



STATEWIDE TECHNICAL ASSISTANCE

JOB PERFORMANCE REPORT PROJECT FW-7-R-1

SUBPROJECT I: JOB 1, STATEWIDE SUPERVISION AND COORDINATION

SUBPROJECT I: JOB 2, STATEWIDE WATER QUALITY

SUBPROJECT I: JOB 2, WATER QUANTITY INVESTIGATIONS

SUBPROJECT I: JOB 2, STATEWIDE MANAGEMENT

SUBPROJECT II: JOB 1, PANHANDLE REGION TECHNICAL GUIDELINES

SUBPROJECT II: JOB 3, SOUTHWEST REGION TECHNICAL GUIDANCE

SUBPROJECT II: JOB 4, MAGIC VALLEY REGION TECHNICAL GUIDANCE

SUBPROJECT II: JOB 5, SOUTHEAST REGION TECHNICAL GUIDANCE

SUBPROJECT II: JOB 6, UPPER SNAKE TECHNICAL GUIDANCE

PERIOD COVERED: JULY 1, 1993 TO JUNE 30, 1994

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JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE TECHNICAL ASSISTANCE
Project No.: FW-7-R-1 **Title:** Statewide Supervision and Coordination
Subproject No.: I **Job No:** 1
Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year the Federal Energy Regulatory Commission (FERC) made request for comment on 37 new hydroelectric projects in the state of Idaho. Idaho Department of Fish and Game (IDFG) personnel also provided technical assistance to the Idaho Power Company (IPC) for the design and implementation of mitigation/enhancement at seven hydroelectric facilities with applications for relicensing.

With other state and federal agencies I coordinated efforts that led to adoption of an assessment and conservation strategy for bull trout in Idaho. The plan provides an assessment of the current status of bull trout in Idaho and a strategy for protection and recovery of habitats. It also provides a methodology for conducting watershed "triage" for purposes of recovery.

I coordinated IDFG involvement with U.S. Forest Service grazing and forest health activities, state of Idaho State and Basin water plans, Idaho Forest Practices Act Advisory Committee, water planning and coordination, watershed delineation, the Columbia Basin Fish and Wildlife Authority, and various other state and federal projects affecting Idaho waters.

Author:

Will Reid
Fisheries Program Coordinator

OBJECTIVES

To supervise and coordinate IDFG policy regarding water quality, water quantity, aquatic habitat alterations, hydropower licensing and relicensing, and conservation of aquatic habitats.

To appraise and provide technical assistance to the executive and legislative branches of state government in matters relating to aquatic environments.

TECHNIQUES USED

IDFG personnel reviewed proposals to construct hydroelectric facilities throughout the state of Idaho. I provided comments to the FERC and private developers on the impacts that hydroelectric development would have on fish and wildlife resources. I also offered review and comments to other federal, state, city, county agencies, and private concerns on statewide activities that might impact fish and wildlife habitat.

IDFG staff participated in an interagency review of bull trout literature and conservation biology for aquatic ecosystems. The interagency team cooperated in the development of an assessment and conservation strategy for bull trout in Idaho.

FINDINGS

Federal Energy Regulatory Commission

During the project year I provided a review of 37 proposals for hydroelectric development in Idaho (Table 1). In addition to the FERC requested review of projects I provided consultation on a total of 24 cogeneration projects and 8 FERC-ordered inspections. Primary consultation activities centered on implementation of license articles mandating minimum stream flows in areas of the stream bypassed for hydro generation.

In addition, I provided extensive review of three projects which had violated FERC license articles. Violations included a rupture of the water delivery system and failure to meet instream flow requirements.

The majority of the FERC violations occurred on projects requesting amendments to existing licenses (12). Problems associated with four small projects dominated a disproportionate amount of time. As those projects have not yet received a license from the

FERC I am unable to give names, numbers, or location of the activities. There were no new hydroelectric projects that came on line in Idaho during the project year.

The IPC relicensing efforts continued during the study period. IPC has received new licenses for facilities located on the Snake River at Twin Falls and Milner Dam. At those projects I assisted IPC staff in the implementation of license articles designed to mitigate or enhance fish populations in those impoundments. I provided technical assistance to IPC staff for fishery resource inventory and proposed mitigation actions at seven projects due for relicensing by the year 2000. In addition, I provided assistance to the IPC for implementation of license articles at the Milner hydro project on the Snake River.

Idaho Department of Lands

Through the Forest Practices Act Advisory Committee, I assisted in the revision of the Forest Practices Act (FPA). The Idaho FPA provides a mechanism for the state to implement rules which govern silvicultural practices. New modifications to the FPA include increasing the size of the stream protection zone on Class II (non-fish bearing) streams from 5 to 30 feet. I also developed guidelines for leave tree requirements to ensure continued recruitment of large organic debris to streams.

Northwest Power Planning Council

During the project year I worked with the Northwest Power Planning Council (NPPC) to develop amendments to the NPPC resident fish mitigation and resident fish substitution measures. Amendments to the plan include specific projects for substitution of resident fish for anadromous fish in blocked areas upstream of Hells Canyon Dam and Upstream of Dworshak Dam.

Through the Columbia Fish and Wildlife Authority I assisted in the ranking of projects for funding throughout the Pacific Northwest. The ranking process requires substantial coordination with the states of Oregon and Washington and Native American Tribes.

Through the NPPC, the Columbia Basin Fish and Wildlife Authority, the Bonneville Power Authority, and the Shoshone-Bannock Indian Tribe, I received a commitment to conduct "loss assessments" and develop "biological rule curves" for federal hydro projects upstream of Hells Canyon Dam. Primary effort to date has been focused on the development of methodologies that can be used throughout the Pacific Northwest.

Idaho Department of Water Resources

IDFG personnel cooperated with the Idaho Department of Water Resources in the development and implementation of the Mid-Snake River Plan. Actions in the Mid-Snake

River Plan would prohibit hydro development and other activities which would degrade fish habitat.

I also worked through the Idaho Attorney General's office to develop criteria for instream flows throughout the state. That effort has been in response to substantial claims for water submitted by federal agencies.

During the study period I received requests to remove restrictions on recreational gold dredging in the Middle Fork and North Fork of the Boise River. Restrictions currently in place are for the protection of fish habitat. I also offered assistance in determining the need for additional restrictions through the state.

U.S. Bureau of Reclamation

With other state and federal agencies, I provided technical support to the U.S. Bureau of Reclamation for a "Storage Appraisal" review for the state of Idaho. The project made an intensive review of all existing and potential storage sites.

I also participated in an interagency effort that established a water conservation project on the Lemhi River. Releasing control of that effort to the local Soil Conservation District provided the outstanding achievement of that committee.

Soil Conservation Service

I participated in an interagency effort to develop a coordinated resource management plan for the state of Idaho. The plan would offer guidance to agencies and private resource users to aid in the resolution of conflict.

Endangered Species Act

Through an interpretation by the U.S. Fish and Wildlife Service (USFWS), the Endangered Species Act allows for the development of "Conservation Agreements" as an interim measure in lieu of listing as threatened or endangered under the act. A number of species in Idaho are considered C-1 or C-2 by the USFWS. Bull trout are currently foremost on the Candidate list. In cooperation with the USFWS, the U.S. Forest Service, the U.S. Bureau of Land Management, and the Idaho Department of Health and Welfare, I developed the Assessment and Conservation Strategy for Bull Trout. The intent of the document is to guide in the drafting of conservation agreements between the USFWS and land management agencies of private landowners. Subsequent to the writing of the conservation strategy, I have devoted a considerable amount of effort to "selling" the product to the resource extraction industries.

Table 1. Summary of Federal Energy Regulatory Commission (FERC) actions in Idaho, January 1, 1994 to December 31, 1994.

FERC STATUS	NUMBER OF PROJECTS
Preliminary Permits Pending	2
Preliminary Permits Granted	2
Preliminary Permits Expired	11
License Pending	3
License Application Granted	1
License Application Surrendered	2
Relicense Pending	3
Relicense Granted	2
License Amendment Denied	1
License Amendment Granted	10
Violation Activities	3
Inspections	8
Consultations	24
Total FERC Activities for 1994	72

JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE TECHNICAL ASSISTANCE

Project No.: FW-7-R-1 **Title:** Statewide Water Quality

Subproject No.: I **Job No.:** 2

Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year I was involved with a number of different agencies and organizations in an effort to maintain water quality for aquatic resources. Most of the involvement took place at meetings and on field tours. I made comments on timber, agricultural, mining, and hydropower activities.

Author:

John T. Heimer
Fishery Staff Biologist

OBJECTIVES

To provide technical assistance to agencies on activities that may impact Idaho's water quality as it relates to fish habitat and aquatic populations.

