

IDAHO
DEPARTMENT OF FISH AND GAME

Stephen P. Mealey, Director

FEDERAL AID IN SPORT FISH RESTORATION

FISHERY MANAGEMENT PROGRAM
F-71-R-22

ANNUAL FISHERIES MANAGEMENT
PERFORMANCE REPORTS*
1997



Project I.	Surveys and Inventories
Project II.	Technical Guidance
Project III.	Habitat Management
Project IV.	Population Management
Project V.	Coordination

*Copies of complete reports available from IDFG, PO Box 25, Boise, Idaho 83707

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This document contains abstracts of reports for the five projects under the Federal Aid in Sport Fish Restoration, Grant F-71-R-22, Fish Management. Abstracts are provided by subproject for each of eight Administrative/Management regions within the state.

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
PANHANDLE REGION (Subprojects I-A, II-A, III-A, IV-A)**

PROJECT I.	SURVEYS AND INVENTORIES
Job a.	Panhandle Region Mountain Lakes Investigations
Job b.	Panhandle Region Lowland Lakes Investigations
Job c.	Panhandle Region Rivers and Streams Investigations
PROJECT II.	TECHNICAL GUIDANCE
PROJECT III.	HABITAT MANAGEMENT
PROJECT IV.	POPULATION MANAGEMENT

By

**Jim Fredericks, Regional Fishery Biologist
James A. Davis, Regional Fishery Biologist
Ned J. Horner, Regional Fishery Manager
Charles E. Corsi, Natural Resource Staff Biologist**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-A Panhandle Region
Job No.: a Title: Mountain Lake Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

We conducted mountain lake surveys on Hidden Lake (Boundary County) and Harrison Lake (Bonner County) to assess the current status of the fisheries. We used gill nets and angling to evaluate size structure, abundance, and growth of stocked fish. We also estimated the general level of human use the lakes received. Westslope cutthroat trout *Oncorhynchus clarki lewisi* and rainbow trout *O. mykiss* were both abundant in Hidden Lake. Fish ranged from 155 to 335 mm in length and weighed from 37 g to 347 g. Anglers present during the survey caught 53 fish in 9.5 h of fishing for catch rates of 5.6 fish/h. There was no complete trail around Hidden Lake, and only three campsites, indicating a low to moderate level of use. In contrast, Harrison Lake was a heavily used lake. There were 12-13 campsites and a well-used, complete trail around the lake. Westslope cutthroat trout were moderately abundant. Surveyed anglers caught seven fish in 14 h of fishing for a catch rate of 0.5 fish/h. Fish ranged from 108 to 282 mm in length. Growth was slow, with fish generally achieving 200 mm at around age-five.

Authors:

Jim Fredericks
Regional Fishery Biologist

Ned Horner
Regional Fisheries Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-A Panhandle Region
Job No.: b Title: Lowland Lake Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

We used a midwater trawl to estimate the kokanee *Oncorhynchus nerka* population in Coeur d'Alene Lake in August. Age-3 kokanee density was 25 fish/ha. Age-2 kokanee were very low in abundance and estimated at only 10/ha. The mean size of spawning kokanee was 306 mm and 289 mm for males and females, respectively, which is the largest mean spawner size since early 1970's. We estimated a potential egg deposition of 53.6 million eggs.

We counted 33 chinook salmon *O. tshawytscha* redds in the Coeur d'Alene River drainage and 24 in the St. Joe River, for a total of 57. All redds were left undisturbed to provide natural production. Only four adult chinook salmon were captured and spawned at the Wolf Lodge Creek weir, resulting in an egg take of 6,900 green eggs for incubation and rearing. A total of 12,100 age-0 chinook salmon with an adipose fin clip were stocked at the Mineral Ridge ramp in Wolf Lodge Bay on June 24.

We checked kokanee anglers in the Wolf Lodge Bay area of Coeur d'Alene Lake to evaluate the extent of incidental harvest of juvenile chinook salmon. Sixty-five anglers creel a total of 625 kokanee and no juvenile chinook. The majority of fishing parties surveyed included at least one angler who was aware of the possibility of incidental chinook catch and was confident in their ability to distinguish juvenile chinook from kokanee.

We collected 297 smallmouth bass *Micropterus dolomieu* in the northern bays of Coeur d'Alene Lake. The modal length increment was 180-189 mm. Length-at-age analysis indicates that smallmouth bass growth was similar to mean growth rates from northern latitudes, with fish generally achieving the legally harvestable size (305 mm) at five years of age. The largest fish collected was 434 mm and estimated to be seven years old.

We used a midwater trawl to estimate the kokanee population in Spirit Lake in August. The age-3 population was estimated at 6,500 fish, a density of 11 fish/ha, and the age-2 kokanee population was estimated at 65,500 fish, a density of 115 fish/ha.

We used gill nets and conventional angling equipment to assess relative abundance, size structure, and the total population of lake trout *Salvelinus namaycush* and bull trout *S. confluentus* in Upper Priest Lake. Anglers were recruited to fish intensively during a two-day effort in mid-August to assess the feasibility of using sportfishing as a method of reducing the lake trout population in the lake without damaging the bull trout population. In addition we implanted sonic tags in nine fish to assess seasonal movements. In four separate efforts from June through October, we collected 152 lake trout ranging in size from 193 to 980 mm (TL). Of these, 121 were collected in gill nets, and the remaining were collected with conventional fishing equipment. Mark-recapture analysis indicates a lake trout population of approximately 700 fish >320 mm. We collected 20 bull trout ranging in size from 190 to 760 mm. Twelve of these fish were collected in gill nets. The ratio of

lake trout to bull trout was much higher in the sample collected by sportfishing (approximately 5:1) than the ratio in the gill nets would have suggested (approximately 10:1). Seven of the sonic tagged lake trout remained in Upper Priest Lake, moving extensively throughout the lake, but not exhibiting any clear spawning aggregations. Two lake trout disappeared from the upper lake. One of these was subsequently located near the Twin Islands in Priest Lake in mid-October, only to reappear in Upper Priest Lake in late November.

A fisheries volunteer tagged 47 additional lake trout in Priest Lake. A total of seven lake trout tagged in previous years were caught and reported in 1997. Lake trout were recaptured an average of 3 km from the site of original capture. Growth ranged from 0 cm to 6 cm per year, with an average annual growth of 1.8 cm/year.

We conducted standard lake surveys on Shepherd, Robinson, and Brush lakes with the objective of evaluating introduced bluegill *Lepomis macrochirus* populations. Bluegill have established reproducing populations in each lake. Based on the standard sampling protocol, bluegill have increased from non-existence to the first or second most abundant species. Based on back-calculation of scales, growth was similar to a North American average, and bluegill generally achieved a "quality" size (200 mm) around seven years of age.

Officers checked a total of 790 residents and 335 non-residents at 35 regional lakes, ponds and sloughs in 1997. A total of 2,136 angler hours were represented.

Authors:

Jim Fredericks
Regional Fishery Biologist

Ned Horner
Regional Fisheries Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-A - Panhandle Region
Job No.: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Westslope cutthroat trout *Oncorhynchus clarki lewisi* densities estimated from snorkeling transects in the catch-and-release sections of the North Fork Coeur d'Alene, Little North Fork Coeur d'Alene, and St. Joe rivers were 1.19, 0, and 1.72 trout/100 m², respectively. In the harvest sections of the same rivers, densities were 0.37, 0.23, and 0.17 trout/100 m², respectively. The mean number of trout per transect in the catch-and-release section of the St. Joe River has declined for the past four years (1993-1997).

It was unclear where westslope cutthroat trout over-winter in the St. Joe River. No cutthroat trout were observed upstream from Prospector Creek during November through February. No trout were observed between Prospector Creek and North Fork St. Joe River. Although no trout were observed between the North Fork St. Joe River downstream to St. Joe City, visibility due to water clarity or floating ice prevented viewing the bottom of some of the deepest pools where trout could be over-wintering.

Trout densities in the Little North Fork Clearwater River from Foehl Creek to Adair Creek estimated by snorkeling ranged between 0.34 and 1.65 trout/100 m². The trout population abundance estimated by electrofishing in the area from Adair Creek to Lost Lake Creek was 5.2 trout/100 m². Only one trout over 300 mm TL was captured; the remainder of the captured trout were less than 250 mm TL. The highest number of bull trout *Salvelinus confluentus* captured by electrofishing in the sampled tributaries occurred in Lund Creek.

Trout densities estimated by electrofishing ranged between 9.6 and 42.3 trout/100 m² in sampled tributaries of the Lake Pend Oreille drainage. Bull trout densities ranged between 0 and 9.3 trout/100 m² per sampled reach and westslope cutthroat trout densities ranged between 0 and 86.2 trout/100 m².

Department personnel counted 527 bull trout redds in the Lake Pend Oreille drainage in 1997. The number of bull trout redds continued to decline in the Lake Pend Oreille drainage. A total of 22 redds were counted in the Upper Priest Lake drainage and 18 redds were counted in the upper St. Joe River drainage. A total of six bull trout redds were counted in the upper Little North Fork Clearwater River drainage.

Analysis of the Spokane River Drainage Angler Survey indicated all the groups of anglers (bait, fly, and lure) agreed that we should allow trout harvest as well as catch-and-release fishing on the Coeur d'Alene River and the St. Joe River. They did not want to increase harvest at the expense of catching fewer trout. They all agreed (with one exception, which was a draw) that current regulations allowed enough harvest. All groups released most of the trout they caught. None of the angler groups kept a legal limit of trout very often. Catching a 'limit of trout' was not important to any of the groups. They all agreed that where trout were stocked anglers had an increased opportunity to catch trout.

