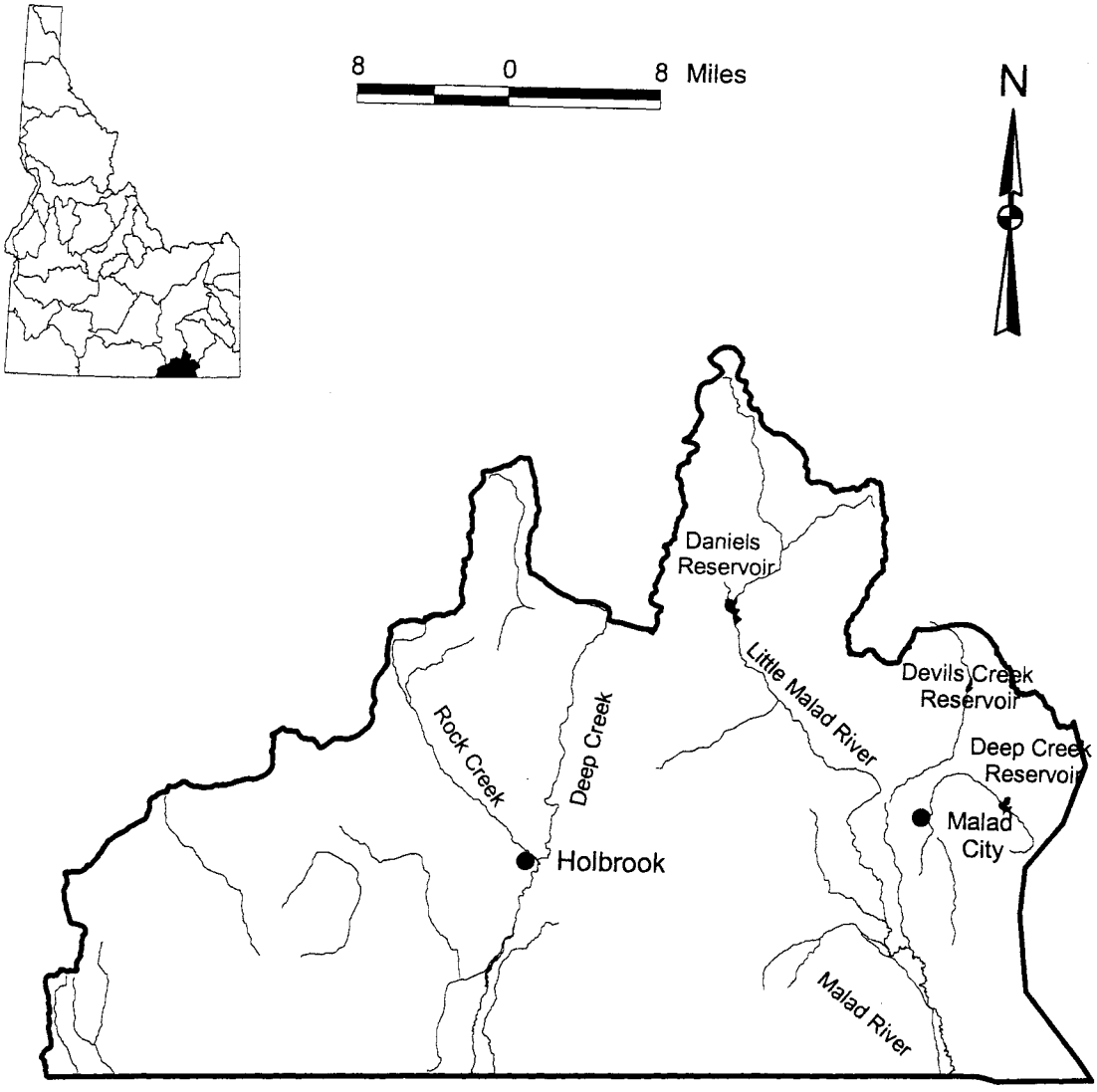
   Program: Seek participants in NRCS Continuous Signup Conservation Reserve Program to protect stream banks from impacts of livestock grazing.