FINDINGS

The water quality coordinator is an Idaho Department of Fish and Game (IDFG) representative on a number of different committees or work groups dealing with water, habitat issues, and hydropower production. These include but are not limited to the following:

Local Working Committees

On three different occasions the North Fork Payette River Local Working Committee met and discussed water quality goals and site specific best management practices for timber harvest. Practices agreed to included the widening of the Class I and Class II stream protection zones, annual inventory of roads, and the revegetating of abandoned roads. The removal of bridges and culverts will occur after completion of use.

On two different days the Bear/Cuprum Local Working Committee for Indian Creek, Wildhorse Creek, Bear Creek, and Crooked River met. The Committee decided to require pre-operational inspections depending on the location of the timber harvest activity and restrictions on track or wheeled vehicles near the stream.

The Partridge Creek Local Working Committee reconvened to review a proposed logging operation. The primary item discussed was the maintenance of an access road across public land.

Basin Area Meetings

Twelve Basin Area Meetings were held in December. The purposes of these meetings were for agency personnel to report on past water quality monitoring activities and the acceptance of nominations for stream segments of concern. I compiled a report on water quality monitoring activities by the IDFG and presented it at the meetings.

Cumulative Watershed Effects Process

The Cumulative Watershed Effects Task Force, which is developing a process to evaluate cumulative effects of timber harvest on

water quality and beneficial uses, met a number of times. On one occasion members met with the Idaho Forest Practices Act Advisory Committee and on another with the State Land Board. This task force, composed of representatives of industry, environmental groups, and agencies, had met for over three years. They virtually completed the process by the end of the project year.

Mining Advisory Committee

I spent some time inspecting and discussing mining plans at the Grouse Creek Mine near Sunbeam, Idaho. Water quality information is being collected at this site to assess pre- and post-mining conditions. I also inspected the Triumph Mine near Triumph, Idaho, and helped develop a Joint Review Process to evaluate proposed mining projects.

Work Groups

I attended meetings of the Idaho Rivers Working Group. This group, which consists of representatives of various federal and state agencies, is involved with the management of river corridors.

I attended meetings of the Best Management Practice's Technical Committee. The focus of this group is to write agricultural best management practices to reduce nonpoint source agricultural pollution.

Conferences/Workshops

I helped organize a riparian symposium, which approximately 300 people attended. The purpose of this symposium was to address the values of riparian zones from a multidisciplinary approach. I helped with a nonpoint source workshop that had approximately 200 people in attendance. The purpose of it was an exchange of ideas and discussion of methods to control nonpoint source pollution.

Hydropower Activities

With members of the Federal Energy Regulatory Commission and project developers I inspected six hydropower projects this past year. I reviewed the various articles in the project licenses to assess compliance. I also spent some time with hydropower developers making comments on license articles concerning compliance.

JOB PERFORMANCE REPORT

State of: Idaho

Name: STATEWIDE TECHNICAL ASSISTANCE

Project No.: FW-7-R-1

Title: Water Quantity Investigations

Subproject No.: I

Job No.: 2

Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year Idaho Department of Fish and Game (IDFG) participated in proceedings for instream flow/minimum lake level applications for several rivers and lakes in northern Idaho. Public hearings were held for the Lochsa, Selway, and Middle Fork Clearwater rivers and Beaver and Gamble lakes. In addition, IDFG personnel began collecting flow and temperature data in support of requested instream flows on the Bruneau and Jarbidge rivers in Owyhee county.

IDFG is proceeding with its claims in the Snake River Basin Adjudication (SRBA). In July 1994, the SRBA Court (Court) entered an order to litigate the effects of the revised adjudication statutes passed by the 1994 Legislature. On December 7, 1994, the Court ruled most of the 1994 legislation unconstitutional because it violated the separation of powers between the judicial and legislative branches of government. The Idaho Supreme Court agreed to hear the state's appeal of the ruling. A decision is expected in early 1995.

IDFG personnel were involved in numerous water quantity issues during the project year, particularly water right protests. IDFG has concerns that current and future water management practices have, and will continue to have, a significant impact on the fish and wildlife resources of the state.

Author:

Cindy Robertson
Fishery Staff Biologist

maximum daily water temperature consistently exceeded the recommended 22°C throughout the months of July and August. Average and maximum daily temperatures for the Bruneau River both exceeded the recommended maximum for salmonids throughout the summer months (Table 2).

Also I collected flow data at the above sites on the Bruneau (Table 3a) and Jarbidge rivers (Table 3b). Additional flow and temperature data will be collected during 1995 to better define flow/temperature relationships.

Minimum Lake Levels

Two minimum lake level applications were discussed at public hearings in September 1994. Minimum levels were requested for Beaver and Gamble lakes and generally received public support. However, only the Gamble Lake application became approved. They denied the application for Beaver Lake on the grounds that the minimum lake level could not be permanently maintained (it is currently maintained by beavers), and the minimum lake level would benefit primarily the private, as opposed to the public interest. The latter ruling was based on the lack of direct public access to the lake. Private landowners, who wish to see the uniqueness of the lake and surrounding wetlands protected from future development, hold the majority of the lakeshore property. They do not wish to allow hunting access to their property and would rather see Beaver Lake maintained as a sanctuary for wildlife, particularly for waterfowl.

Snake River Basin Adjudication

IDFG continues to be an active participant in the Snake River Basin Adjudication (SRBA) that commenced in 1987. During the project year the Legislature revised many of the statutes under which the SRBA had begun. As a result of the revisions, the Court put a stay on all further proceedings until it could render a decision on what the impacts of the legislative changes would be. In July, the Court ruled most of the revisions were unconstitutional because they violated the separation of powers between the legislative and judicial branches of government. This issue is currently before the Idaho Supreme Court on appeal. A decision is expected in the next project year.

The Court further ruled that the rewrites of the "expansion," "presumption," and "accomplished transfer" statutes were constitutional and ordered that claims filed under the previous statutes could be amended to conform to the new statutes and resubmitted. IDFG personnel will determine which of its claims are affected by this ruling and amend them appropriately.

IDFG personnel are participating in negotiations concerning federal reserve water right claims with the Office of the Attorney General. One issue is whether or not federal entities have the legal right to claim instream flows for stream channel maintenance and fish and wildlife habitat protection under existing federal laws. Another issue is the validity of the methods used by the federal entities to determine instream flows needs. Nothing has yet been resolved, and negotiations will continue in the next project year.

Miscellaneous Water Quantity Issues

Water Right Protests

IDFG personnel protested a number of water right applications throughout the state in the project year. They settled many of these protests in informal conferences with the applicants and will not proceed to a formal hearing. One significant protest involved an application to transfer a number of groundwater rights in the Mud Lake basin. A USGS study completed in 1993 documented the impacts of current groundwater withdrawals on surface flows in the Henry's Fork and mainstem Snake River and aquifer water levels. The applicant hired a hydrologist to rerun the USGS model which showed the predicted impacts of the proposed transfers. With this information, they negotiated a mitigation plan that addressed the concerns of the protestants and met the needs of the applicant.

LITERATURE CITED

- Vinson, Mark. 1990. Justification for instream flows for the Bruneau and Jarbidge Rivers, Idaho. Idaho Bureau of Land Management.
- Warren, Charles D. and Fred E. Partridge. 1993. Evaluation of the status of bull trout in the Jarbidge River drainage, Idaho. Idaho Bureau of Land Management Technical Bulletin No. 93-1.

Table 1. Description of instream flow permits for three northern Idaho rivers.

Permit no.	Reach Description	Rate of flow (cfs)	Purpose of instream flow
81-07160	Selway River, commencing at the confluence with Meadow Creek, downstream approximately 19 miles to the confluence with the Lochsa River	1500 cfs from March 1 through July 31; 760 cfs from August 1 through February 29	Instream flow for protection of fish and wildlife habitat, aquatic life, and recreational values
81-07161	Lochsa River, commencing at the confluence with Boulder Creek, downstream approximately 24 miles to the confluence with the Selway River	1140 cfs from March 1 through July 31; 563 from August 1 through February 29	Instream flow protection of fish and wildlife habitat, aquatic life, and recreational values
81-07162	Middle Fork Clearwater River, commencing at the confluence of the Selway and Lochsa rivers, downstream approximately 23 miles to the confluence with the South Fork Clearwater River	2640 cfs from March 1 through July 31; 1323 cfs from August 1 through February 29	Instream flow protection for fish and wildlife habitat, aquatic life, and recreational values

Table 2. Continued.