Four fishing regulation models were used to simulate what could happen to the population of cutthroat trout in the St. Joe River. These simulations suggested that a catch-and-release regulation would increase catch rates and the number of larger trout in the population, that minimum size limits (e.g. 355 mm TL) can maintain a population, and that even a reduced bag limit with no size restrictions will cause a decline. As harvest opportunity increases more anglers may enter the fishery. More trout would be harvested resulting in a decrease in abundance and the size structure would shift toward smaller trout. Elimination of harvest opportunity would result in harvest oriented anglers leaving the fishery and catch-and-release oriented anglers entering the fishery.

James A. Davis
Regional Fishery Biologist

Charles E. Corsi
Natural Resource Staff Biologist

Ned J. Horner
Regional Fisheries Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: II - Technical Guidance Subproject: I-A - Panhandle Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Panhandle Region fisheries management personnel provided private individuals, organizations, public schools, and state and federal agencies with technical review and advice on various projects and activities that affect the fishery resources in northern Idaho. Technical guidance also included numerous angler informational meetings, presentations, and letters, continuation of the Panhandle Region portion of the 1-800 ASK-FISH program, and fishing clinics.

Author:

Ned Horner
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: III -Habitat Management Subproject: I-A -Panhandle Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

A culvert inventory program was continued to identify impassible culverts in the Pend Oreille Lake and St. Joe River drainages. Volunteers were used to collect site specific data on both the culvert and stream channel that may preclude fish passage.

Authors:

Ned Horner
Regional Fishery Manager

Jim Davis
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: IV - Population Management Subproject: I-A -Panhandle Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

No lakes in the Panhandle Region were restored with rotenone during this contract period.

Panhandle Region lowland lakes and rivers were stocked with 179,920 put-and-take rainbow trout *Oncorhynchus mykiss*. Put-grow-and-take stocking included 302,268 domestic Kamloops rainbow trout for Hayden Lake and 63,143 surplus rainbow trout of different strains stocked into six lakes and two streams. Westslope cutthroat trout *O. clarki* stocking included put-grow-and-take fish in 13 lakes and 505,824 surplus fry into five streams. There were essentially no net pen reared cutthroat fingerlings released into Pend Oreille Lake in 1997. Other trout species stocked included 22,818 brook trout *Salvelinus fontinalis* and 4,000 brown trout *Salmo trutta* fingerlings. Pend Oreille Lake was stocked with 3.7 million kokanee *O. nerka* fry, but the only lowland lake receiving kokanee in 1997 was Mirror Lake with 1,470 fry. Coeur d'Alene Lake received 12,650 fall chinook salmon *O. tshawytscha* fingerlings. Five lakes were stocked with a total of 899 tiger muskies *Esox lucius x E. masquinongy* and five lakes and the St. Maries River were stocked with a total of 16,661 channel catfish *Ictalurus punctatus*.

Hatchery personnel and volunteers stocked 33 mountain lakes in the Panhandle Region in 1997. Most lakes were stocked at a density of around 620 fish/ha. Species stocked included westslope cutthroat trout, domestic Kamloops rainbow trout and grayling *Thymallus arcticus*.

Authors:

Ned Horner
Regional Fishery Manager

Jim Fredericks
Regional Fishery Biologist

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Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
CLEARWATER REGION (Subprojects I-B, II-B, III-B, IV-B)**

- PROJECT I. SURVEYS AND INVENTORIES**
 - Job a. Clearwater Region Mountain Lakes Investigations**
 - Job b. Clearwater Region Lowland Lakes Investigations**
 - Job c. Clearwater Region Rivers and Streams Investigations**
- PROJECT II. TECHNICAL GUIDANCE**
- PROJECT III. HABITAT MANAGEMENT**
- PROJECT IV. POPULATION MANAGEMENT**

By

**Tim Cochnauer, Regional Fishery Manager
Ed Schriever, Regional Fishery Biologist
Jody Brostrom, Regional Fishery Biologist
Patrick D. Murphy, Fishery Technician**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-B Clearwater Region
Job No.: a Title: Mountain Lake Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Twenty-eight mountain lakes were surveyed in the Clearwater National Forest during July-September 1997. An additional three lakes in the NF Clearwater River drainage were re-surveyed. Initially, these three lakes (Elizabeth, Pete Ott, Tillie) were surveyed in 1994, but management: directions were not prescribed because of inconclusive fish data. Two lakes, lower and upper Indian Post Office lakes will be retained on the stocking schedule. Ring Lake will be removed from the stocking schedule and Upper Steep Lake will be resurveyed in 1998.

Authors:

Tim Cochnauer
Regional Fishery Manager

Patrick D. Murphy
Fishery Technician

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-B Clearwater Region
Job No.: b Title: Lowland Lake Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Clearwater regional fisheries management personnel and conservation officers checked 299 anglers that spent 423 hours fishing lakes, ponds, reservoirs, and caught 489 game fish.

Clearwater Region fisheries management personnel sampled Winchester Lake, Waha Lake, Elk Creek Reservoir and Tolo Lake. Yellow perch *Perca flavescens* (34.9%), largemouth bass *Micropterus salmoides* (49.1%), smallmouth bass *M. dolomieu* (34.3%), and white crappie *Pomoxis annularis* (53.9%) were the most abundant species in Waha Lake, Winchester Lake, Elk Creek Reservoir, and Tolo Lake, respectively.

Author:

Ed Schriever
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I-Surveys and Inventories Subproject: I-B Clearwater Region
Job No.: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Clearwater regional fishery management personnel snorkeled coordinated data collection for 141 stream transects within the Clearwater, Salmon, and Snake river drainages to obtain data for the long-term database. Chinook salmon *Oncorhynchus tshawytscha* juvenile numbers continued to be at low levels throughout the drainages sampled. Ninety-two chinook salmon redds were counted in traditional aerial spawning ground counts in the Lochsa and Selway rivers, and 241 were counted in the South Fork Clearwater drainage. Management personnel captured and PIT tagged 26 white sturgeon *Acipenser transmontanus* from the Snake River. We sampled 20 rainbow trout *O. mykiss* from the lower Clearwater River and found no fish in diet analysis. We collected 25 rainbow trout in an estimated 181 hours of angling effort on the Salmon River. Residualized hatchery steelhead smolts represented 29.0% of the sample and stocked fingerling trout accounted for 18% of the sample. No fish or fish parts were identified in the contents of 16 hatchery origin trout stomachs. We collected 180 westslope cutthroat trout *O. clarki lewisi* in the mainstem North Fork Clearwater River from Aquarius (rkm 104.4) up to Kelly Forks (rkm 184.5) using traditional hook and line techniques. We jaw-tagged 159 of these cutthroat trout. Nine cutthroat trout were reported recaptured by anglers. We counted 144 kokanee *O. nerka* spawners in three index tributaries of the North Fork Clearwater River. This represents the lowest count since trend counts began in 1981 and less than one percent of the average count from the previous nine years. Clearwater regional fisheries personnel and conservation officers checked 329 anglers that spent 495 h to catch 370 game fish from regional rivers and streams. This represents an average catch rate of 0.75 fish/h.

Authors:

Ed Schriever
Regional Fishery Biologist

Jody Brostrom
Regional Fishery Biologist

Tim Cochnauer
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: IV-Population Management Subproject: IV-B Clearwater Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Stocking approximately 25,200 fry, 267,416 fingerlings, and 262,114 catchable size fish into lakes, reservoirs, rivers, and streams enhanced resident fish populations and sport fishing in the Clearwater Region.

Clearwater Region personnel distributed 243 bluegill *Lepomis macrochirus*, and 164 largemouth bass *Micropterus salmoides* (<200 mm) to local farm pond owners for private pond stocking. These fish were collected from Spring Valley Reservoir on May 23, 1997.

Clearwater Regional personnel collected 536 black crappie *Pomoxis nigromaculatus* from Mann Lake and traded them to Washington Department of Fish and Wildlife for 150 tiger muskies *Esox lucius X E. masquinongy*. The tiger muskies were stocked in Winchester Lake to establish a population, diversify the warmwater fishery and provide some control of yellow perch *Perca flavescens*

Author:

Ed Schriever
Regional Fishery Biologist

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Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
McCALL SUBREGION (Subprojects I-C, II-C, III-C, IV-C)**

- | | |
|---------------------|---|
| PROJECT I. | SURVEYS AND INVENTORIES |
| Job a. | McCall Subregion Mountain Lakes Investigations |
| Job b. | McCall Subregion Lowland Lakes Investigations |
| Job c. | McCall Subregion Rivers and Streams Investigations |
| PROJECT II. | TECHNICAL GUIDANCE |
| PROJECT III. | HABITAT MANAGEMENT |
| PROJECT IV. | POPULATION MANAGEMENT |

By

**Paul Janssen, Regional Fishery Biologist
Don Anderson, Regional Fishery Manager
Kimberly A. Apperson, Regional Fishery Biologist
Kris Buelow, Fishery Technician**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-C - McCall Subregion
Job: a Title: Mountain Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Fish population status and/or physical habitat parameters were surveyed and stocking strategies were assessed on nineteen mountain lakes in 1997 in cooperation with the U.S. Forest Service.

Fish were not observed in Shelly Ann Lake or Belvidere lakes #1 or #2. Rainbow trout *Oncorhynchus mykiss* were collected from Mary, Squaw, Boulder, Blue, Cly #2, Horton, and Summit lakes. Brook trout *Salvelinus fontinalis* were collected from Lloyds, John, Ellis, and Gay lakes. Cutthroat trout *O. clarki* were collected from Pearl, Squaw, Buck, Ho, Cly #2, Lloyds, and Horton lakes.