Drainage: BEAR RIVER					
Water	Miles/acre	Fishery			Management Direction
		Type	Species Present	Management	
Bear River from Utah state line upstream to Highway 91	30/	Mixed	Mountain whitefish Channel catfish Rainbow trout Brown trout Walleye Cutthroat trout	General Quality	Seek stable regime and develop a more intensive salmonid fishery with better access. Assess angler support for removing limits on walleye and brown trout to reduce predation on native cutthroat trout.
Bear River from Highway 91 to Oneida Dam	2.5/	Coldwater	Rainbow trout Cutthroat trout Walleye Mountain whitefish Brown trout	Quality General	Seek more stable flow regime. Assess angler support for removing limits on walleye and brown trout to reduce predation on native cutthroat trout. Seek reduced water discharge fluctuation through FERC relicensing.
Oneida Reservoir	/500	Mixed	Yellow perch Walleye Cutthroat trout Smallmouth bass	General	Assess angler support for removing limits on walleye to reduce predation on native cutthroat trout. Seek reduced water level fluctuations through FERC relicensing.
Bear River from Oneida Narrows Reservoir headwaters to Black Canyon	/25	Mixed	Rainbow trout Walleye Mountain whitefish Brown trout Cutthroat trout	General	Assess angler support for removing limits on walleye and brown trout.
Condie Reservoir	/117	Mixed	Rainbow trout Yellow perch Bluegill Largemouth bass Tiger muskie	General Trophy	Stock catchable size trout.
Foster Reservoir	/146	Mixed	Rainbow trout Largemouth bass Bluegill Crappie Yellow perch	Put-and-take trout General	Evaluate percentage return-to -reel at least once this planning period, and document status of warmwater fish community.
Glendale Reservoir	/230	Mixed	Rainbow trout Cutthroat trout Bluegill Crappie Largemouth bass	Put-and-take trout General Quality	Evaluate growth rate of largemouth bass. Evaluate percentage return-to-creel at least once this planning period. Document status of crappie populations.
Johnson Reservoir	/50	Mixed	Rainbow trout Bluegill Yellow perch Largemouth bass Tiger muskie	Put-and-take trout General	Evaluate percentage return-to-creel at least once this planning period. Determine impact to fishing of recently introduced muskie.