Downstream of confluence of Elk and West Elk Rivers, Tule River				Tule River (upstream of confluence with Brunean River)			Brunean River near Hot Springs		
Time: August 16-17, 1994				Time: 28 through September 23, 1994			Time: 24 through 28 1994		
MAXIMUM		24.0	MAXIMUM		23.4	MAXIMUM		31.4	
MINIMUM		3.8	MINIMUM		10.9	MINIMUM		17.4	
AVERAGE		15.2	AVERAGE		19.2	AVERAGE		24.6	
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
14-Jul-94	21.8	13.0	17.0	24.8	16.4	20.2	27.8	20.6	24.0
15-Jul-94	22.6	13.1	17.5	25.4	16.7	20.6	28.8	21.1	24.6
16-Jul-94	22.4	14.2	18.0	25.9	17.4	21.2	28.9	21.6	25.1
17-Jul-94	22.1	14.8	18.4	26.4	18.5	21.9	29.5	21.9	25.6
18-Jul-94	23.5	14.5	18.5	26.2	18.5	22.0	28.4	23.3	25.5
19-Jul-94	22.9	14.5	18.3	25.4	18.4	21.2	27.5	21.6	24.2
20-Jul-94	23.6	13.6	18.1	26.4	17.2	21.1	29.5	21.0	24.8
21-Jul-94	23.8	14.1	18.7	26.6	17.9	21.8	30.0	22.1	26.0
22-Jul-94	22.3	15.3	18.9	25.5	18.7	22.0	29.5	22.8	25.8
23-Jul-94	21.0	16.7	18.9	24.5	20.0	22.0	29.5	23.8	26.2
24-Jul-94	22.8	14.8	18.7	25.7	18.2	21.6	30.4	22.9	26.4
25-Jul-94	24.0	15.3	19.5	28.0	19.1	23.0	31.4	23.8	27.3
26-Jul-94	22.9	15.9	19.5	27.5	20.0	23.4	31.1	24.7	27.5
27-Jul-94	N.D. ¹	N.D.	N.D.	28.4	20.3	23.4	31.0	24.1	27.2
28-Jul-94	20.8	15.9	18.5	27.1	19.8	22.6	31.1	24.1	26.8
29-Jul-94	20.8	15.3	18.2	24.7	19.0	21.7	29.3	23.5	26.0
30-Jul-94	22.9	16.1	19.1	24.3	20.1	22.0	28.0	24.5	26.1
31-Jul-94	21.3	16.3	18.7	24.1	19.3	21.6	28.5	23.8	26.1

Table 2. Continued.

Downstream of confluence of East and West Fork Tarabidge River				Tarabidge River upstream confluence with Brumley River			Brumley River at the dam				
Time 23 through Sept. 15, 1994				Time 23 through Sept. 23, 1994			Time 23 through Aug. 16, 1994				
		MAXIMUM	24.0			MAXIMUM	28.4			MAXIMUM	31.4
		MINIMUM	3.8			MINIMUM	10.9			MINIMUM	17.4
		AVERAGE	15.2			AVERAGE	19.2			AVERAGE	24.6
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.		
01-Aug-94	21.4	15.8	18.2	25.9	19.5	21.9	29.5	23.1	25.8		
02-Aug-94	20.1	14.2	17.1	25.7	18.8	21.6	30.8	22.8	25.9		
03-Aug-94	22.6	13.8	17.8	27.3	18.2	22.1	30.8	22.9	26.4		
04-Aug-94	24.0	14.2	18.8	27.7	19.0	22.7	30.6	23.8	26.9		
05-Aug-94	23.5	15.1	19.2	27.5	19.1	22.6	29.8	23.3	26.4		
06-Aug-94	23.6	14.5	18.9	26.9	18.4	22.0	29.6	22.9	25.9		
07-Aug-94	23.1	13.9	18.4	26.6	17.5	21.5	30.0	21.8	25.6		
08-Aug-94	19.6	15.3	17.6	23.5	18.8	20.6					
09-Aug-94	22.9	14.4	18.3	26.0	16.9	20.7					
10-Aug-94	20.1	15.0	17.7	24.0	17.7	20.7					
11-Aug-94	20.6	14.4	17.6	25.5	17.9	21.2					
12-Aug-94	21.8	14.8	18.2	24.0	18.7	20.9					
13-Aug-94	21.8	15.0	18.3	25.1	17.5	21.0					
14-Aug-94	21.0	15.0	18.2	24.8	18.4	21.4					
15-Aug-94	22.8	14.7	18.4	26.6	18.0	21.5					
16-Aug-94	22.1	13.1	17.5	25.5	16.7	20.5					
17-Aug-94	22.3	13.3	17.6	25.4	16.3	20.1					
18-Aug-94	22.3	13.4	17.6	25.7	16.4	20.3					

Table 2. Continued.

Downstream discharge of East and West Forks of Middle River				Turbidic River upstream of confluence with Brumley River			Brumley River upstream of confluence with Middle River				
Time: August 16, 1994				Time: August 24 through Sept. 5, 1994			Time: August 24 through Sept. 5, 1994				
		MAXIMUM	24.0			MAXIMUM	28.4			MAXIMUM	31.4
		MINIMUM	3.8			MINIMUM	10.9			MINIMUM	17.4
		AVERAGE	15.2			AVERAGE	19.2			AVERAGE	24.6
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.		
19-Aug-94	21.9	13.4	17.6	25.1	16.4	20.2					
20-Aug-94	21.4	14.2	17.7	25.5	17.0	20.6					
21-Aug-94	22.3	14.7	18.1	25.9	17.0	20.7					
22-Aug-94	20.6	13.0	16.6	24.1	16.1	19.5					
23-Aug-94	21.4	11.9	16.4	23.6	14.4	18.6					
24-Aug-94	21.3	12.5	16.7	24.8	15.1	19.3					
25-Aug-94	21.3	12.4	16.7	24.5	15.3	19.4					
26-Aug-94	20.3	12.4	16.2	23.5	15.1	19.0					
27-Aug-94	20.6	12.8	16.4	23.1	15.5	18.7					
28-Aug-94	21.6	14.2	17.4	24.5	15.6	19.3					
29-Aug-94	20.5	12.8	16.5	23.6	15.0	18.7					
30-Aug-94	19.6	11.6	15.5	22.8	13.9	17.8					
31-Aug-94	19.8	11.1	15.3	22.8	13.3	17.4					
01-Sep-94	17.5	11.9	14.9	22.9	13.9	17.8					
02-Sep-94	17.9	10.9	14.5	21.1	14.1	17.5					
03-Sep-94	19.0	12.2	15.3	21.9	14.5	17.7					
04-Sep-94	18.7	10.9	14.5	22.1	13.4	17.1					
05-Sep-94	18.7	9.9	14.2	22.1	12.4	16.5					

Table 2. Continued.

Downstream at confluence of East and West Fork Jarbidge River				Jarbidge River upstream of confluence with Bruneau River			Bruneau River at Hoop Springs		
June 25 through Oct. 16, 1994				June 25 through Sept. 23, 1994			June 25 through Sept. 23, 1994		
MAXIMUM 24.0				MAXIMUM 28.4			MAXIMUM 31.4		
MINIMUM 3.8				MINIMUM 10.9			MINIMUM 17.4		
AVERAGE 15.2				AVERAGE 19.2			AVERAGE 24.6		
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
06-Sep-94	19.5	11.6	15.3	23.1	13.0	17.2			
07-Sep-94	20.1	11.9	15.8	24.1	13.9	18.3			
08-Sep-94	20.3	12.7	16.2	23.1	14.7	18.4			
09-Sep-94	18.5	12.2	15.1	21.1	14.1	17.1			
10-Sep-94	15.6	9.9	13.0	18.5	11.6	14.8			
11-Sep-94	15.5	8.8	12.1	17.4	10.9	14.0			
12-Sep-94	16.4	9.4	12.7	19.5	11.1	14.6			
13-Sep-94	13.1	10.2	11.8	15.9	12.0	13.4			
14-Sep-94	15.1	9.4	11.8	19.0	10.9	13.9			
15-Sep-94	16.4	9.1	12.4	20.0	11.4	14.8			
16-Sep-94	16.6	8.5	12.4	20.5	11.1	14.9			
17-Sep-94	16.3	10.0	13.1	20.0	11.9	15.3			
18-Sep-94	N.D.	N.D.	N.D.	21.3	12.5	15.9			
19-Sep-94	N.D.	N.D.	N.D.	21.3	12.5	16.0			
20-Sep-94	N.D.	N.D.	N.D.	20.3	12.2	15.6			
21-Sep-94	N.D.	N.D.	N.D.	20.5	11.9	15.3			
22-Sep-94	N.D.	N.D.	N.D.	20.5	11.4	15.2			
23-Sep-94	N.D.	N.D.	N.D.	20.5	11.3	15.1			

Table 2. Continued.