Authors:

Kris Buelow
Fisheries Technician

Paul Janssen
Regional Fishery Biologist

Don Anderson
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-C - McCall Subregion
Job: b Title: Lowland Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

We used a midwater trawl to estimate the population of age 0, 1+, and 2+, kokanee *Oncorhynchus nerka kennerlyi* in Payette Lake. The respective population estimates were: 105,815 +/- 45,500 (95% confidence intervals), 334,873 +/- 127,252 and 48,027 +/- 27,375 respectively.

Little Payette Lake was gillnetted to monitor relative numbers and biomass of fish species present. Trout and char species made up 12.7% and 13.8% of the catch by total number and total weight, respectively. Northern squawfish *Ptychocheilus oregonensis* and largescale suckers *Catostomus macrocheilus* made up 87.3% and 86.2% of the total catch by total number and total weight, respectively.

Cascade Reservoir angler counts were made on Memorial Day, July 4, and Labor Day to compare relative angling pressure with past survey years. The average number of fishing boats and shore anglers were 36.5 and 19, respectively.

We completed standard lowland lake surveys on Brundage Reservoir, Herrick Reservoir, Corral Reservoir, Tripod Reservoir, and Warm Lake. We collected 59 and 73 rainbow trout *O. mykiss* on June 17, 1997 and August 26, 1997, respectively, from Brundage Reservoir. Fish ranged in size from 164 mm and 42 g to 320 mm and 246 g on June 17, and from 141 mm and 34 g to 376 mm and 404 g on August 26. Condition factors averaged 0.95 and 1.00 on June 17 and August 26, respectively. No other species of fish were collected.

We collected 18 rainbow trout from Corral Reservoir and all but two appeared to be from 1997 catchable stockings. One fish of 310 mm and 355 g appeared to be a holdover from 1996 stockings and one 275 mm fish appeared to be of wild origin. No other species of fish were collected.

We collected 89 rainbow trout from Herrick Reservoir. Six appeared to be of wild origin and two appeared to be holdovers from the previous years' stockings. The rainbow trout collected ranged in size from 115 mm and 15 g to 370 mm and 450 g. Condition factors averaged 1.30. No other species of fish were collected.

We collected 28 rainbow trout from Tripod Reservoir. Three were holdovers from the previous years' stockings. Rainbow trout ranged in size from 190 mm and 75 g to 380 mm and 555 g. Condition factors averaged 1.26. No other species of fish were collected.

We collected eight species of fish from Warm Lake, which included 544 mountain suckers *Catostomus platyrhynchus*, the majority of which were spawning adults. We also collected 32 mountain whitefish *Prosopium williamsoni*, 16 rainbow trout, one bull trout *Salvelinus confluentus*, 14 brook trout *S. fontinalis*, one bull trout x brook trout hybrid, three redbreast shiners *Richardsonius balteatus* and one kokanee.

We estimated 2,441 angler hours were spent to catch 1,772 fish on May 24-25, 1997 on Horsethief Reservoir. The overall catch rate was 0.73 trout/h. The catch composition was 99% rainbow trout and 1% brown trout *Salmo trutta*. Of the total estimated angler hours, shore anglers made up 68%, boat anglers 25%, and float tube anglers 7%.

Authors:

Paul Janssen
Regional Fishery Biologist

Don Anderson
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-C - McCall Subregion
Job: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

We estimated the 1995 kokanee salmon *Oncorhynchus nerka kennerlyi* spawning run in the North Fork Payette River above Payette Lake to be 64,891 fish with a total biomass of 9,603 kg. Nampa Fish Hatchery personnel trapped and spawned 2,092 females, collecting 736,737 eggs.

We completed three fishery and habitat survey transects on Indian Creek, a tributary to Oxbow Reservoir. We found redband trout *O. mykiss gairdneri* and brook trout *Salvelinus fontinalis* in the two farthest downstream transects and bull trout *S. confluentus*, bull trout x brook trout hybrids, brook trout and redband trout in the farthest upstream transect.

We also completed standard stream surveys on three North Fork Payette River tributaries: Fawn Creek, Bogus Creek and Tripod Creek. Rainbow trout were the only fish found in Bogus and Fawn Creeks. Rainbow trout and brook trout were found in Tripod Creek.

Anglers were guided by Wapiti Meadows Ranch Outfitters in a three-mile section of the South Fork Salmon River below the confluence with the East Fork South Fork Salmon River, throughout the East Fork South Fork Salmon River, and in lower Johnson Creek. All fishing was catch-and-release. Steelhead/redband trout, cutthroat trout *O. clarki*, and mountain whitefish *Prosopium williamsoni* were reported in the catch. Average catch rates ranged from 0.2 fish/h in Johnson Creek, 2.1 fish/h in the south Fork and East Fork South Fork Salmon River.

Abundance of resident and anadromous fish from permanent snorkel sample sites in the South Fork Salmon, upper Middle Fork Salmon, and Little Salmon river drainages are presented for 1986 through 1997.

Authors:

Paul Janssen
Regional Fishery Biologist

Don Anderson
Regional Fishery Manager

Kimberly A. Apperson
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-C - McCall Subregion
Job: d Title: Salmon and Steelhead Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

McCall Subregion salmon and steelhead investigations are incorporated in separate statewide reports. These reports include: Salmon and Steelhead Investigations, Salmon Spawning Ground Surveys, Idaho Supplementation Studies, and Idaho Habitat/Natural Production Monitoring.

Author:

Don Anderson
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: II - Technical Guidance Subproject: II-C - McCall Subregion

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

McCall Subregion fishery management personnel responded to more than 300 requests and opportunities for technical input. Comments were provided to state and federal agencies on proposed activities for which they have regulatory authority. Advice and technical assistance were provided to private businesses and the public on activities associated with fish, or having impacts on fish populations or fish habitat. The major topics of involvement included stream channel alterations, Idaho Outfitters and Guides licensing, private pond permits, and land management planning. We provided data and technical advice to an increased number of fisheries consultants.

We also gave presentations to schools, sportsperson groups, and civic organizations. We answered many questions from the angling public on fishing opportunities, regulations, techniques, and specific waters.

Authors:

Don Anderson
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: III - Habitat Management Subproject: III-C - McCall Subregion

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

The Regional Fishery Manager participated on a technical advisory committee for the Big Payette Lake Water Quality Council. The group conducted studies and developed a comprehensive technical report, identifying nutrient and bacterial contamination sources and recommended remedial action. The technical report resulted in a lake management plan and an implementation program which were both passed into legislation in the 1997 session.

Fisheries personnel participated on a technical advisory committee for the Cascade Restoration Project to improve water quality and fish habitat in Cascade Reservoir. Cascade Reservoir is listed as a water quality limited water by the Idaho Division of Environmental Quality not fully supporting beneficial uses including cold water biota. The technical advisory committee was directed to identify phosphorus sources and develop reduction measures. A Total Maximum Daily Load (TMDL) has been established that will result in a 37% reduction in phosphorus loading. Draft source plans were prepared and will be implemented as funding allows.

The opportunity for a conservation easement on private property in Burgdorf Meadows was evaluated and pursued. This is a critical spawning area for wild summer chinook salmon *Oncorhynchus tshawytscha* and was imminently at risk of recreation home development. We prepared a proposal and sought funding to allow the Idaho Department of Fish and Game to acquire the easement.

Fisheries personnel participated with other state and federal agencies in the assessment and implementation of repair work to Highway 95 and to the Little Salmon River stream channel caused by the January 1997 flooding of the Little Salmon River.

Author:

Don Anderson
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project IV - Population Management Subproject: IV-C - McCall Subregion
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Davis Reservoir was chemically treated with rotenone on October 22, 1997 to eradicate an illegally introduced walleye *Stizostedion vitreum* population.

McCall area mountain lakes, lowland lakes, and streams were stocked with a total of 113,460 fry, 123,694 fingerlings, and 344,126 put-and-take size fish. All were salmonids with the exception of 250 adult channel catfish *Ictalurus punctatus* removed from Oxbow and Hells Canyon reservoirs and stocked into Cascade Reservoir and 8,164 tiger muskies *Esox lucius x E. masquinongy* stocked into Cascade Reservoir.

Authors:

Paul Janssen
Regional Fishery Biologist

Don Anderson
Regional Fishery Manager

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SOUTHWEST REGION (Subprojects I-D, II-D, III-D, IV-D)**

- PROJECT 1. SURVEYS AND INVENTORIES**
 - Job a. Southwest Region Mountain Lakes Investigations**
 - Job b. Southwest Region Lowland Lakes Investigations**
 - Job c. Southwest Region Rivers and Streams Investigations**
- PROJECT 11. TECHNICAL GUIDANCE**
- PROJECT III. HABITAT MANAGEMENT**
- PROJECT IV. POPULATION MANAGEMENT**

By

**Dale B. Allen, Regional Fishery Biologist
Brian J. Flatter, Fishery Technician
Steven P. Yundt, Regional Fishery Manager**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-D - Southwest Region
Job: a Title: Mountain Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

A total of 56 lakes, frog ponds and marshes within the Flytrip Creek (Middle Fork Boise River drainage) and Tenlake Creek (South Fork Payette River drainage) drainages were visited in 1997.

Westslope cutthroat trout *Oncorhynchus clarki lewisi* were found in Heart, PS#1, Camp, PS#2, and PS#3 lakes in the Flytrip drainage, and in Helen, Linda, Tenlakes #2, #5, #6, #7, #8, and #9 in the Tenlake Creek drainage. Arctic grayling *Thymallus arcticus* were found in Herman in the Flytrip drainage and Tenlake #2 in the Tenlake Creek drainage.