Lamont Reservoir	/92	Mixed	Rainbow trout Largemouth bass Bluegill Yellow perch Tiger muskie	Put-and-take trout General	Evaluate impact of tiger muskie on the over all fishing
Oxford Reservoir	/20	Warmwater	Largemouth bass Bluegill	General	Restock with bass and bluegill if necessary. Survey after year 2000 drought.
Treasureton Reservoir	/143	Coldwater	Rainbow trout Rainbow trout x cutthroat trout hybrids	Quality	Add Bonneville cutthroat trout when available.
Twin Lakes Reservoir	/446	Mixed	Rainbow trout Largemouth bass Bluegill Yellow perch	Put-and-take trout General	Evaluate percentage return-to-creel at least once this planning period. Conduct a creel survey to determine relative benefit of trout and the warmwater fish.
Weston Reservoir	/112	Mixed	Rainbow trout Yellow perch Largemouth bass	Put-and-take trout Quality bass	Assess bass population after 1998 change to quality bass rule.
Winder Reservoir	/94	Mixed	Rainbow trout Largemouth bass Bluegill Yellow perch	Put-and-take trout General	Consider renovation and change to trout only/general put-and-grow trout management due to frequent draining.
Bear River from Black Canyon to Soda Point Dam	11/	Mixed	Rainbow trout Cutthroat trout Mountain whitefish Smallmouth bass	Put-and-take trout Quality General	Evaluate fishery and monitor minimum flow. Seek appropriate minimum flow through Black Canyon through FERC relicensing.
Alexander Reservoir	/1,165	Mixed	Cutthroat trout Yellow perch Channel catfish	General	Seek less water level fluctuations through FERC relicensing. 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 Cutthroat trout Mountain whitefish Brown trout	Put-and-take trout Quality General	Reduce turbidity. Pursue fishery mitigation through FERC relicensing and NRCS projects to achieve this goal.
Montpelier Reservoir	/120	Coldwater	Rainbow trout Cutthroat trout Yellow perch	Put-and-take trout General	Consider renovation to remove perch and restocking with Bonneville cutthroat trout.
Bloomington Lake	/10	Coldwater	Cutthroat trout	General	Stock 2,000 Bonneville cutthroat trout/year.
Little Valley Reservoir	/60	Coldwater	Rainbow trout Cutthroat trout	General General	Stock with Bonneville cutthroat trout when available.
Cub River	15/	Coldwater	Cutthroat trout Rainbow trout	Quality Put-and-take trout	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 Brook trout Brown trout Cutthroat trout	Put-and-take trout General Wild trout	Stock rainbow trout near established campgrounds. Encourage harvest of brook and brown trout. Limit harvest with 2-cutthroat trout limit.
All other Bear River tributaries (not stocked) and are managed for wild cutthroat trout with some feral brown and brook trout.	44/	Coldwater	Cutthroat trout Brook trout Brown trout Rainbow trout	Wild trout General	Manage for wild cutthroat trout with 2-cutthroat trout limit. Encourage harvest of other trout.
St. Charles Creek.	20/	Coldwater	Cutthroat trout Brook trout Rainbow trout	Catch-and-release	Continue to improve habitat and fish passage conditions in St. Charles Creek. Look for ways to increase natural spawning success, decrease irrigation quantity and to minimize losses into irrigation canals.
Bear Lake	/70,000	Coldwater	Cutthroat trout Lake trout Bonneville cisco Bear Lake whitefish Bonneville whitefish	Quality	Coordinate with Utah Division of Wildlife Resources to optimize conditions for native species. Seek methods to sterilize lake trout prior to stocking or consider terminating the lake trout stocking program.
Fish Haven Creek	10/	Coldwater	Cutthroat trout Brook trout Rainbow trout	General	Continue to improve habitat and fish passage conditions in Fish Haven Creek. Look for ways to increase natural spawning success, decrease irrigation quantity and to minimize losses into irrigation canals.
Thomas Fork Creek		Coldwater	Cutthroat trout	Conservation	Participate in USFS and NRCS habitat improvement programs. Protect wild cutthroat trout with restrictive regulations.
Preuss Creek		Coldwater	Cutthroat trout	Conservation	Monitor new allotment management plan. Protect wild cutthroat trout with restrictive regulations.
Dry Creek		Coldwater	Cutthroat trout	Conservation	Monitor new allotment management plan. Protect wild cutthroat trout with restrictive regulations.
Giraffe Creek		Coldwater	Cutthroat trout	Conservation	Monitor new allotment management plan. Protect wild cutthroat trout with restrictive regulations.

Malad River Drainage



34. MALAD RIVER DRAINAGE

A. Overview

Streams in the Malad River drainage total 83 miles and cover 86 surface acres. 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 the 1,132 surface acres of Daniels, Stone, Sublett 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.

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/h. Anglers harvested an estimated thirty-nine trout or 0.1% of their catch. Harvested trout averaged 20.3 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 2/3 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. Recent stocking has included sterile rainbow trout and fertile Bonneville cutthroat trout. Natural reproduction of hatchery trout and native Bonneville cutthroat trout occur 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. Rough 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. Small reservoir fisheries near Malad City include Crowthers (33 acres), Pleasantview (47 acres), and St. Johns (48 acres). Crowthers and Pleasantview are managed for put-and-take trout. St. Johns is managed for a mixed warmwater fishery with bluegill, yellow perch, crappie and largemouth bass. The bass are managed as a quality fishery.

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 but with protection of Bonneville cutthroat trout.

   Program: Obtain Bonneville cutthroat trout eggs from Wyoming or adfluvial Bonneville cutthroat trout eggs from Utah for stocking into Daniels Reservoir. Stock half cutthroat trout and half sterile rainbow trout. Maintain sterile rainbow trout program.

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.

3. Objective: Decrease population of Utah chubs in Pleasantview Reservoir

   Program: Either stock largemouth bass to partially mitigate the chub problem or renovate the reservoir if physically possible. Chubs may not be susceptible to rotenone to eliminate chubs, carp, and goldfish that could have come downstream into this reservoir from Devil Creek Reservoir.

4. Objective: Restore the quality of the Crowthers Reservoir rainbow trout fishery.

   Program: Renovate Crowthers Reservoir to eliminate chubs, carp and goldfish that may have come downstream into this reservoir from Devil Creek Reservoir.