Newman Creek at confluence of base and West Forks of Middle River				Middle River upstream of confluence with Branson River			Winnemucca at confluence with Middle River		
Time Available Oct. 18, 1994				Sept. 21 through Sept. 27, 1994			Sept. 28 through Oct. 11, 1994		
	<i>MAXIMUM</i>		<i>24.0</i>	<i>MAXIMUM</i>		<i>28.4</i>	<i>MAXIMUM</i>		<i>31.4</i>
	<i>MINIMUM</i>		<i>3.8</i>	<i>MINIMUM</i>		<i>10.9</i>	<i>MINIMUM</i>		<i>17.4</i>
	<i>AVERAGE</i>		<i>15.7</i>	<i>AVERAGE</i>		<i>19.2</i>	<i>AVERAGE</i>		<i>24.6</i>
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
24-Sep-94	N.D.	N.D.	N.D.						
25-Sep-94	N.D.	N.D.	N.D.						
26-Sep-94	N.D.	N.D.	N.D.						
27-Sep-94	N.D.	N.D.	N.D.						
28-Sep-94	15.8	10.2	13.0						
29-Sep-94	13.9	12.2	12.8						
30-Sep-94	12.0	10.8	11.3						
01-Oct-94	14.7	10.3	12.1						
02-Oct-94	13.6	9.4	11.3						
03-Oct-94	9.9	6.2	7.8						
04-Oct-94	11.7	5.8	8.4						
05-Oct-94	9.9	7.7	8.8						
06-Oct-94	11.4	7.2	8.9						
07-Oct-94	11.6	5.8	8.5						
08-Oct-94	12.0	5.8	8.7						
09-Oct-94	12.2	5.8	9.0						
10-Oct-94	11.7	6.9	9.2						
11-Oct-94	11.4	8.3	9.6						

Table 2. Continued.

Downstream of confluence of East and West Forks of the River				Hatchie River upstream of confluence with Branch River			Wamsutter River upstream of confluence with Spanish River		
June 29 through Oct 15, 1994				June 28 through Sept 23, 1994			June 29 through Oct 15, 1994		
<i>MAXIMUM</i>		24.0		<i>MAXIMUM</i>		23.4	<i>MAXIMUM</i>		31.4
<i>MINIMUM</i>		3.8		<i>MINIMUM</i>		10.9	<i>MINIMUM</i>		17.4
<i>AVERAGE</i>		15.2		<i>AVERAGE</i>		19.2	<i>AVERAGE</i>		24.6
DATE	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
12-Oct-94	10.3	5.8	8.2						
13-Oct-94	10.0	7.8	8.7						
14-Oct-94	8.0	4.7	6.4						
15-Oct-94	5.2	3.8	4.5						
16-Oct-94	7.1	4.3	5.5						

¹ Indicates no data available.

Table 3a. Discharge (cfs)¹ for the Bruneau River near Hot Spring, ID from June 1, 1994 to October 31, 1994.

Day	June	July	August	September	October
1	713	129	55	36	51
2	678	121	55	36	67
3	642	116	55	36	67
4	615	114	55	36	57
5	585	110	55	35	58
6	525	109	53	35	58
7	492	107	46	35	76
8	453	105	44	36	68
9	414	99	43	36	63
10	372	94	42	34	59
11	359	87	42	33	57
12	362	82	42	33	57
13	360	79	50	34	57
14	355	--	55	35	58
15	343	65	54	39	66
16	320	64	51	40	71
17	299	63	47	40	70
18	284	57	43	41	69
19	268	57	42	42	65
20	260	57	42	42	64
21	238	57	41	41	62
22	220	57	39	40	59
23	204	57	39	40	57

Table 3 a. Continued.

Day	June	July	August	September	October
24	181	57	39	40	57
25	170	57	39	40	57
26	162	57	40	40	57
27	153	56	38	39	57
28	151	56	38	38	57
29	145	56	37	38	57
30	136	56	36	39	58
31	--	55	36	--	61

¹ Data are provisional data from USGS Boise Field Office personnel.

Table 3b. Discharge (cfs)¹ for the Jarbridge River near the confluence with the Bruneau River, June 1, 1994 to October 31, 1994.

Day	June	July	August	September	October
1	471	85	36	24	34
2	447	80	36	24	44
3	424	77	36	24	44
4	406	75	36	24	38
5	386	73	36	23	38
6	347	72	35	23	38
7	325	71	30	23	50
8	299	69	29	24	45
9	273	65	28	24	42
10	246	62	28	22	39
11	237	57	28	22	38
12	239	54	28	22	38
13	238	52	33	22	38
14	234	--	36	23	38
15	226	43	36	26	44
16	211	42	34	26	47
17	197	42	31	26	46
18	187	38	28	27	46
19	177	38	28	28	43
20	172	38	28	28	42
21	157	38	27	27	41
22	145	38	26	26	39
23	135	38	26	26	38
24	119	38	26	26	38

Table 3b. Continued.

Day	June	July	August	September	October
25	112	38	26	26	38
26	107	38	26	26	38
27	101	37	25	26	38
28	101	37	25	25	38
29	96	37	24	25	38
30	90	37	24	26	38
31	--	36	24	--	40

¹ Discharge is estimated as 66% of Bruneau River discharge at the Hot Spring gage (Vinson 1990).

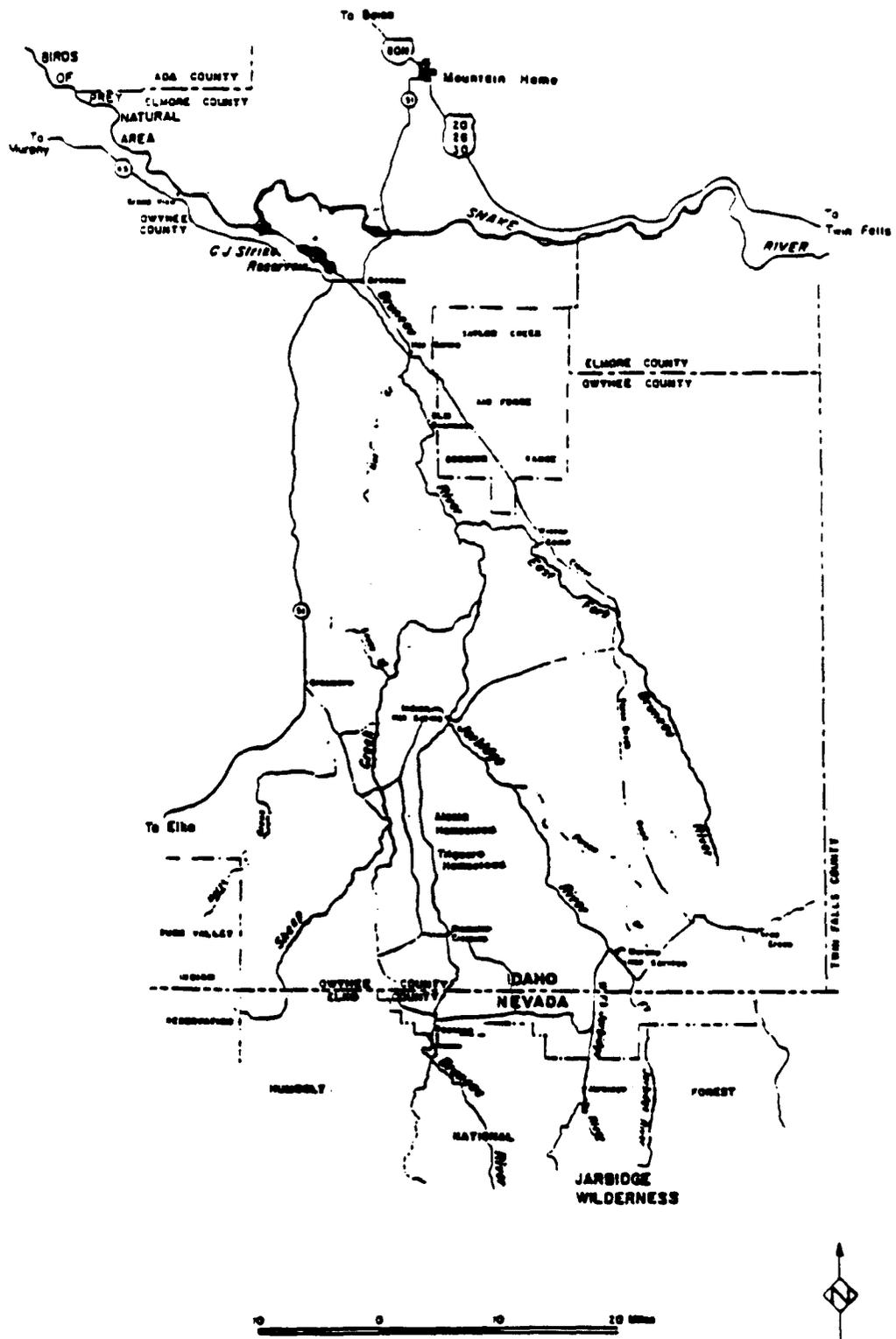


Figure 1. Map showing location of Bruneau and Jarbidge Rivers in southwest Idaho.

JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE COORDINATION AND SUPERVISION

Project No.: FW-7-R-1 **Title:** Statewide Responsive Management

Subproject No.: I **Job No.:** 3

Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the study period I provided logistical and informational assistance to an external review team conducting a comprehensive performance evaluation of Idaho Department of Fish and Game (IDFG). The final report, entitled "1994 Study of the Idaho Department of Fish and Game" (see attached executive summary), included an evaluation of resource management programs, a public opinion survey, results of external interviews, an employee survey, an evaluation of IDFG management systems, and recommendations. Recommendations included methods to improve customer service and overall efficiency. IDFG will be implementing many of the recommendations in the upcoming year.