Spotted frog *Rana luteiventris* adult or juveniles were found in eight lakes and ponds in the Flytrip Creek drainage, and in 10 lakes and ponds in the Tenlake Creek drainage. Long toed salamanders *Ambystoma macrodactylum* were found in two waters in the Tenlake Creek drainage.

Author:

Steve P. Yundt
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-D - Southwest Region
Job: b Title: Lowland Lakes and Reservoirs Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Extensive sampling was conducted on Arrowrock Reservoir during the winter and spring of 1997 in an effort to capture bull trout *Salvelinus confluentus* as part of a cooperative project between the Idaho Department of Fish and Game (IDFG) and the Bureau of Reclamation. This project included the radio tagging of 30 adults and conducting a population estimate of the bull trout found in Arrowrock Reservoir.

On May 8, 1997 Beach's Pond was sampled by electrofishing. A total of 296 fish was collected. The catch included bluegill *Lepomis macrochirus*, largemouth bass *Micropterus salmoides*, and pumpkinseed *L. gibbosus*. Bluegill represented 55.4% of the catch by number and 55.3% by weight. Largemouth bass represented 35.5% of the catch by number and 37.9% of the catch by weight. The remainder of the catch was pumpkinseed.

Following reports of white crappie *Pomoxis annularis* being harvested in the spring of 1997, Black's Creek Reservoir was sampled by electrofishing on June 9, 1997. A total of 276 fish were sampled. White crappie made up 100% of the catch.

Blackstone Reservoir was sampled on November 17, 1997 using standard lowland lake survey techniques. A total of 55 fish were sampled. The catch included brown bullhead *Ameiurus nebulosus*, largemouth bass, bridgelip sucker *Catostomus columbianus*, Lahontan cutthroat trout *Oncorhynchus clarki henshawi*, redband shiner *Richardsonius balteatus*, and redband trout *O. mykiss gairdneri*. Bridgelip sucker, redband trout, and largemouth bass represented 39.5, 28.9, and 18.4% of the catch by number, respectively. Redband trout represented 50.2% of the catch by weight.

C J Strike Reservoir was sampled with standard lowland lake gear on May 28-30, 1997. A total of 801 fish were caught. Black crappie *P. nigromaculatus*, bluegill, bridgelip sucker, brown bullhead, channel catfish *Ictalurus punctatus*, chiselmouth *Acrochefus alutaceus*, common carp *Cyprinus carpio*, hatchery rainbow trout *O. mykiss*, largemouth bass, largescale sucker *C. macrochelyus*, mountain whitefish *Prosopium williamsoni*, northern squawfish *Ptychocheilus oregonensis*, peamouth *Mylocheilus caurinus*, pumpkinseed, smallmouth bass *M. dolomieu*, warmouth *L. gulosus*, white crappie, and yellow perch *Perca flavescens* were represented in the catch. Game fish species black crappie, bluegill, brown bullhead, channel catfish, hatchery rainbow, largemouth bass, pumpkinseed, smallmouth bass, warmouth, white crappie, and yellow perch represented 3.6, 14.0, 0.2, 3.2, 0.6, 2.1, 0.2, 35.2, 0.2, 8.7, and 1.9% of the CPUE by number, respectively.

Caldwell ponds #1, #2, and #3 were sampled by electrofishing on May 20, 1997. A total of 192, 166, and 135 fish were sampled, respectively. Bluegill and largemouth bass represented at least 88% of the catch by number in each pond.

Crane Falls Reservoir was electrofished on May 27, 1997. A total of 267 fish were caught. Bluegill, hatchery rainbow trout, largemouth bass, pumpkinseed, and yellow perch represented 26.7, 0.38, 35.5, 35.9, and 1.5% of the catch by number, respectively.

Deadwood Reservoir sampling was conducted during the months of May, June, and October 1997 utilizing gill nets and trap nets. Extensive sampling of the reservoir and associated streams was part of an effort to capture bull trout as part of a cooperative project between the IDFG and the Bureau of Reclamation.

Duff Lane Pond was electrofished on May 22, 1997. Bluegill, largemouth bass, and hatchery rainbow trout represented 38, 22.8, and 38% of the sample by number, respectively. The remainder of the catch was brown bullhead.

Emmett Airport Pond was electrofished on May 21, 1997. A total of 81 fish were captured. Largemouth bass, bluegill, and pumpkinseed provided over 95% of the total catch.

Indian Creek Reservoir was sampled on April 22 and June 9, 1997 by electrofishing. Bluegill and largemouth bass were the only fish caught. The total catch in April and June was 571 and 75 fish, respectively.

Lake Lowell was sampled on May 7, May 14, July 10, and November 3, 1997 by electrofishing. Black crappie, bluegill, bridgelip sucker, brown bullhead, common carp, largemouth bass, largescale sucker, smallmouth bass and yellow perch were represented in the sampling. A fishing tournament was held on Lake Lowell on May 10 and 11. Sixty anglers fished for 960 h and caught 283 largemouth bass and 30 smallmouth bass.

Lucky Peak Reservoir was sampled with standard lowland lake sampling gear on May 13, 1997. A total of 420 fish was caught. Nongame species represented 80% of the total CPUE by number and 86% of the total CPUE by weight. Nine game fish species made up the rest of the catch. Additional sampling was conducted between March 6 and May 19 in an effort to capture bull trout as part of a cooperative project between the IDFG and the Bureau of Reclamation. This project included radio tagging Lucky Peak bull trout and transporting them upstream of Arrowrock Dam.

Paddock Reservoir was sampled on April 16 and October 26, 1997 using standard lowland lake sampling techniques. A total of 656 fish were caught. Largemouth bass and bluegill represented over 82% of the catch on both dates.

Quinn Pond was electrofished on April 15, 1997. A total of 140 fish were captured. Nongame fish represented 6.4% of the total catch by number. Black crappie, bluegill, hatchery rainbow trout, largemouth bass, and yellow perch represented 0.7, 62.1, 18.6, 6.4, and 5.7% of the total catch by number.

Sawyers Pond was sampled on May 21, 1997 by electrofishing. A total of 74 fish were captured. Bluegill, brown bullhead, common carp, largemouth bass, pumpkinseed, and yellow perch represented 55.4, 2.7, 8.1, 4.0, 13.5, and 16.2% of the total catch by number.

Authors:

Brian J. Flatter
Fishery Technician

Dale B. Allen
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-D - Southwest Region
Job: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Redband trout *Oncorhynchus mykiss gairdneri* were collected in ten of seventeen stream segment sampled in 1997. Densities of redbands ranged from 0 to 31.0/100M² for all sizes of trout collected. Seven of the sites visited had been sampled since 1993 and generally trout densities had increased. The sample sites were located on Jordan Creek, Flint Creek, Reynolds Creek, Macks Creek, Salmon Creek, Squaw Creek, Sinker Creek, Scotch Bob Creek, Deep Creek, Red Canyon Creek, and the North Fork Owyhee River. The Owyhee River was sampled by angling from the Duck Valley Indian Reservation to the Oregon border by utilizing small inflatable rafts; few redband trout were captured.

Water quality measurements of temperature, pH, conductivity, and hardness were taken and values were acceptable for trout survival. Eight recording thermographs were placed into stream segments that were sampled for redband densities. Two of the thermographs recorded water temperatures consistently greater than 25 C. One of these streams had a redband population the other did not.

The South Fork Boise River from the Village Access downstream to one mile below the Cow Creek Bridge was electrofished. Rainbow trout, bull trout *Salvelinus confuentus*, mountain whitefish *Prosopium williamsoni*, largescale sucker *Catostomus macrocheilus*, bridgelip sucker *C. columbianus*, kokanee *O. nerka*, northern squawfish *Ptychocheilus oregonensis*, dace *Rhinichthys spp.*, and sculpin *Cottus spp.* were observed. A total of 769 rainbow and 6 bull trout were netted. Mean length, weight and condition factor for rainbow trout was 335 mm, 461 g, and 1.03, respectively. Mean length of bull trout was 401 mm. Rainbow population size was estimated to be 5,345 rainbow trout larger than 13 cm and 4,043 rainbow trout larger than 24 cm.

Three established snorkel sites were monitored on the upper North Fork Boise River. A slight increase in numbers of bull trout was documented.

Twelve snorkel sites on the South Fork Payette River were snorkeled and fish species observed were identified to species, counted, and estimated for size.

The second year of monitoring was done on the West Fork Long Tom Creek Cooperative grazing project. Generally the stream is positively responding to reduction in streamside grazing by moving fines downstream and increasing the amount of gravels in the substrate.

Author:

Dale B. Allen
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71=R-22
Project: I - Surveys and Inventories Subproject: I-D - Southwest Region
Job: d Title: Salmon and Steelhead Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Salmon spawning ground surveys were conducted in Bear Valley, Elk, and Sulphur creek trend areas on August 21-28, 1997. Redds numbered 38, 86, and 17 in Bear Valley, Elk, and Sulphur creek trend areas, respectively.

Additional information on Southwest Region salmon and steelhead investigations is incorporated in a separate, statewide "Salmon and Steelhead Investigations" report.

Author

Dale B. Allen
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: II - Technical Guidance Subproject: I-D - Southwest Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Regional fishery staff continues to respond to a large amount of public requests for fishing information. Bi-weekly ASK FISH reports were prepared and forwarded to vendors for distribution. Regional fishery staff consulted with the Environmental Staff Biologist for requests on fish population status and concerns on a multitude of projects in the Southwest Region. Approximately 20 landowners were assisted with pond construction information. Numerous requests for fish stocking advice and/or rates were received from local Treasure Valley residents.