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, considered 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/	Mixed	Brown Bullhead Channel catfish Green sunfish	General with year around season	Improve riparian conditions
Malad River tributaries	65/	Coldwater	Cutthroat trout	Two cutthroat trout limit	Improve riparian conditions and inspect culverts to ensure that there are no problems for upstream passage
Daniels Reservoir	/375	Coldwater	Bonneville cutthroat trout Sterile Rainbow trout	Trophy trout	Stock as fingerlings, half rainbow, half cutthroat trout. Seek opportunities to improve tributary habitat
Pleasantview Reservoir	/47	Coldwater	Rainbow trout	General	Stock largemouth bass or renovate to mitigate for Utah chubs
Crowthers Reservoir	33	Coldwater	Rainbow trout	General	Survey and renovate to remove non-game species if necessary
St. Johns Reservoir	/48	Mixed	Rainbow trout bluegill, largemouth bass, yellow perch and white crappie	Quality bass	Conduct lowland lake survey to evaluate fishery quality
Stone (Curlew Valley) Reservoir	/304	Mixed	Rainbow trout Black crappie Largemouth bass 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 disappear.

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APPENDICES

Appendix A: Previous Five-year Program Goals and Accomplishments:

STATUS REPORT: CURRENT

Program Direction	1996-2000 Goal	2000 Status
Increase emphasis on habitat protection.	Establish minimum stream flows for priority streams.	Applications submitted for 6 streams; flows granted for 1.
	Conduct habitat improvement projects.	Numerous major stream fencing and fish passage projects completed.
	Expand volunteer involvement.	Utilized in nearly all habitat projects.
Increase emphasis on protection and enhancement of wild trout.	Enhance wild trout habitat protection.	See above.
	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.	Ongoing program to reduce stocking in waters where wild trout populations exist.
	Implement statewide wild trout management program.	Ongoing program to integrate native trout conservation plans with reduced harvest rules.
Increase emphasis on hatchery trout programs.	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.
Increase emphasis on protection and enhancement of salmon and steelhead.	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 transmittal.
	Maintain a secure wild fish management program.	Have maintained wild management-only drainages.
	Emphasize management for natural production.	Supplementation research on-going; releasing at least 2/3 of natural chinook that arrive at hatchery weir so they spawn naturally.
	Provide continued fisheries for surplus hatchery fish.	Continued steelhead seasons. Chinook seasons at Little Salmon River, Clearwater River, and S.F. Salmon River.
	Intensify efforts to improve migration survival.	Commission adopted migration policy, Department working with Governor's office, participating in collaborative science process.
Intensify quality fishing opportunity.	Manage 5-10 additional streams or stream segments to provide quality trout fishing.	Eight added. Now have 29 quality trout streams. All segments are not counted.
	Manage 10-15 additional lakes or reservoirs to provide quality trout fishing.	Four added. Now have 36 quality or trophy trout waters.
	Manage 5-10 additional lakes or reservoirs to provide quality or trophy bass fishing.	Four added. Now have 22 quality or trophy bass waters.

Appendix A: Previous Five-year Program Goals and Accomplishments contiued:

MANAGEMENT PLAN

Program Direction	1991-1995 Goal	1994 Status
Provide additional angling information.	Develop Anglers Guide brochures on lowland lakes and reservoirs.	Brochures developed for eight (12 total).
	Informative signs and brochures, and use of electronic media.	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 reports provided through Department web site and 1-800-ASK-FISH.
	Provide locations of put-and-take stocking sites with signs and maps and informing media.	Standardized put-and-take signs posted at all put-and-take stream stocking sites, new angler guide with expanded maps produced.
Provide a diversity of angling opportunity.	Provide a mix of hatchery trout and wild trout management, and general and quality management.	See Earlier Discussions.
	Evaluate potential new species introductions and stock if appropriate.	New splake, kokanee, tiger muskie, channel catfish or smallmouth bass introductions in several waters.
Provide increased access, particularly for bank anglers.	Continue program of acquiring lease, easement or fee title to key areas to provide angler access.	Access provided, or ponds developed in many new areas.
	Expend approximately $500,000 per year on maintenance or development of new fishing, handicap, docks and boating access facilities.	$3,000,000 spent at over 100 sites.
Provide increased family fishing opportunity, especially near population centers.	Provide additional access and information on where to go.	See above.
	Identify sites and initiate development of new fishing waters.	Family fishing ponds improved or developed at Horseshoe Bend, Lowman, and Boise; three pond or reservoir sites being evaluated.
	Acquire or develop public easement to ponds to increase fishing opportunity.	Easements or acquisitions made on many ponds and streams.
Provide educational programs to encourage children to fish.	Develop a curriculum to teach fishing.	Text and curriculum previously completed and made available to schools.
	Conduct youth fishing clinics.	Department clinics conducted each year throughout the state with thousands of participants.
Simplify and standardize fishing rules.	Make fewer changes to fishing rules, to reduce confusion.	Rule changes made only for biological reasons, with a few social exceptions.
	Increase signage, information and other means of making rules more understandable.	Maps explaining rules updated for several river systems; numerous special signs developed, fish identification signs developed and placed near streams.