Technical assistance was provided to several IDFG personnel conducting external surveys, including an upcoming survey regarding grizzly bear recovery.

A literature review of the economic significance of fish and wildlife in Idaho revealed that people spend over \$250 million every year on wildlife-based recreation in Idaho. Fish and wildlife resources significantly contribute to tourism, which is the third largest industry in the state. Knowledge gaps that could contribute to IDFG programs were identified.

A comprehensive plan for Responsive Management was initiated, which will include an overall program vision and a systematic approach to integrating the human element into Idaho's fish and wildlife management.

Author:

Michele Beucler
Wildlife Mitigation Specialist

OBJECTIVES

To monitor the state's demographics, economic trends, and public opinions regarding fish and wildlife so that the human element can be integrated into IDFG regulations, policies and "way of doing business."

To provide information and technical assistance to staff members regarding surveys, public involvement strategies, and other human dimensions projects.

TECHNIQUES USED

During the study period I provided logistical and informational assistance to an external review team conducting a comprehensive performance evaluation. The study included an evaluation of resource management programs, a public opinion survey, external interviews, an employee survey, and an evaluation of IDFG management systems.

I provided technical assistance and functioned as a liaison for IDFG personnel conducting external surveys.

I conducted a literature review on the contribution of fish and wildlife to Idaho's economy.

I have begun writing a comprehensive plan for IDFG's Responsive Management program.

FINDINGS

The final report, entitled "1994 Study of the Idaho Department of Fish and Game" (see Appendix 1), was completed in January 1995. The study team concluded that the Department had strong public and professional support, including an unprecedented 90 percent approval rating of our conservation officers. Recommendations to improve customer service and overall efficiency also were suggested and will be implemented. The public opinion survey revealed that participation in wildlife-based recreation in Idaho is among the highest in the nation--38 percent of Idahoans hunted, 50 percent fished, and 40 percent took a wildlife viewing trip in the last two years.

I have provided technical assistance to IDFG personnel and an interagency team that is conducting a public opinion survey regarding grizzly bear recovery in the Selway-Bitterroot ecosystem.

The economic review indicated that over \$250 million is spent in Idaho every year on wildlife-based recreation, including approximately \$90 million on hunting, \$120 million on fishing, and almost \$50 million on wildlife watching. Gaps in economic information that could be useful in IDFG programs have been identified.

The comprehensive management plan for Responsive Management will continue to be developed. I will attend the Organization of Wildlife Planners meeting, where I can network and hear the successes and failures of similar programs. Learning from past experiences will help us develop a well-planned and sensible document.

Appendix 1. 1994 Study of the Idaho Department of Fish and Game Executive Summary

Objectives: This study of the Idaho Department of Fish and Game (IDFG) was requested by the Idaho Fish and Game Commission. In general, two questions were asked: "How well is IDFG doing?", and "How can it become better?" It is intended to review the organization's effectiveness on issues suggested by 14 key points raised by regional councils. It is not to duplicate other efforts, such as agency audits.

Approach: The study was conducted by a team of five professionals: Mr. Gerald Barnhart, NY Div. of Fish and Wildlife, Mr. Peter Bontadelli (California Dept. of Fish and Game), Mr. Mark Duda (Responsive Management, Inc.), Dr. Robert Hays (US Fish and Wildlife Service), Dr. Kent Marlor (Ricks College). We believe that how well and agency is doing must be measured in terms of how well it addresses its mandate--and only how well it addresses its mandate. We read the mandate of IDFG as: 1. Preserve, protect, perpetuate and manage the wildlife resource; 2. Serve the public; and 3. Be an efficient agency that is a part of the Idaho State government team.

The study is developed as separate sections: *Introduction* provides history and analysis of the mandate; *Review of resource management programs* reviews one large, traditional program, and one that is small and addresses a newly emerging public demand; *The Idaho wildlife depredation program/1989-1994* traces the history of the depredation program, which is targeted at a land use conflict; *Idaho residents' opinions and attitudes toward the Idaho Department of Fish and Game* reports in a survey of a random sample of Idahoans about their satisfaction with IDFG and the fish and wildlife resource; *External interviews* reports on interviews of people who are not IDFG employees, but are in a good position to observe it; *Employee survey* reports on a survey about internal Departmental operations sent to every IDFG employee; *Management systems* deals with the Department's management systems; *Overview* addresses the structure of the Department, and long term trends in funding and public demand; *Recommendations* compiles the consensus recommendations of the team; and *Notes* includes some details, such as a point by point discussion of the Councils' 14 topics of concern.

Findings: The Idaho fish and wildlife resource is being managed well. We found the elk program to be a solid success, and the wild trout program to be on track. The depredation program is workable, equitable for both wildlife and agriculturalists, and a "win-win" approach now spreading to other issues.

The public in Idaho believes that the resource is generally healthy, well managed, and provides good opportunities for recreation. Idaho residents are very active recreationists. Fifty one percent reported fishing in the last two years, 38% hunting, and 40% taking a trip to watch or photograph wildlife. The public feels it knows a lot about IDFG (44% claim a "great deal" or

“moderate amount”), and is generally satisfied with its management of the resource. As a government agency in Idaho, 56% were very or somewhat satisfied, and only 19% were very or somewhat dissatisfied. Almost every aspect of IDFG performance we asked about was favorably rated, with law enforcement receiving an astonishing 70% of excellent or good ratings. The public also generally supported spending more time and money by IDFG. They indicated this is a form of government they want more of. Particular areas they want to see more emphasis on include feeding big game animals in winter, improving fish and wildlife habitat, and paying landowners for damage caused by wildlife. There are demographic indicators of declining participation rates, which could pose future difficulties for IDFG. One can also predict that changing values with urbanization and immigration could bring political pressure for protecting animal rights and limiting hunting.

We found the employees to be highly motivated, dedicated, and professional. The management system is generally functional. The Commission-IDFG structure works well, and should not be changed.

We did identify several areas for improvement. Among these are:

Mandate: Update the mandate for emerging issues. Do not change the agency’s name.

Resource: Increase the priority for water protection and education. Improve the population management approach. Improve management planning. Strengthen program funding. Produce documentation of program reviews using data and public input.

Public service: Estimate socioeconomic benefits of fish and wildlife recreation. Expand introducing potential participants. Learn more about the public’s preferences. Become customer-service and quality oriented. Expand opportunities for volunteers.

Operate efficiently: Improve the agency culture. Adjust the organizational structure, and flatten the pyramid. Improve personnel functions, including training. Use more teamwork. Improve decision making, planning and budgeting systems. Finally, strengthen interactions and relationships with the rest of Idaho state government, including the legislature.

JOB PERFORMANCE REPORT

State of: Idaho **Name:** **STATEWIDE TECHNICAL ASSISTANCE**

Project No: FW-7-R-1 **Title:** **Panhandle Region Technical Guidance**

Subproject No: II **Job No:** 1

Period covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year, I provided comments on 460 issues, developments, or proposals which would potentially affect fish and wildlife habitat in the Panhandle Region. In addition, I attended 141 meetings or site visits. Forest management, stream and lakeshore alterations, and land development issues required the greatest amount of time and effort. Stream segments of concern and Local Working Committees required considerable time, as did participation on the Hayden Lake Clean Lake Committee. Considerable effort was also expended on the Bonner County bull trout conservation plan, which has yet to be completed and signed.

Technical assistance to the U.S. Forest Service (USFS) declined in 1994, but numbers of contacts with Idaho Department of Lands, particularly on timber sales, increased substantially from the previous year. Monitoring at Trapper Creek continued.

Author:

Chip Corsi
Environmental Staff Biologist

OBJECTIVES

1. Influence land-use decisions in the Panhandle Region to protect or improve fish and wildlife habitat.
2. Provide other agencies, organizations or individuals with technical guidance, assistance, advice or comments on projects, and activities or developments which might affect or are associated with fish and wildlife habitat in the region.
3. Comment on National Environmental Policy Act documents, Federal Energy Regulatory Commission documents, stream channel and lakeshore alteration proposals, gas and electrical transmission lines, land-use planning, and other environmental impacts.
4. Ensure the Idaho Department of Fish and Game's (IDFG) role in the antidegradation program is met.
5. Attempt to keep up with and get ahead of the growing number of issues and concerns affecting fish and wildlife habitat in the Panhandle Region. Improve coordination with other IDFG personnel and volunteers to meet workload demands. Explore funding opportunities to hire a full-time or seasonal assistant to improve monitoring and baseline data collection abilities, and conduct field reconnaissance of project sites to improve the quality of responses.
6. Continue to work closely with other agencies, the public, and industry representatives to prevent or reduce impacts to fish and wildlife.