A regional fisheries database was expanded with fish population data from federal agencies and various holders of scientific collecting permits. The database now contains a fishery survey data for most of the Boise National Forest drainages and a majority of BLM administered lands in the Southwest Region.

Author:

Dale B. Allen
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: IV - Population Management Subproject: I-D - Southwest Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Warmwater fish species were transferred from stable populations to supplement unbalanced warmwater fisheries. Indian Creek Reservoir contributed 200 largemouth bass *Micropterus salmoides*, and 20 bluegill *Lepomis macrochirus* to Claytonia Pond, and 300 largemouth bass and 50 bluegill to Blacks Creek Reservoir. Blacks Creek Reservoir was the source of 300 white crappie *Pomoxis annularis*, to Lake Lowell. One hundred and fifty redband trout *Oncorhynchus mykiss gairdneri* were captured in Wichahoney Creek and transferred to Jacks Creek Reservoir.

We enhanced fish populations in the Southwest Regional waters by stocking approximately 135,000 pounds of hatchery reared salmonids.

Author:

Dale B. Allen
Regional Fishery Biologist

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
MAGIC VALLEY REGION (Subprojects I-E, II-E, III-E, IV-E)**

PROJECT I.	SURVEYS AND INVENTORIES
Job a.	Magic Valley Region Mountain Lakes Investigations
Job b.	Magic Valley Region Lowland Lakes Investigations
Job c.	Magic Valley Region Rivers and Streams Investigations
PROJECT II.	TECHNICAL GUIDANCE
PROJECT III.	HABITAT MANAGEMENT
PROJECT IV.	POPULATION MANAGEMENT

By

**Charles D. Warren, Regional Fishery Biologist
Fred E. Partridge, Regional Fishery Manager
Karen A. Frank, Fishery Technician**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-E - Magic Valley Region
Job: a Title: Mountain Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Concerns about brook trout *Salvelinus fontinalis* present in lower Paradise Creek, a tributary to the South Fork Boise River, led to an investigation of Paradise Lake, a possible source of the fish within the watershed. The lake was determined to be too shallow to support any salmonid species.

Eight lakes in the Rainbow Creek basin were investigated with standardized mountain lake survey methodologies. All of the lakes were found to have either cutthroat trout *Oncorhynchus clarki* or rainbow trout *O. mykiss* present with some of them of wild origin, some of hatchery origin and others with fish of wild and hatchery origin. There were also a number of small, shallow ponds and wetlands within the basin with larval toads and frogs present.

Big Trinity Lake and Little Trinity Lake were both surveyed with standardized mountain lake survey methodologies. The fishery in both lakes was determined to be supported solely by hatchery catchable-sized rainbow trout and fingerling-sized cutthroat trout, both of which appeared to have good survival and growth rates creating a good fishery.

Authors:

Chuck Warren
Regional Fishery Biologist

Fred Partridge
Regional Fishery Manager

Karen A. Frank
Fishery Technician

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-E - Magic Valley Region
Job: b Title: Lowland Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Anderson Ranch Reservoir fisheries were intensively investigated in 1997. During the spring three bull trout *Salvelinus confluentus* were gillnetted to test the feasibility of sampling them near the mouth of the South Fork Boise River with that method. A creel survey with 522 angler contacts estimated total angler effort to be approximately 79,800 hours between May 12 and September 28, 1997. We also sampled utilizing overnight gill and trap net sets along with nighttime electrofishing. There were 11 species of fish sampled including smallmouth bass *Micropterus dolomieu* that had a Proportional Stock Density (PSD) of 18%. Kokanee salmon *Oncorhynchus nerka* sampled by night time midwater trawling indicating good numbers of fish in the 0+ to 3+ age range and spawning adult kokanee surveys in the South Fork Boise River indicated good survival and escapement for the year.

Dierke's Lake was electrofished for transporting bluegill *Lepomis macrochirus* to the North Bruneau Sand Dunes Pond. Average total length of the bluegill was 112 mm which is slightly larger than bluegill sampled in 1991 (90 mm) and 1993 (98 mm). This is speculated to be due to the more restrictive two bass, none less than 20 inch (508 mm) harvest limit imposed at Dierke's Lake in 1994.

Lower Salmon Falls Reservoir gamefish were sampled by electrofishing to determine if there were many marked largemouth bass *M. salmoides* remaining in the reservoir from a release in 1995 and to determine what effect more restrictive bass harvest rules imposed in 1996 were having on the population structure. None of the largemouth bass sampled were from the 1995 stocking and the average total length of fish in the sample increased from 218 mm in 1995 to 243 mm in 1997. The PSD went from 14% in 1995 to 71% in 1997, however numbers decreased 36%.

Author:

Charles D. Warren
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-E - Magic Valley Region
Job: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Basalt, Paradise, and Warswick creeks, tributaries of the upper South Fork Boise River, were electrofished to determine if brook trout *Salvelinus fontinalis* were present in those streams. Only lower Paradise Creek was found to have brook trout, which have some potential to hybridize with native bull trout *Salvelinus confluentus*.

A total of 120 brown trout redds were counted in November on the Big Wood River upstream of Magic Reservoir. This is the highest number recorded since 1988.

Both forks of the Jarbidge River in Idaho were sampled with downstream migrant fish traps and electrofishing for bull trout during the fall. One bull trout was sampled in the West Fork Jarbidge River and none in the East Fork Jarbidge River. Good numbers of resident rainbow/redband trout *Oncorhynchus mykiss* and other native fish were sampled.

Four white sturgeon *Acipenser transmontanus* egg collection mats were set downstream of Auger Falls on the Snake River from May 19 through June 6, 1997. Water flows were extremely high making weekly checking sporadic and causing us to lose one mat. No eggs were found on any of the mats this year. Regional personnel spent 24 angler days fishing for white sturgeon brood stock in the Snake River. A total of nine white sturgeon were landed but none were either mature or in prespawning condition to be retained as brood fish at the College of Southern Idaho fish hatchery.

Author:

Charles D. Warren
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: II - Technical Guidance Subproject: II-E - Magic Valley Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Magic Valley Region fishery management personnel furnished verbal and written comments of technical guidance to other agencies, consultants, and private individuals and organizations. Fishing information was provided to anglers in the form of brochures, angler guides, public meetings, news releases, telephone, and in person.

Many miscellaneous activities were commented on, participated in, or otherwise addressed, and numerous meetings regarding fisheries activities were attended.

Author:

Fred E. Partridge
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: III - Habitat Management Subproject: III-E - Magic Valley Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Trout and bass ponds at the Hagerman Wildlife Management Area were measured to calculate water volumes to justify and maintain water rights for the ponds.

A rain-on-snow event in early 1997 resulted in substantial erosion along the spillway at Dog Creek Reservoir requiring lowering the reservoir to repair the dam. High water also caused increased spill from Mormon and Little Camas reservoirs. Loss of fish from the reservoirs was reduced with the installation of temporary fish weirs in the spillways.

Preliminary survey information and grant proposals were prepared to install a culvert passage structure on the Feather River, tributary to the South Fork Boise River, for bull trout *Salvelinus confluentus* passage.

Fence repairs were completed at the "Bear Track Williams" access area on the Little Wood River with the help of the Magic Valley FlyFishers club.

Author:

Fred E. Partridge
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: IV - Population Management Subproject: IV-E - Magic Valley Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Fish populations and fishing in the Magic Valley Region was enhanced by stocking approximately 2.44 million put-and-grow and 0.39 million put-and-take size rainbow trout *Oncorhynchus mykiss*, brown trout *Salmo trutta*, and kokanee salmon *O. nerka*, into lakes, reservoirs, rivers and streams accessible by vehicle. High mountain lakes were stocked with Yellowstone cutthroat trout *O. clarki bouvieri* from Henrys Lake, rainbow trout and Arctic grayling *Thymallus arcticus* fingerlings.

A 11 ha pond at Bruneau Dunes State Park which was successfully treated with rotenone to eradicate a large population of common carp *Cyprinus carpio* in September 1996, was restocked with 547 bluegill *Lepomis macrochirus*.

Other species released in the region for angler enjoyment and population enhancement included one million walleye *Stizostedion vitreum* fry in Salmon Falls Creek Reservoir, 30,600 channel catfish *Ictalurus punctatus* in ponds and reservoirs and 151 white sturgeon *Acipenser transmontanus* in the Snake River.

Author:

Fred E. Partridge
Regional Fishery Manager

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SOUTHEAST REGION (Subprojects I-F, II-F, III-F, IV-F)**

- PROJECT I. SURVEYS AND INVENTORIES**
 Job a. Southeast Region Mountain Lakes Investigations
 Job b. Southeast Region Lowland Lakes Investigations
 Job c. Southeast Region Rivers and Streams Investigations
PROJECT II. TECHNICAL GUIDANCE
PROJECT III. HABITAT MANAGEMENT
PROJECT IV. POPULATION MANAGEMENT

By

**James Mende, Regional Fishery Biologist
Richard Scully, Regional Fishery Manager
Chad Rawlins, Fishery Bio-aide
Paul Burnett, Fishery Bio-aide**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: F-71-R-22
Project: I - Surveys and Inventories Subproject: I-F - Southeast Region
Job: b Title: Lowland Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

We conducted a creel survey on Blackfoot Reservoir throughout the open-water fishing season (May through October). We interviewed 128 boat angler parties who fished 1,158.5 hours and caught 247 trout (.21 trout/h). We also interviewed 114 shore angler parties who fished 1,199.7 hours and caught 189 trout (.16 trout/h). The total catch was composed of 94% rainbow trout *Oncorhynchus mykiss*, 5% Yellowstone cutthroat trout *O. clarki bouvieri*, and 1 % Bear Lake cutthroat trout *O. clarki utah*. All creel survey data was evaluated using a program titled C-SAP (Creel Survey Analysis Program) to provide estimates of total fishing pressure and harvest.