Appendix B. A list of Idaho fishes and their distribution by drainage

Family		Species		Origin[b]	Drainage[a]							
Common Name	Scientific Name	Common Name	Scientific Name		K	P	S	Pa	Sb	Sa	B	I
Trout	Salmonidae	Lake whitefish	*Coregonus clupeaformis*	I		X						
		Bear Lake whitefish	*Prosopium abyssicola*	N							X	
		Pygmy whitefish	*Prosopium coulteri*	N		X						
		Bonneville cisco	*Prosopium gemmifer*	N							X	
		Bonneville whitefish	*Prosopium spilonotus*	N							X	
		Mountain whitefish	*Prosopium williamsoni*	N	X	X	X		X	X	X	X
		Coho salmon	*Oncorhynchus kisutch*	I					X	X		
		Sockeye salmon	*Oncorhynchus nerka*	N					X			
		Kokanee	*Oncorhynchus nerka kennerlyi*	N	X	X[I]	X[I]		X	X[I]		X[I]
		Chinook salmon	*Oncorhynchus tshawytscha*	N			X[I]		X			
		Golden trout	*Oncorhynchus aguabonita*	I	X		X		X	X		X
		Cutthroat trout	*Oncorhynchus clarki*									
		Westslope	*Oncorhynchus clarki lewisi*	N	X	X	X		X			
		Yellowstone	*Oncorhynchus clarki bouvieri*	N					X	X		X
		Finespotted (Snake River)	*Oncorhynchus clarki spp.*	N						X		
		Bonneville	*Oncorhynchus clarki utah*	N							X	
		Bear Lake	*Oncorhynchus clarki spp.*	N						X[I]	X	
		Lahontan	*Oncorhynchus clarki henshawi*	I					X	X		X
		Rainbow trout	*Oncorhynchus mykiss*	I	X	X	X	X	X	X	X	X
		Redband trout	*Oncorhynchus mykiss gairdneri*	N	X				X			
		Steelhead trout	*Oncorhynchus mykiss gairdneri*	N					X			
		Brown trout	*Salmo trutta*	I		X	X	X	X	X	X	
		Atlantic salmon	*Salmo salar*	I					X			
		Blueback trout	*Salvelinus alpinus oquassa*	I					X			
		Brook trout	*Salvelinus fontinalis*	I	X	X	X	X	X	X	X	X
		Bull trout	*Salvelinus confluentus*	N	X	X	X		X			X
		Lake trout	*Salvelinus namaycush*	I		X			X	X	X	
		Splake	*Salvelinus namaycush x fontinalis*	I			X		X	X		
		Arctic grayling	*Thymallus arcticus*	I	X		X		X	X		X

Appendix B. Continued.