TECHNIQUES USED

Personal contact, project and document review, and field inspections provided technical guidance comments or advice on projects, activities, or proposals which could affect fish and wildlife resources in the Panhandle Region. Electrofishing, trapping, and direct observation aided in gathering data on fish populations.

FINDINGS

During the project year, I provided written comments on 460 habitat-related issues. In addition, I attended 141 meetings or site visits to review problems or examine proposals and projects (Table 1). As in previous years, the greatest numbers of contacts were with IDL, Idaho Department of Water Resources, the USFS, and on city or county planning and zoning issues. During the project year, however, technical assistance to the USFS declined

substantially, from 112 contacts in 1993 to 65. This is due to fewer documents or requests being received from the USFS, which has been down-sizing and developing its ecosystem management strategy. During the same time period, contacts with IDL increased substantially, particularly with timber sales. This is largely a result of the St. Joe Area office shifting its timber harvesting plans away from the Floodwood area and into the St. Maries basin.

Specific projects worth noting in detail include the following:

PGT-PGE Natural Gas Pipeline Project

Essentially the completion of the PGT-PGE pipeline project was in 1994. PGT-PGE biologists conducted reconnaissance-level monitoring, and they indicated fish utilization of the mitigation structures. Fine-tuning of the fish access structure at Meadow Creek was made during mid-summer, after high flows rearranged some of the rock placements.

Completion of harlequin duck surveys per contract specifications occurred with assistance from regional personnel. A brood was observed during the summer 1994 surveys (Frances Cassirer, Wildlife Research Biologist, personal communication).

Also during the project year, PGT purchased a parcel of land, approximately ten acres in size, along the Moyie River as mitigation for impacts to raptors from pipeline construction. The parcel includes valuable riparian, wetland, and upland habitats, and is immediately across the river from a USFS holding. Primary management responsibility for the newly acquired parcel will be USFS, with ownership transferred to that agency.

Coeur d'Alene Basin Clean-up

During the project year I made several site visits and attended several meetings regarding remediation projects in the Coeur d'Alene basin. I provided considerable consultation on stream channel restoration projects in the Nine Mile Creek and South Fork Coeur d'Alene reaches. Physical habitat should be markedly improved in these reaches; however, Nine Mile Creek remediation does not yet appear to have lowered toxicity levels to an acceptable level for fish.

Stream Segment of Concern Monitoring

I conducted intensive monitoring again on Trapper Creek during the project year and summarized the results in Appendix 1 and 2. Also, a summary of the monitoring of other Stream Segments of Concern appeared in the 1994 Basin Area Meeting report (Appendix 1), which I presented to the public at meetings in Sandpoint and Coeur d'Alene.

Stream Segments of Concern

During the project year I invested considerable effort in participation on Local Working Committees for stream segments of concern. The Director and IDL adopted and approved site-specific BMPs (SSBMP) for Trestle Creek and Lakeview streams. These SSBMPs include requirements for site-specific management plans in riparian areas and other measures addressing roads and canopy removal, to protect these important bull trout streams. Site-specific riparian management plans should result in an increased potential for large woody debris to be recruited to streams, protecting habitat and channel stability.

The Basin Area Meetings held in December 1994 provided the public with information on monitoring efforts conducted on Stream Segments of Concern (SSOC) and enabled us to take nominations for streams to be added or retained on the SSOC list. As a participating agency, IDFG prepared a monitoring report and gave a presentation. Also, in large part due to concerns for bull trout and direction in the proposed Idaho bull trout conservation agreement, the Panhandle Region forwarded nominations for 68 stream segments to IDFG headquarters to be included in the Department's SSOC nomination proposal.

Table 1. Summary of technical assistance contacts by Panhandle Region Environmental Staff Biologist during the period January 1994 through December 1994.

Agency/Group	Type of Contact		
	Written	Meetings/Site Visits	Total
US Forest Service	55	10	65
Idaho Department of Lands			
Timber	34	15	49
SSOC	2	14	16
Navigable Waters	100	6	106
Mining	5	1	6
Idaho Department of Water Resources	59	7	68
US Army Corps of Engineers	28	4	32
City/County Planning & Zoning	53	4	57
Bureau of Land Management	10	2	12
Division of Environmental Quality	7	7	14
Coeur d'Alene Basin Groups	3	5	8
Idaho Department of Parks & Rec.	1	0	1
Outfitters and Guides	11	2	13
Idaho Transportation Department	4	2	6
Defense Department	2	0	2
Federal Highway Administration	2	1	3
US Fish and Wildlife Service	2	3	5
Clean Lakes	2	11	13
Utilities	4	0	4
FERC/Pipeline/Hydro	5	3	8
Panhandle Area Council	3	0	3

Table 1. Continued.

Agency/Group	Type of Contact		
	Written	Meetings/Site Visits	Total
School/Conservation/Sportsmen	9	5	14
Individuals	19	3	22
Developers	6	13	19
Timber Industry	3	3	6
Bonner County Bull Trout Committee	2	9	11
In House	24	9	33
Totals	460	141	601

Appendix 1. Basin Area Meeting Monitoring Report presented at Sandpoint and Coeur d'Alene meetings.

Panhandle Basin - Stream Segments of Concern
IDFG Contribution to SSOC Monitoring

by

Charles E. Corsi
Environmental Staff Biologist
Idaho Department of Fish and Game

Cocolalla Creek (1442.00)

Snorkeling was conducted by DEQ personnel on July 29, 1993, at two sites in Cocolalla Creek. At the upper site 17 brook trout and 2 sculpins were counted. Brook trout density was estimated at 17.4/100m². Most fish observed were cutthroat trout; brook trout were also observed.

Granite Creek (1465.00), North Gold Creek (1467.00)
and Gold Creek (1468.00)

These three streams are important bull trout spawning tributaries to Lake Pend Oreille. Additionally, Sullivan Springs on Granite Creek is a primary spawning area for kokanee salmon, and all streams support resident and migratory cutthroat trout. Kokanee spawn taken at Sullivan Springs accounts for a substantial portion of fish raised at Department hatcheries for release back into Lake Pend Oreille.

Bull trout redd surveys have been conducted by fisheries management personnel on a regular basis in these watersheds since 1983, with the following results:

	Year											
	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94
Granite ^{a,b}	12	89	51	37	36	--	--	--	--	--	31	42
North Gold	16	37	52	8	36	24	37	35	41	41	32	27
Gold	131	124	111	78	62	111	122	84	104	93	120	172

^aIncludes Sullivan Springs, except in 1986

^bNo counts 1988-1991

Additionally, the following number of kokanee salmon eggs were taken at the Sullivan Springs trap during the period 1991 through 1993:

<u>Year</u>	<u>#Eggs</u>
1991	6,364,277
1992	6,125,171
1993	10,037,495

Impacts to these streams are primarily from road construction and maintenance, timber harvest, and mining (Gold Creek). Road failures are evident in Granite Creek and Gold Creek, with considerable input of larger and fine sediment.

Tepee Creek (1508.00) and Independence Creek (1509.00)

Department management in Tepee and Independence creeks is focused on native westslope cutthroat trout, a designated species of special concern. Both streams are managed with catch-and-release regulations to protect the cutthroat trout population, which has been negatively impacted by loss of habitat.

In 1991, snorkeling surveys were conducted by the University of Idaho under contract to IDFG in Tepee Creek and Independence Creek. Densities of cutthroat trout (all sizes) were estimated at 10/km in Tepee Creek and 33/km in Independence Creek. These densities are considered quite low when compared with those found in areas with good habitat and managed with catch-and-release regulations in the St. Joe River system.

Snorkeling surveys were conducted in Tepee Creek by Department fisheries management staff in 1993 and 1994. Estimated densities were 29/km in 1993 and 17/km in 1994.

Wolf Lodge Creek(1541.00) and Marie Creek (1541.10)

During the period 1991 through 1994, the Department, in cooperation with local property owners and volunteers, undertook a major stream habitat and riparian enhancement project in the lower reaches of Wolf Lodge and Marie creeks. This included placement of structures designed to improve channel stability and create habitat diversity. Excess bedload was also removed from several sites. Riparian vegetation (mostly willows) was planted with the help of volunteers and fencing has been completed at some locations.

During spring of 1993, spawning cutthroat trout were observed in lower Marie Creek. Cutthroat trout fry have also been observed in both lower Wolf Lodge and lower Marie creeks since 1991. Spawn taking operations have yielded between 94,000 and 400,000 chinook salmon eggs annually since 1991.

Current threats to beneficial uses in the Wolf Lodge drainage are logging and road building, development in the floodplain, and localized areas of heavy livestock use.