We collected grit marked fish from both Daniels and Treasureton reservoirs. This was done as an initial step in a study of differential growth rates between a type of sterile rainbow trout (triploid) and normal rainbow trout (diploid). These reservoirs were chosen because of their restrictive, angling size limits. This helps insure that enough marked fish survive more than a single growing season. Regional personnel used both electrofishing and gillnetting techniques as a means to collect the recommended minimum number (10) of marked fish.

We conducted lowland lake surveys on a number of Southeast Region reservoirs to determine current size frequencies, relative species compositions and general population fluctuations to compare to past surveys. Surveys were done on American Falls, Blackfoot, Chesterfield, Deep Creek, Devils Creek, Springfield, Daniels, and Treasureton reservoirs.

We collected length data on largemouth bass *Micropterus salmoides* caught during several tournament events. As the tournaments occur nearly every year, this is a great way to obtain data efficiently as well as an opportunity for positive public relations. Tournaments were held on Condie, Glendale, and Twin Lakes reservoirs. Mean lengths for largemouth bass caught were 293 mm at Condie and 335 mm at Glendale Reservoir. Data provided by anglers from the Twin Lakes tournament were not accurate enough to determine a mean length; however, the median length was figured to be approximately 203 mm.

Authors:

Richard Scully
Regional Fishery Manager

James Mende
Regional Fishery Biologist

Chad Rawlins
Fishery Bio-aide

Paul Burnett
Fishery Bio-aide

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-F - Southeast Region
Job: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

American Falls Fish Hatchery personnel conducted a creel survey on the Snake River below American Falls Reservoir (Power County). Along with estimating the standard statistics of fishing effort, catch rate, and catch, the survey evaluated the performance of a marked group of rainbow trout *Oncorhynchus mykiss* stocked into the river in May. The objective was to determine the contribution of the stocked rainbow trout to the fishery. Anglers spent a total of 42,790 hours fishing and caught a total of 18,641 fish (0.43 fish/h). The catch was composed of 96.8% rainbow trout, 1.4% yellow perch *Perca flavescens*, 0.9% brown trout *Salmo trutta*, 0.5% wild cutthroat trout *O. clarki*, and 0.4% white sturgeon *Acipenser transmontanus*. The marked fish comprised 11.4% of all rainbow trout harvest. Anglers harvested an estimated 1441 of the 8000 marked fish (18% return) during the 1997 general fishing season.

We conducted electrofishing surveys of three sites on Marsh Creek along the Arimo Ranch stretch to establish baseline data on relative species composition for future comparisons. The Arimo Ranch is currently experimenting with several different, less impacting, grazing plans. Along with riparian habitat improvement, relative species composition will be used to document changes in the overall environment. We documented that over 97% of all fish present were non-game species. Utah suckers *Catostomus ardens* were the dominant species present (66%).

Fisheries biologists from the Southeast Region and the Utah Division of Wildlife Resources snorkeled six sections of St. Charles Creek to monitor Bear Lake cutthroat trout *O. clarki* ssp. and brook trout *Salvelinus fontinalis* populations. Post-spawning, 18- to 22-inch, cutthroat trout were more abundant in 1997 than 1996. Young-of-the-year (YOY) cutthroat trout were present in all sections. Brook trout remain abundant in St. Charles Creek with numerous individuals in the 8- to 14-inch size range.

To fulfill our obligation to the Thomas Fork Drainage Conservation Agreement on Bonneville cutthroat trout *O. clarki utah*, we electrofished seven sections within three reaches of Preuss Creek the last week of August. This sampling provides data for a long-term monitoring program. Cutthroat trout densities declined in 1991 and 1993 and began a slight increase in 1995. Densities of cutthroat trout parr in 1997 were more than double those found in 1995. Also in 1997, cutthroat trout fry were numerous in each stream reach. Mean parr density for the seven sections sampled in 1997 was 8.5/100 m².

Authors:

Richard Scully
Regional Fishery Manager

James Mende
Regional Fishery Biologist

Chad Rawlins
Fishery Bio-aide

Paul Burnett
Fishery Bio-aide

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: II - Technical Guidance Subproject: II-F - Southeast Region

Contract Period: July 1, 1996 to June 30, 1997

ABSTRACT

We provided input to the Regional Environmental Staff Biologist on activities affecting fish and anglers. We coordinated with personnel of various agencies on hydropower, mining, road building, stream alteration, grazing allotments, National Pollution Discharge Elimination Systems permits, fill/excavation, and other projects. The Southeast Region fisheries personnel worked with anglers to improve rapport and open communication with agencies and the public.

We held public meetings April through September to obtain public input for the 1998-1999 fishing regulations. Additionally, regional and bureau staff met to discuss early input from the public and consider biological implications of suggested rule changes. Regional recommendations were passed on to the Fisheries Bureau for presentation to the Commission.

Authors:

Richard Scully
Regional Fishery Manager

Jim Mende
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: III - Habitat Management Subproject: III-F - Southeast Region

Contract Period: July 1, 1996 to June 30, 1997

ABSTRACT

We worked with fifteen AmeriCorps volunteers to transport and build a Christmas tree revetment along an eroded section of the upper Blackfoot River. The area is part of the Blackfoot River Wildlife Management Area. We also repaired a previously installed aspen revetment located immediately downstream.

We continued monitoring of several ongoing habitat restoration projects. Some, but not all, of the duties performed by regional personnel include: photo-point repetition and revetment inspections on the Portneuf River, upper Blackfoot River and Marsh Creek; inspection and repair of cattle enclosure fences along approximately four miles of the upper Portneuf River; worked agreement with landowner Lin Whitworth for livestock enclosure fence along 0.5 mile of Marsh Creek; approached three other landowners on Portneuf River and one on Marsh Creek about constructing livestock enclosure fences (they later declined signing agreements).

Regional fisheries personnel, along with AmeriCorps volunteers, assisted Department engineers with construction of a dam on the upper Blackfoot River. Solutia, a local phosphate ore processing company, was responsible for providing geographical survey crews and expertise as well as some of the funds necessary for construction of the dam. The dam is equipped with removable boards to facilitate flood control during spring runoff as well as a fish ladder to avoid impeding cutthroat trout *Oncorhynchus clarki* spawning runs. The dam's purpose is to redirect Blackfoot River water away from a human created channel and back into the naturally meandering channel. In effect, we exchanged 0.7 mile of poor habitat (human channel) for 1.9 miles of excellent trout habitat. The project was completed with the approval and assistance of Lonnie Cellan and Bruce Dredge, landowners directly affected by the altered river flow.

Authors:

Richard Scully
Regional Fishery Manager

Jim Mende
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: IV - Population Management Subproject: IV-F - Southeast Region

Contract Period: July 1, 1996 to June 30, 1997

ABSTRACT

In June, we used drift boat mounted electrofishing equipment to capture spawning size wild Yellowstone cutthroat trout *Oncorhynchus clarki bouvieri* from the upper Blackfoot River. The fish were transported to a holding facility near the Grace Fish Hatchery. They were later examined and determined to be in pre-spawning condition. Twenty-six females were selected for spawning, and at least three males were used per female. A total of 88,624 eggs were collected and fertilized. The 83,126-eyed eggs were returned to select tributaries of the upper Blackfoot River and placed in Whitlock Vibert incubation boxes provided by the Shelley High School Honors Biology class. Students assisted in locating suitable planting sites. The project resulted in an additional 75,544 cutthroat fry (hatch success of 90.8%) being released into the drainage. The goal is to enhance the recovery of the wild Yellowstone cutthroat trout fishery.

In April 1997, volunteer anglers and Southeast Region personnel electrofished Battle Creek downstream from Treasureton Reservoir to salvage fish. We captured and returned 120 rainbow trout *O. mykiss* to the reservoir. A weir has been installed at the dam spillway to prevent fish loss.

Authors:

Richard Scully
Regional Fishery Manager

Jim Mende
Regional Fishery Biologist

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
UPPER SNAKE REGION (Subprojects I-G, II-G, III-G, IV-G)**

- PROJECT I. SURVEYS AND INVENTORIES**
 - Job a. Upper Snake Region Mountain Lakes Investigations**
 - Job b. Upper Snake Region Lowland Lakes Investigations**
 - Job c. Upper Snake Region Rivers and Streams Investigations**
- PROJECT II. TECHNICAL GUIDANCE**
- PROJECT III. HABITAT MANAGEMENT**
- PROJECT IV. POPULATION MANAGEMENT**

By

**Mark Gamblin, Regional Fishery Manager
Jeff Dillon, Regional Fishery Biologist
William C. Schrader, Senior Fishery Research Biologist**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-G - Upper Snake Region
Job: a Title: Mountain Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Regional personnel used gillnetting and angling gear to sample fish in Bench, Betty, and Goat lakes in the Copper Basin. Hatchery cutthroat trout *Oncorhynchus clarki* were the only fish species collected. Only three sampled in Bench Lake, ranging from 222 mm to 273 mm. In Betty Lake we sampled 25 fish ranging from 190 mm to 352 mm. In Goat Lake we sampled eight fish ranging from 350 to 420 mm. Scales and otoliths were collected from each fish. No amphibians were observed.

This was the first year's effort at building a database on fish growth and size structure, and amphibian presence/absence in Upper Snake Region mountain lakes. As the database develops we will use the information to modify stocking programs where appropriate.