Family		Species		Origin[b]	Drainage[a]							
Common Name	Scientific Name	Common Name	Scientific Name		K	P	S	Pa	Sb	Sa	B	I
Lamprey	Petromyzontidae	Pacific lamprey	*Lampetra tridentata*	N					X			
Sturgeon	Acipenseridae	White sturgeon	*Acipenser transmontanus*	N	X				X	X[1]		
Pike	Esocidae	Northern pike	*Esox lucius*	I		X	X					
		Tiger muskie	*Esox lucius x E. masquinongy*	I	X	X	X		X		X	X
Minnow	Cyprinidae	Chiselmouth	*Acrocheilus alutaceus*	N					X			
		Goldfish	*Carassius auratus*	I					X			X
		Lake chub	*Couesius plumbeus*	N	X							
		Common carp	*Cyprinus carpio*	I				X	X	X	X	
		Grass carp	*Ctenopharyngodon idella*	I		X	X	X	X	X	X	
		Utah chub	*Gila atraria*	N					X	X	X	X
		Tui chub	*Gila bicolor*	I					X			
		Leatherside chub	*Gila copei*	N						X	X	
		Peamouth	*Mylocheilus caurinus*	N	X	X	X		X			
		Spottail shiner	*Notropis hudsonius*	I					X	X	X	
		Fathead minnow	*Pimephales promelas*	I					X	X		
		Northern pikeminnow	*Ptychocheilus oregonensis*	N	X	X	X	X	X			
		Longnose dace	*Rhinichthys cataractae*	N	X	X	X	X	X	X	X	X
		Leopard dace	*Rhinichthys falcatus*	N					X			
		Speckled dace	*Rhinichthys osculus*	N			X	X	X	X	X	X
		Redside shiner	*Richardsonius balteatus*	N	X	X	X	X	X	X	X	X
		Tench	*Tinca tinca*	I		X	X					
Sucker	Catostomidae	Utah sucker	*Catostomus ardens*	N						X	X	X
		Longnose sucker	*Catostomus catostomus*	N	X	X	X					
		Bridgelip sucker	*Catostomus columbianus*	N			X	X	X			
		Bluehead sucker	*Catostomus discobolus*	N						X	X	
		Largescale sucker	*Catostomus macrocheilus*	N	X	X	X	X	X			
		Mountain sucker	*Catostomus platyrhynchus*	N					X	X	X	X

Appendix B. Continued.

Family		Species		Origin[b]	Drainage[a]							
Common Name	Scientific Name	Common Name	Scientific Name		K	P	S	Pa	Sb	Sa	B	I
Catfish	Ictaluridae	Black bullhead	*Ameiurus melas*	I			X		X			
		Brown bullhead	*Ameiurus nebulosus*	I	X	X	X	X	X	X	X	
		Yellow bullhead	*Ameiurus natalis*	I					X	X		
		Blue catfish	*Ictalurus furcatus*	I					X			
		Channel catfish	*Ictalurus punctatus*	I	X	X	X		X	X	X	
		Tadpole madtom	*Noturus gyrinus*	I					X			
		Flathead catfish	*Pylodictis olivaris*	I					X			
Trout-perch	Percopsidae	Sand roller	*Percopsis transmontana*	N					X			
Cod	Gadidae	Burbot (ling)	*Lota lota*	N	X							
Livebearer	Poeciliidae	Mosquitofish	*Gambusia affinis*	I					X	X	X	
		Guppy	*Poecilia reticulata*	I[c]							X	X
		Green swordtail	*Xiphophorus helleri*	I[c]					X		X	X
		Platy	*Xiphophorus spp.*	I[c]							X	X
Sunfish	Centrarchidae	Green sunfish	*Lepomis cyanellus*	I			X				X	
		Pumpkinseed	*Lepomis gibbosus*	I	X	X	X	X	X	X		
		Warmouth	*Lepomis gulosus*	I					X			
		Bluegill	*Lepomis macrochirus*	I	X	X	X	X	X	X	X	
		Smallmouth bass	*Micropterus dolomieu*	I		X	X		X	X	X	
		Largemouth bass	*Micropterus salmoides*	I	X	X	X	X	X	X	X	
		Black crappie	*Pomoxis nigromaculatus*	I	X	X	X	X	X	X	X	X
		White crappie	*Pomoxis annularis*	I					X			
Perch	Percidae	Yellow perch	*Perca flavescens*	I	X	X	X		X	X	X	X
		Walleye	*Stizostedion vitreum*	I		X	X		X	X	X	
		Sauger	*Stizostedion canadense*	I							X	

Appendix B. Continued.