Pack River (1449.00, 1450.00, and 1451.00)

Pack River, and its largest tributary Grouse Creek, are important spawning areas for Lake Pend Oreille bull trout and rainbow trout. Bull trout spawning surveys have been conducted annually on Grouse Creek and intermittently on Pack River since 1983. Both streams have exhibited considerable fluctuations in numbers of redds counted, possibly a reflection of unstable stream channels. Observed counts are as follows:

	Year											
	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94
Pack River	34	37	49	25	14	--	--	--	--	65	21	22
Grouse Cr.	2	108	55	13	56	24	50	48	33	17	23	18

Rainbow trout spawning is also occurring during spring in Grouse Creek, and has become a recreational viewing attraction. Current threats to Pack River are road construction and maintenance, floodplain development, and logging.

Priest River (1410.00), Two Mouth Creek (1427.00) and
Trapper Creek (1432.00)

Bull trout and westslope cutthroat trout, both Idaho Species of Special Concern, are important beneficial uses in these waters. Department monitoring since 1991 has included annual electrofishing in Trapper Creek, snorkeling and electrofishing in Trapper and Two Mouth creeks, in 1994, and bull trout redd counts in 1993 and 1994.

Data collected indicate the value of Trapper Creek to the upper Priest Lake bull trout population, and also in supporting westslope cutthroat trout. Based on length frequency distribution, the Trapper Creek bull trout population is comprised primarily of juvenile fish. Estimated densities (fish/100m²) by year and sampling site are presented below.

Species	Location	Year			
		1991	1992	1993	1994
Cutthroat	Below E. Fork	4.3	3.8	1.3	4.5
	Above lower bridge	7.3	15.2	—	26.5
	East Fork	—	14.6	13.2	20.5
Bull trout	Below E. Fork	5.1	3.0	4.5	8.3

Estimated densities in 1994 were higher than in previous years for both bull trout and cutthroat trout.

Only four bull trout redds were counted in Trapper Creek in both 1993 and 1994. These low counts are cause for concern although young-of-the-year densities in 1994 suggest good survival from the 1993 spawn.

Snorkeling in Trapper Creek during daylight hours resulted in an underestimate of bull trout, and should not be used as a sampling technique. No non-game species and only one brook trout were found in fish sampling efforts in Trapper Creek.

Sampling in Two Mouth Creek in 1994 documented the presence of cutthroat and bull trout. No bull trout redds were observed in Two Mouth Creek in 1994.

In both 1993 and 1994 five bull trout redds were counted in upper Priest River. In tributaries to upper Priest River, eight redds were counted in 1993 and nineteen in 1994.

Current threats to habitat and beneficial uses are road construction and maintenance, and logging.

Appendix 2. Length frequency distribution of bull trout and cutthroat trout from lower Trapper Creek, August 1994.

Length (mm)	No. bull trout	No. cutthroat trout
0-9	0	0
10-19	0	0
20-29	0	0
30-39	1	10
40-49	1	25
50-59	14	1
60-69	32	0
70-79	2	0
80-89	3	4
90-99	16	2
100-109	9	1
110-119	3	1
120-129	1	2
130-139	1	1
140-149	0	2
150-159	0	2
160-169	0	0
Total	83	51

JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE TECHNICAL ASSISTANCE
Project No.: FW-7-R-1 **Title:** Southwest Region Technical Guidance
Subproject No.: II **Job No.:** 3
Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year the Southwest Region environmental staff biologist provided technical review, comments, and assistance or attended meetings on 750 documented occasions. The majority of interactions were with state and federal agencies on a variety of land and water management issues having potential impacts on fish and wildlife habitats. Population growth in the Treasure Valley and other locations in the region has required more emphasis be directed at the effects of urban sprawl on fish and wildlife resources. Many activities of the environmental staff biologist were closely coordinated with Idaho Department of Fish and Game (IDFG) staff responsible for policy decisions and regional fish and wildlife management staff.

The environmental staff biologist participated in assessing the status of fish populations and stream habitats in twelve drainages in the Southwest Region as part of the state of Idaho Antidegradation Program. Additionally, assistance was provided to the U.S. Forest Service (USFS) in assessing the distribution of bull trout in the Deadwood River drainage.

Author:

Scott A. Grunder
Environmental Staff Biologist

OBJECTIVES

To provide technical assistance to city, county, private, and state and federal entities in matters relating to fish and wildlife resources.

RECOMMENDATIONS

1. Continue efforts to educate and inform other agencies, private enterprise, and the general public about the importance of protecting fish and wildlife habitats.
2. Continue efforts to establish and maintain good working relationships with state and federal regulatory and land and water management agencies.

TECHNIQUES USED

During the project year the Southwest Region environmental staff biologist provided technical assistance on a variety of land and water management issues which could have affected fish and wildlife habitats. Technical review was closely coordinated with other IDFG staff. Example issues were timber harvest, mining, livestock grazing allotments, water rights, land use planning and development, stream channel alterations, and water quality/quantity. Often, interagency and interdisciplinary meetings were needed to discuss and resolve often contentious proposals. During July and August 1994, fish population and habitat assessments were jointly performed with the Division of Environmental Quality (DEQ) in twelve drainages within state-designated Stream Segments of Concern. This effort was part of the State of Idaho Antidegradation Program. I used backpack electrofishing gear and snorkeling to assess fish population status while collecting physical habitat data with standardized DEQ protocols (Chandler et al. 1993; Cowley 1992). In July 1994, IDFG also assisted the USFS in presence/absence assessments of bull trout, *Salvelinus confluentus*, distribution in the Deadwood River drainage.

FINDINGS

The environmental staff biologist provided technical assistance and review on a variety of land and water management issues on approximately 750 occasions (Table 1). The majority of external effort was directed towards the Idaho Department of Water Resources (28%), USFS (16%), and others (15%).

The environmental staff biologist actively participated in the following committee assignments during calendar year 1994:

1. Nonpoint Source Water Quality Monitoring Results Workshop Committee

2. Lower Boise River Water Quality Management Plan--Technical Committee
3. Boise River 2000--Technical Committee
4. Payette River Basin Interagency Recreation Technical Committee
5. U.S. Army Corps of Engineers Interagency Permit Review Committee
6. Linder Road Bridges Wetland Compensation Review Team
7. DeLamar Mine Interagency Monitoring Group
8. Payette National Forest Interagency Large Mines Coordination Group

Deadwood River Drainage Assessments

Based on the presence/absence surveys done in July 1994, bull trout appear to be well-distributed in the upper Deadwood River drainage, including tributaries to Deadwood Reservoir (Table 2). The Deadwood River above Deadwood Reservoir is considered a key watershed in the Assessment and Conservation Strategy for Bull Trout (state of Idaho and others, 1994), while the river below Deadwood Dam is considered important overwintering nodal habitat. The 1994 assessments were conducted as part of the ongoing Deadwood Landscape Analysis of the Boise National Forest, Lowman Ranger District. During the project year the USFS also initiated stream habitat assessments in the Deadwood River drainage to characterize baseline habitat conditions. These assessments are vital to anticipate potential adverse impacts to stream environments and critical fish habitat due to future proposed land management activities in the drainage. The USFS has indicated that more intensive management of suited timber lands in this drainage is likely, including new road construction.

Antidegradation Program Assessments

Tables 3-7 exhibit the summaries of fish population and stream habitat metrics, and geographical information collected during the project year by IDFG and DEQ personnel for the twelve Southwest Region drainages. Based on these data, it appears native redband trout (*Oncorhynchus mykiss gairdneri*) are reproducing successfully in all streams sampled. However, that does not indicate adequate or suitable habitat conditions in all instances. The DEQ will elaborate on these findings with appropriate recommendations in future water quality status reports.

LITERATURE CITED

- Chandler, G.L., T.R. Maret, and D.W. Zaroban. 1993. Protocols for assessment of biotic integrity (fish) in Idaho streams. Water Quality Monitoring Protocols-Report No. 6. Idaho Department of Health and Welfare, Division of Environmental Quality, Boise, Idaho.
- Cowley, E.R. 1992. Protocols for classifying, monitoring, and evaluating stream/riparian vegetation on Idaho rangeland streams. Water Quality Monitoring Protocols-Report No. 8. Idaho Department of Health and Welfare, Division of Environmental Quality, Boise, Idaho.
- State of Idaho, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDA Forest Service. 1994. Draft Conservation Strategy-Bull Trout. Unpublished Report.

Table 1. Summary of technical assistance contacts by the Southwest Region Environmental Staff Biologist during the project year.

Agency/Group	Number Of Contacts
U.S. Forest Service	119
Bureau of Land Management	17
U.S. Army Corps of Engineers	21
Environmental Protection Agency	4
Bureau of Reclamation	4
U.S. Fish and Wildlife Service	10
Federal Energy Regulatory Commission	4
U.S. Armed Services	1
U.S. Geological Survey	1
Idaho Department of Water Resources	212
Idaho Department of Parks & Recreation	2
Idaho Department of Lands	33
Idaho Department of Health & Welfare	23
Idaho Department of Transportation	7
Idaho State Police	4
Outfitters & Guides Licensing Board	1
Idaho State Land Board	1
City/County Governments	57
General Public/Developers/Media/ Consultants/Environmental & Citizens Groups	112
Intradepartment	114
Out of State Agency Contacts	3
TOTAL	750

Table 2. Summary of presence/absence assessments for bull trout conducted by the IDFG and the USFS, Boise National Forest in July 1994 in the Deadwood River drainage using electrofishing gear.