Authors:

Jeff Dillon
Regional Fishery Biologist

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-G - Upper Snake Region
Job: b-Island Park Reservoir,
Ririe Reservoir, Henrys Lake Title: Lowland Lakes Investigations

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Gill net catch composition on Island Park Reservoir in May was 36% Utah chubs *Gila atraria*, 31% hatchery rainbow trout *Oncorhynchus mykiss*, 10% wild rainbow trout, 7% splake *Salvelinus fontinalis* x *s. namaycush*, and 5% Utah suckers *Catostomus ardens*, with the remaining catch comprised of brook trout *S. fontinalis*, Lahontan cutthroat trout *O. clarki henshawi*, kokanee salmon *O. nerka*, mountain whitefish *Prosopium williamsoni*, and redbreast shiners *Richardsonius balteatus*. Non-game fish were 46% of the total gill net catch, compared to 83% in 1996. Catch data are not directly comparable to 1992-1996 data due to differences in sampling time.

We conducted a randomized creel survey on Ririe Reservoir from the May 24 opener through October 31. Objectives included evaluating relative return of differentially marked hatchery rainbow trout catchables planted from Nampa and Hagerman hatcheries. Creel clerks contacted 412 anglers who fished 1,069 hours, caught 883 fish, and harvested 427 fish. Total catch rate was 0.83 fish/h and harvest rate was 0.40 fish/h. Harvest composition was primarily hatchery rainbow trout (59%), yellow perch *Perca flavescens* (23%), kokanee salmon (13%), and wild rainbow trout (4%). Although stocked in equal proportions, Nampa catchables returned to the creel at a significantly ($p < 0.05$) higher rate than Hagerman catchables.

On June 13, volunteers from the Eagle Rock Bass Masters collected a total of 241 largemouth bass *Micropterus salmoides* from southwest Idaho and released them in Ririe Reservoir. The fish ranged in size from 160 to 400 mm, and averaged 285 mm. All were given a left pelvic fin clip prior to release. Catch data for four bass tournaments on Ririe Reservoir were summarized. Average tournament catch rate for legal smallmouth *M. dolomieu* and largemouth bass was 0.14 fish/hr.

The 1997 spawning operations at Henrys Lake produced 1,651,182 eyed cutthroat trout eggs, 1,23,760 eyed hybrid trout *O. clarki* x *O. mykiss* eggs, and 485,913 eyed brook trout eggs. Cutthroat trout in the Hatchery Creek run averaged 441 mm, hybrid trout averaged 472 mm, and brook trout averaged 305 mm. Catch composition in six net nights of gillnetting at Henrys Lake was 42% cutthroat, 37% hybrid, 17% brook trout, and 4% Utah chubs.

Angling effort on Henrys Lake in 1997 totaled 228,952 hours. Mean season catch rate was 0.54 fish/h, with an estimated total harvest of 32,415 fish. Catch composition was 51% cutthroat trout, 46% hybrid trout, and 3% brook trout. Mean size in the harvest was 427 mm, 434 mm, and 389 mm, respectively.

Pathology tests did not detect *Myxobolus cerebralis* in Henrys Lake cutthroat trout in 1997. *Myxobolus* spores were detected in one of 12 five-fish brook trout pools, and confirmed as *M. cerebralis* by histology.

Authors:

Jeff Dillon
Regional Fishery Biologist

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-G - Upper Snake Region
Job: c¹-South Fork Snake River Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

In the South Fork Snake River, a total of 2,710 individual trout were captured during four days of electrofishing at the Palisades section in September 1997. Trout species composition and relative abundance were wild and hatchery cutthroat trout *Oncorhynchus clarki* (55%), wild rainbow *O. mykiss* and rainbow X cutthroat hybrid trout (12%), wild brown trout *Salmo trutta* (33%), lake trout *Salvelinus namaycush* (<1%), and kokanee salmon *O. nerka kennerlyi* (<1%). A total of 3,086 individual trout were captured during four days of electrofishing at the Conant section in October 1997. Trout species composition and relative abundance were wild and hatchery cutthroat trout (54%), wild rainbow and hybrid trout (27%), wild brown trout (18%), lake trout (<1%), and kokanee salmon (<1%).

Brown trout relative abundance at Palisades has varied from 4% to 33% since 1987, the first year of electrofishing. Relative abundance at Conant has varied from 7% to 19% since 1982, the first year of electrofishing. There is no apparent trend at either section.

Cutthroat trout relative abundance at both Palisades and Conant was at an all-time low in 1997. In contrast, rainbow and hybrid trout relative abundance was at an all-time high at Conant but not Palisades.

Palisades, average length was 254 mm for wild and hatchery cutthroat trout, 231 mm for rainbow and hybrid trout, 244 mm for brown trout, and 249 mm for all species combined. Quality Stock Density (QSD) was 6.3% for wild and hatchery cutthroat trout, 11.0% for rainbow and hybrid trout, 4.9% for brown trout, and 6.2% for all species combined. Estimated density of age one and older fish was 99 fish/ha for wild and hatchery cutthroat trout, 37 fish/ha for rainbow and hybrid trout, 62 fish/ha for brown trout, and 189 fish/ha for all trout combined.

At Conant, average length was 292 mm for wild and hatchery cutthroat trout, 262 mm for rainbow and hybrid trout, 274 mm for brown trout, and 279 mm for all species combined. The QSD was 4.5% for wild and hatchery cutthroat trout, 4.3% for rainbow and hybrid trout, 12.5% for brown trout, and 6.0% for all species combined. Estimated density of age one and older fish was 160 fish/ha for wild and hatchery cutthroat trout, 87 fish/ha for rainbow and hybrid trout, 52 fish/ha for brown trout, and 276 fish/ha for all trout combined.

Authors:

William C. Schrader
Senior Fishery Research Biologist

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-G - Upper Snake Region
Job: c²-Henrys Fork Snake River Title: Rivers and Streams Investigations
Buffalo River

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

An electrofishing survey on the Box Canyon Reach of the Henrys Fork Snake River provided a population estimate of 5,278 wild rainbow trout *Oncorhynchus mykiss* over 150 mm in length. This is a 25% increase from 1996, and reverses the downward trend observed from 1993 to 1996.

The rainbow trout population in the Stone Bridge reach of the Henrys Fork was estimated to be 14,975 to 17,827 fish >102 mm. Overall abundance was similar to 1988 estimates, but proportionately fewer rainbow trout <125 mm were observed. Proportions of brown trout increased from 12% in 1988 to 28% in 1997. We observed 23 rainbow trout with clinical signs of whirling disease, and pathological examinations confirmed the presence of *Myxobolus cerebralis* in a sub-sample of these fish.

Species composition in the Ora Bridge to Seeley's section of the Henrys Fork was similar to 1988 estimates. Over 98% of the trout population is comprised of rainbow trout. Size structure suggests strong rainbow trout recruitment. We noted only two fish with clinical signs of whirling disease, and presence of *M. cerebralis* was confirmed by pathological examinations.

Angler effort on the Buffalo River was 6,180 hours, with an average catch rate of 1.5 fish/h. The release rate was 75%. Estimated return to creel (harvest) of hatchery rainbow trout was 28%, but the estimated total catch, including catch and release, approaches 100% of numbers stocked. An estimated 210 wild adult rainbow trout from Box Canyon were harvested in the Buffalo River.

From February 1 to May 13 a total of 742 rainbow trout were observed ascending the Buffalo River fish ladder from Box Canyon. Of these, 224 were adult spawners. Additional fish likely gained access to the Buffalo River before and after the monitoring period.

From May through September we estimated that 24,600 juvenile rainbow trout, 9,600 rainbow trout fry, and 2,850 brook trout *Salvelinus fontinalis* emigrated from the Buffalo River to Box Canyon.

Authors:

Jeff Dillon
Regional Fishery Biologist

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: II - Technical Guidance Subproject: II-G - Upper Snake Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Technical guidance was provided to federal, state, county, municipal, and private agencies/entities upon request. Technical guidance was also provided to organized sportsmen's groups, conservation organizations, and private citizens in the form of fish pond development, stocking and management advice, funding requests and project feasibility opinions, and various conservation and educational programs.

Upper Snake Region fishery management staff provided technical assistance and guidance to 30 government agencies and private organizations.

We devoted over 15 man-days to flood response activities necessitated by the 1997 spring flood. Emergency property protection, property damage assessment and flood clean-up activities required technical assistance and comment.

We responded to numerous requests for technical assistance and permit processing by private pond owners. Particular attention was given to private pond permit applications in the South Fork Snake River, Willow Creek, Teton River and Henrys Lake watersheds, where native Yellowstone cutthroat trout management goals might conflict with private requests to stock rainbow trout in those watersheds.

We conducted a "Trout Management Workshop," addressing fish management issues for the South Fork Snake River fishery. Approximately 20 local anglers attended the workshop.

Regional fishery management personnel contributed over 100 man-days to technical guidance requests in 1997.

Author:

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: III - Habitat Management Subproject: III-G - Upper Snake Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Regional personnel conducted routine maintenance and repair operations on Henrys Lake riparian fence and irrigation diversion fish screens and Palisades Creek and Burns Creek irrigation diversion fish screens. The 1997 flood flows on Palisades Creek resulted in erosion damage to the canal diversion, fish screen by-pass pipe facility and sedimentation problems in the fish screen containment basin. Upper Snake Region fish management and habitat management personnel and Engineering Bureau personnel worked with Federal Emergency Management Agency, state and local agencies to coordinate flood damage repair efforts to the Palisades fish screen facility and private property.