Family		Species		Origin[b]	Drainage[a]							
Common Name	Scientific Name	Common Name	Scientific Name		K	P	S	Pa	Sb	Sa	B	I
Sculpin	Cottidae	Mottled sculpin	*Cottus bairdi*	N					X	X	X	X
		Paiute sculpin	*Cottus beldingi*	N					X	X	X	
		Slimy sculpin	*Cottus cognatus*	N	X	X			X			
		Shorthead sculpin	*Cottus confuses*	N			X		X			X
		Bear Lake sculpin	*Cottus extensus*	N							X	
		Shoshone sculpin	*Cottus greenei*	N					X			
		Wood River sculpin	*Cottus leiopomus*	N					X			
		Torrent sculpin	*Cottus rhotheus*	N	X	X	X	X	X			
Cichlid[c]	Cichlidae	Mozambique (Java) tilapia	*Tilapia mossambica*	I[c]					X			X
		Redbelly (Zill's) tilapia	*Tilapia zilli*	I[c]					X			
		Convict cichlid	*Cichlasoma nigrofasciatum*	I[c]					X			X
Loach	Cobitidae	Oriental weatherfish	*Misgurnus anguillicaudatus*	I					X			
Shad	Clupeidae	American shad	*Alosa sapidissima*	I					X			

[a] 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.
[b] N=Native and I=Introduced.
[c] Confined to geothermal waters.
X[I] Native in part of the state, but introduced into this drainage.

1999 ANGLER OPINION SURVEY

. Did you fish in Idaho in 1999? ☐ Yes ☐ No
(If not, please continue and fill in the survey questions that are pertinent)

. How many days did you fish in Idaho in 1999? _____

. How many years have you fished in Idaho? ____

. How many children under age 14 are there living at your home? _____ How many of them fish? _____

. Do you own a boat used for fishing in Idaho? ☐ Yes ☐ No

If you fished In Idaho during 1999, please list the three waters most frequently fished:
Water: _____ County: _____
Water: _____ County: _____
Water: _____ County: _____

If you fished for trout, do you believe the present statewide limit of 6 trout is:
☐ Too Many ☐ About Right ☐ Too Few ☐ No Opinion

Would you like a portion of the 9-inch hatchery trout production converted into a few trout larger than 12 inches even knowing that one 12-inch trout will replace three 9-inch trout available for stocking in Idaho waters? ☐ Yes ☐ No

How would you rate the quality of trout stocked by the Idaho Department of Fish and Game?
☐ Excellent ☐ Good ☐ Fair ☐ Poor ☐ No Opinion

). Increased fishing pressure has reduced wild trout populations in some Idaho streams. To maintain fishable populations would you favor:
☐ Restricting the number or size of wild trout that could be kept?
☐ Replacing wild trout with hatchery trout?
☐ Increasing the number of small fishing ponds?
☐ No Opinion.

. Should the Idaho Department of Fish and Game spend ☐ more ☐ less, or the ☐ same effort on management of wild species?

. Should the Idaho Department of Fish and Game provide limited entry fisheries (similar to controlled hunts) to provide a quality fishing experience and/or to protect the fish?
☐ Yes ☐ No

. Would you like to have additional streams or lakes managed to provide larger than average trout and increased number of fish caught, even knowing that methods of fishing, numbers and size of fish that could be kept would be restricted?
☐ Yes ☐ No ☐ No Opinion

. If you had $100 to spend on improving Idaho's fishing and protecting the resource, how would you spend it on the following programs?

Hatchery trout production for lakes _____
Hatchery trout production for streams _____
Protection and enhancement of wild trout ____
Habitat protection _____
Warmwater fisheries _____
Salmon and Steelhead Fisheries _____
Enforcement ____

15. If you had to release all of the trout you caught from your favorite trout stream, would you continue to fish that stream? ☐ Yes ☐ No ☐ No Opinion

16. If a stream or lake could provide the opportunity to catch trophy trout, would you fish that stream or lake, even if you had to release all the fish you caught? ☐ Yes ☐ No ☐ No Opinion

17. Would you like more lakes or ponds in Idaho managed to provide increased numbers of bass greater than 1(inches in length, even knowing that numbers and size of fish that could be kept would be restricted?
☐ Yes ☐ No ☐ No Opinion

18. If you fish for bass in Idaho, what is the smallest largemouth bass and smallmouth bass you would keep if not restricted?