Idaho Department of Fish and Game Engineering Bureau work crews constructed a new irrigation diversion and fish ladder facility on Rainey Creek, tributary to the South Fork Snake River, in a cooperative project between the Department of Fish and Game, Targhee National Forest, Bureau of Land Management, Bureau of Reclamation and Trout Unlimited.

Regional fish management personnel, volunteers and students from Shelley High School rehabilitated the Sellar's Creek riparian fence and began preparations to replace the Sellar's Creek culvert fish ladder.

A cost-share agreement between the Idaho Department of Fish and Game and a landowner on Mill Creek, tributary to Willow Creek, funded construction of over two miles of riparian fence to protect trout spawning and rearing habitat.

Author:

Mark Gamblin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22

Project: IV - Population Management Subproject: IV-G - Upper Snake Region

Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Approximately 701 game fish, including 120 cutthroat trout *Oncorhynchus clarki*, 2 rainbow trout *O. mykiss*, 175 brown trout *Salmo trutta* and 256 lake trout *Salvelinus namaycush*, were salvaged from the Palisades Dam stilling basin and released to the South Fork Snake River immediately below the stilling basin. The number and size distribution of lake trout sampled again confirm this species is reproducing naturally in Palisades Reservoir.

Mud Lake was stocked with 50,000 Lahontan cutthroat trout *O. clarki henshawi* in October and with a total of 46,000 tiger muskies *Esox lucius* x *E. masquinongy* during August and September.

We stocked 16 mountain lakes with a total of 14,000 cutthroat trout, 2,000 rainbow trout and 4,000 Arctic grayling *Thymallus arcticus* in September, 1997. All fish were reared at Mackay and Ashton hatcheries and were stocked by IDFG personnel and volunteers via foot, motorcycle and horseback.

Catchable rainbow trout were provided to two private pond owners, at their request, for the purpose of supporting public youth and developmentally challenged fishing opportunities.

Authors:

Mark Gamblin
Regional Fishery Manager

Jeff Dillon
Regional Fishery Biologist

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

**REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS
SALMON REGION (Subprojects I-H, II-H, III-H, IV-H)**

- PROJECT I. SURVEYS AND INVENTORIES**
 - Job a. Salmon Region Mountain Lakes Investigations**
 - Job b. Salmon Region Lowland Lakes Investigations**
 - Job c. Salmon Region Rivers and Streams Investigations**
- PROJECT II. TECHNICAL GUIDANCE**
- PROJECT III. HABITAT MANAGEMENT**
- PROJECT IV. POPULATION MANAGEMENT**

By

**Tom Curet, Regional Fishery Biologist
Mark Liter, Regional Fishery Biologist
Mike Larkin, Regional Fishery Manager
Michael Jones, Fishery Technician**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-H - Salmon Region
Job: a Title: Mountain Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

No mountain lakes were surveyed in the Salmon Region during 1997.

Authors:

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

Mike Larkin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-H - Salmon Region
Job: b Title: Lowland Lakes Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

No lowland lakes were surveyed in the Salmon Region during 1997.

Authors:

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

Mike Larkin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: I - Surveys and Inventories Subproject: I-H - Salmon Region
Job: c Title: Rivers and Streams Investigations
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

During summer 1997, 98 sites in 70 drainages were surveyed to assess fish populations and size structure of salmonid species. Identifying distribution of bull trout *Salvelinus confluentus* was a primary goal of this study. Fifty-four sites on 38 North Fork Salmon River tributaries and 44 sites on 32 Salmon River tributaries were electrofished.

Electrofishing was conducted using multiple-pass removals to derive population estimates. Age 0 fish (< 70 mm) were not included in the population estimates due to their reduced capture probability.

In order of abundance, rainbow/steelhead trout *Oncorhynchus mykiss*, westslope cutthroat trout *O. clarki lewisi*, bull trout, rainbow x cutthroat trout hybrids, and brook trout *S. fontinalis* were found, totaling 915 trout sampled.

Introduced brook trout have contributed to the decline of westslope cutthroat trout in Valley Creek. Multiple-pass electrofishing was used again in 1997 in an effort to reduce brook trout numbers. In a continued effort to reestablish a fishable population of cutthroat trout, 16,025 brook trout were removed while a total of 711 cutthroat trout and 215 bull trout from several area streams were transplanted into Valley Creek.

Rainbow trout spawning ground surveys were conducted in the upper Lemhi River to monitor the benefits of regulation changes and Model Watershed sponsored habitat improvement projects. A substantial increase was noted in 1998 compared to previous years.

Authors:

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

Mike Larkin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: II - Technical Guidance Subproject: II-H - Salmon Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

During 1997, technical assistance was provided to all state and federal agencies upon request. Comments were submitted to various agencies and private entities concerning stream alterations, bank stabilization, mining operations and reclamation plans, fish rearing proposals, private ponds, water right applications, grazing allotments, timber sales, highway reconstruction, habitat improvements, bridge construction, and hydropower projects. On-site inspections of proposed, on-going, and completed projects were conducted.

Technical assistance was also provided in the form of angler informational meetings; school presentations and updates of the Salmon Region portion of the 1-800-ASK-FISH program. Also, we responded to the general public in person, by telephone, and by mail to inquiries about fishing opportunities, techniques, regulations, and area specifics.

Authors

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

Mike Larkin
Regional Fishery Manager

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: III - Habitat Management Subproject: III-H - Salmon Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

Habitat projects were initiated on several rivers and streams in the Salmon Region. Fencing projects on the Lemhi, Pahsimeroi, and East Fork Salmon River will provide riparian protection for approximately 12 river miles. Project funding came from several sources (Blackbird Mine Mitigation, National Fish and Wildlife Foundation, and Natural Resource Conservation Service). Streambank restoration work on Agency Creek, a Lemhi River tributary, involved backsloping vertical eroding banks and reseeding with grasses and willows. Fish Migration barriers (irrigation diversions) were modified to both deliver irrigation water and allow fish passage on Agency Creek and the Pahsimeroi River.

A restoration plan was developed for a 12-mile section of the Salmon River near Challis. This overview plan will be used to educate landowners and community leaders on how to restore a healthy river corridor, plus form the basis for developing site specific restoration plans. Funding from BPA and U.S. Army Corp of Engineers is being pursued for fencing, dike lowering and removal, plus some bank stabilization work.

Authors

Michael R. Larkin
Regional Fishery Manager

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: IV- Population Management Subproject: IV-H - Salmon Region
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

During the summer of 1997, 129 mountain lakes were stocked in the Salmon Region. A total of 80,400 fry were stocked in Sawtooth and Challis National Forest lakes. Species stocked included 6,150 Arctic grayling *Thymallus arcticus*, 7,750 rainbow trout *Oncorhynchus mykiss*, and 67,500 westslope cutthroat trout *O. clarki lewisi*. A Cessna-185 fixed wing aircraft, flown out of Stanley, was used to stock 97 of the 129 Salmon Region lakes in 1997 at a cost of \$18.97 per lake.

Brook trout *Salvelinus fontinalis* were removed by gillnetting from Carlson Lake during May 1997 in an effort to manipulate the size structure of the population. A total of 999 brook trout were removed during a total of 466.4 diel net hours. Average catch across the entire time period was 2.14 fish/h. The population of brook trout in Carlson Lake was estimated at 3599 fish.

Authors:

Mark Liter
Regional Fishery Biologist

Tom Curet
Regional Fishery Biologist

Mike Larkin
Regional Fishery Manager

Michael Jones
Regional Fisheries Technician

**IDAHO
DEPARTMENT OF FISH AND GAME**

Stephen P. Mealey, Director

**Federal Aid in Sport Fish Restoration
1997 Annual Performance Report
Program F-71-R-22**

REGIONAL FISHERIES MANAGEMENT INVESTIGATIONS

PROJECT V. COORDINATION

By

**Bill Hutchinson, State Fishery Manager
William D. Horton, Resident Fishery Coordinator**

1997 ANNUAL PERFORMANCE REPORT

State of: Idaho Program: Fisheries Management F-71-R-22
Project: V - Coordination Subproject: Regional Coordination and Assistance
Contract Period: July 1, 1997 to June 30, 1998

ABSTRACT

The State Fishery Manager and the Resident Fishery Coordinator provided program guidance, coordination, and assistance to fisheries management personnel in eight regions. Midwater trawling to estimate kokanee salmon *Oncorhynchus nerka kennerlyi* abundance was conducted in seven waters (Payette Lake, Anderson Ranch Reservoir, Salmon Falls Creek Reservoir, Redfish Lake, Alturas Lake, Pettit Lake, and Stanley Lake). This work is coordinated through the Bureau of Fisheries where all equipment is stored and maintained; however, regional personnel and fish research personnel assisted in sampling and findings are reported in regional reports and the sockeye investigations report.

Coordination and assistance was also provided through annual work plan meetings, a three-day Fisheries Manager Coordination meeting, Region-Fisheries Bureau Coordination meetings, and numerous smaller meetings. Interstate management coordination included meetings with bordering states of Oregon, Utah, and Wyoming. Interagency coordination meetings were held with federal land management agencies, other state agencies, the U.S. Fish and Wildlife Service, and the Columbia Basin Fish and Wildlife Authority-Resident Fish Committee.

The Bureau of Fisheries also coordinated the issuance of 160 permits for fishing tournament. Mandatory report forms for these tournaments have been filed for future trend analysis. Scientific collecting permits were issued to approximately 175 individuals for the study of aquatic species. Most investigators receiving collecting permits are resource agency biologists; however, university students and professors, utility companies, timber companies, Indian tribes, and consultants also received permits.

Authors:

Bill Hutchinson
State Fishery Manager

William D. Horton
Resident Fishery Coordinator