Largemouth	Smallmouth
☐ 8 Inches	☐ 8 Inches
☐ 10 Inches	☐ 10 Inches
☐ 12 Inches	☐ 12 Inches
☐ 14 Inches	☐ 14 Inches

19. If you fish for bass in Idaho, what would you consider a quality-size largemouth bass and smallmouth bass?

Largemouth	Smallmouth
☐ 14 inches	☐ 14 inches
☐ 16 Inches	☐ 16 Inches
☐ 18 inches	☐ 18 inches
☐ 20 inches	☐ 20 inches

20. Do you feel the Idaho Department of Fish and Game should provide more information about available fishing opportunities, such as location of lakes and streams, public access areas, or types of fish available?
☐ Yes ☐ No ☐ No Opinion

21. How would you like to receive this information? ☐ Internet ☐ newspaper ☐ brochure ☐ TV/Radio

22. Please check in the boxes below (1) all of the fish species you fished for in Idaho in 1999, (2) the types of water you fished, (3) the method of fishing (shore, boat, ice, float tube), and (4) the kinds of fishing gear you used. Please check all appropriate boxes.

Species	Mountain Lakes	Lake/ Reservoir	Stream River	Shore/ Wade	Boat	Float Tube	Ice Fish	Lure/ Spin	Bait	Fly	Other
Bluegill/perch/crappie	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bass	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Walleye/pike/muskie	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Steelhead	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Trout/salmon	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Catfish	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sturgeon	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Whitefish	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nongame fish	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

23. Please list the three fish species you most prefer to catch (1 = most preferred):

1. _____ 2. _____ 3. _____

4. Please check your preferred water to fish: ☐ lake/reservoir ☐ river/stream ☐ mountain lakes

5. Please check your preferred type of fishing: ☐ fly ☐ bait ☐ lures/spin

6. Please check your preferred method of fishing: ☐ boat ☐ shore/wade ☐ float tube ☐ ice fishing

7. Please estimate the number of days spent fishing for each fishery type in 1999 and check the boxes that best describe your satisfaction while fishing the various fishery types listed below:

ishery Type	Days Fished	Excellent	Good	Fair	Poor
igh mountain lakes	_____	☐	☐	☐	☐
akes and reservoirs for anything that bites	_____	☐	☐	☐	☐
akes and reservoirs for trout	_____	☐	☐	☐	☐
akes and reservoirs for bass	_____	☐	☐	☐	☐
akes and reservoirs for sunfish/crappie	_____	☐	☐	☐	☐
akes and reservoirs for walleye	_____	☐	☐	☐	☐
akes and reservoirs for landlocked chinook salmon	_____	☐	☐	☐	☐
ivers and streams for anything that bites	_____	☐	☐	☐	☐
ivers and streams for bass	_____	☐	☐	☐	☐
ivers and streams for trout	_____	☐	☐	☐	☐
ivers and streams for whitefish	_____	☐	☐	☐	☐
ivers and streams for steelhead	_____	☐	☐	☐	☐
ivers and streams for sturgeon	_____	☐	☐	☐	☐

. What factors are important to you in selecting where you fish? Please list your top five choices, ranking most important = 1 to least important = 5:

oid other anglers	_____	Family activity	_____
oid other types of recreationists	_____	Nearness to camping facilities	_____
at launching/marina facilities	_____	Natural beauty of the area	_____
ater quality	_____	Chance to catch a limit of fish	_____
arness to home or cabin (travel distance)	_____	Accessibility	_____
ance to catch a large or trophy fish	_____	Chance to catch wild fish	_____
esence of favorite fish (species)	_____	Chance to catch large numbers of fish	_____
ance to catch a variety of fish	_____	Other _____	_____

. Do you have access to the Internet? ☐ Yes ☐ No

TO LEARN MORE

For more information regarding fish Management, contact these Fish and Game offices:

Headquarters
Fisheries Bureau
600 S. Walnut St.
Boise, ID 83703 334-3791

Panhandle Region
2750 Kathleen Avenue
Coeur d'Alene, ID 83814 769-1414

Clearwater Region
1540 Warner Avenue
Lewiston, ID 83638 799-5010

McCall Subregion
555 Deinhard Lane
McCall, ID 83638 634-8137

Southwest Region
3101 S. Powerline Rd.
Nampa, ID 465-8465

Magic Valley Region
888 East Main St.
Jerome, ID 83338 324-4359

Southeast Region
1345 Barton Rd.
Pocatello, ID 83204 232-4703

Upper Snake Region
1515 Lincoln Rd.
Idaho Falls, ID 83401 525-7290

Salmon Region
P.O. Box 1336, Highway 93
Salmon, ID 83467 756-2271

How to cite this report:

IDFG. 2001. Fisheries Management Plan 2001-2006. Idaho Department of Fish and Game, Boise.