Stream	Date	Location	Fish Species
Trail Creek	7-18-94	T11N,R7E,S19 NE1/4NW1/4	rainbow trout cutthroat trout longnose dace
Trail Creek	7-18-94	T11N,R6E,S25 NE1/4NW1/4	cutthroat trout bull trout
Trail Creek	7-19-94	T11N,R7E,S19 NE1/4NW1/4	no fish collected
Moulding Creek	7-18-94	T11N,R7E,S18 SE1/4SW1/4	cutthroat trout
Basin Creek	7-20-94	T12N,R7E,S30 NW1/4NE1/4 & SW1/4NE1/4	rainbow trout cutthroat trout rainbow X cutthroat unidentified sculpin bull trout
Deer Creek	7-20-94	T12N,R7E,S3 SE1/4SW1/4	rainbow trout cutthroat trout rainbow X cutthroat unidentified sculpin
N. Fk. Deer Creek	7-21-94	T12N,R8E,S6 NW1/4NW1/4	rainbow trout
S. Fk. Deer Creek	7-21-94	T12N,R8E,S6 NW1/4NW1/4	rainbow trout bull trout

Table 3. Geographic locations of biological sampling stations assessed by IDEG and DEQ personnel in 1994.

Stream	Township	Range	Section	Latitude	Longitude
Big Willow (Pool)	9N	1W	32 NE NW NW	44 28' 22"	118 28' 22"
Big Willow Above Jakes CK	9N	1W	14 SW SW NE	44 06' 51"	118 25' 41"
Big Willow Above Jakes CK	9W	1W	14 SW SW NE	44 06' 51"	118 25' 41"
Big Willow At 4 Mile Grade	9N	1W	32 NE NW NW	44 28' 22"	118 28' 22"
Big Willow At 4 Mile Grade	9N	1W	32 NE NW NW	44 28' 22"	118 28' 22"
Bar (Upper) Above Huckleberry gatory	20N	2W	04 NE SE NE	46 05' 18.9N"	118 35' 18.7W"
Bar (Upper) Above Huckleberry gatory	20N	2W	04 NE SE NE	46 05' 18.9N"	118 35' 18.7W"
Bar (Upper) Above Huckleberry gatory	20N	2W	04 NE SE NE	46 05' 18.9N"	118 35' 18.7W"
Bar (Upper) Above Huckleberry gatory	20N	2W	04 NE SE NE	46 05' 18.9N"	118 35' 18.7W"
Crooked River Lower	19N	3W	29 NE NE NE	44 57' 35.3N"	118 45' 31.2W"
Crooked River Lower	19N	3W	29 NE NE NE	44 57' 35.3N"	118 45' 31.2W"
Crooked River Lower	19N	3W	29 NE NE NE	44 57' 35.3N"	118 45' 31.2W"
Crooked River Lower	19N	3W	29 NE NE NE	44 57' 35.3N"	118 45' 31.2W"
Crooked River Upper	19N	3W	01 SW SW SW	44 55' 38.9N"	118 38' 14.3W"
Crooked River Upper	19N	3W	01 SW SW SW	44 55' 38.9N"	118 38' 14.3W"
Bar At Warner Prop Upper	19N	2W	29 NE NE NE	46 02' 30"	118 38' 00"
Bar At Warner Prop Upper	19N	2W	29 NE NE NE	46 02' 30"	118 38' 00"
Bar At Warner Prop Lower	19N	2W	29 SW NE SE	46 02' 25"	118 40' 00"
Bar At Warner Prop Lower	19N	2W	29 SW NE SE	46 02' 25"	118 40' 00"
Bar At Huckleberry Campground	20N	2W	08 SW NW NE	46 05' 00"	118 36' 10"
Bar At Huckleberry Campground	20N	2W	08 SW NW NE	46 05' 00"	118 36' 10"
Bar At Huckleberry Campground	20N	2W	08 SW NW NE	46 05' 00"	118 36' 10"
Bar At Huckleberry Campground	20N	2W	08 SW NW NE	46 05' 00"	118 36' 10"
Wildhorse Upper #1	19W	3W	32 SE SE SW	44 58' 17.9N"	118 43' 54.8W"
Wildhorse Upper #2	19W	3W	32 SE SE SW	44 58' 17.9N"	118 43' 54.8W"
Wildhorse Lower #1	19N	4W	34 NW NW NW	44 51' 28.5N"	118 48' 10.9W"
Wildhorse Lower #2	19N	4W	34 NW NW NW	44 51' 28.5N"	118 48' 10.9W"
Deep Upper	21N	2W	08 NW NW NW	46 10' 42.5N"	118 58' 51.8W"
Deep Lower	21N	2W	01 NW NW NE	46 10' 42.5N"	118 58' 51.8W"
M.F. Weiser Forest Service Boundary #1	19N	1W	19	19	19
M.F. Weiser Forest Service Boundary #2	19N	1W	19	19	19
M.F. Weiser Forest Service Boundary #2	19N	1W	19	19	19
M.F. Weiser Above Junda	19N	1W	19	19	19
Upper M.F. Weiser Above No Bushes #1	19N	1W	19	19	19
Upper M.F. Weiser Above No Bushes #1	19N	1W	19	19	19
Upper M.F. Weiser Above No Bushes #1	19N	1W	19	19	19
Upper M.F. Weiser Above No Bushes #1	19N	1W	19	19	19
W.F. Pine Lower #1	15N	3W	31 SE SW SE	44 35' 14.0N"	118 44' 18.1W"
W.F. Pine Lower #2	15N	3W	31 SE SW SE	44 35' 14.0N"	118 44' 18.1W"
W.F. Pine Upper #1	15N	4W	20 NW NE SW	44 37' 18.4N"	118 51' 12.7W"
W.F. Pine Upper #2	15N	4W	20 NW NE SW	44 37' 18.4N"	118 51' 12.7W"
Deedhorse At Mouth	19N	1W	19	19	19
Landing	20N	3E	04 NW NE SE	46 07' 42.1N"	118 06' 28.1W"
Fall Upper #1	19N	4E	12 SE SW SW	44 55' 00.00"	118 00' 30.00"
Fall Upper #2	19N	4E	12 SE SW SW	44 55' 00.00"	118 00' 30.00"
Fall Upper #3	19N	4E	12 SE SW SW	44 55' 00.00"	118 00' 30.00"
Fall Lower #1	19N	3E	28 SE NW SE	19	19
Fall Lower #2	19N	3E	28 SE NW SE	19	19
Fall Lower #3	19N	3E	28 SE NW SE	19	19

Table 5. Physical stream habitat data collected in 1994 by DEQ personnel.

IDEQ: SOUTHWEST IDAHO REGIONAL OFFICE 1994 BURP SURVEY DATA "A" GROUP

SITE	NAME	RBT DENSITIES*	LEGAL
BIG WILLOW ABOVE JAKES CREEK	(BIG WILLOW 001)	6.9	T6N, R1W, S32
BIG WILLOW @ FOUR MILE GRADE	(BIG WILLOW 002)	6.2	T6N, R1W, S14
BEAR @ WARNER PROPERTY (UPPER)	(BEAR U)	5.3	T20N, R3W, S24
BEAR @ WARNER PROPERTY (LOWER)	(BEAR L)	2.6	T20N, R3W, S24
BEAR @ HUCKLEBERRY CAMPGROUND	(BEAR U)	0.8	T20N, R3W, S8
CROOKED RIVER (UPPER)	(CROOKED R. U)	2.2	T18N, R3W, S1
CROOKED RIVER (LOWER)	(CROOKED R. L)	2.1	T18N, R3W, S26
WILDHORSE (UPPER)	(WILDHORSE U)	3.6	T18N, R3W, S32
WILDHORSE (LOWER)	(WILDHORSE L)	5	T18N, R4W, S33
M.F. WEISER @ F.S. BOUNDARY	(MF WEISER U **)	14.1	T15N, R1E, S8
M.F. WEISER ABOVE JUNGLE CREEK	(MF WEISER U **)	1	T18N, R2E, S26
W.F. PINE (UPPER)	(WF PINE U)	15.4	T15N, R4W, S20
W.F. PINE (LOWER)	(WF PINE L)	18	T15N, R4W, S35

** - 1993 BURP DATA, 1994 ELECTROFISHING DATA

*DENSITIES ARE PER 100 SQUARE METERS

NAME	DATE	ECO	CT	FLOW	S	NO3	COND	%P	%R	FINER	W	D	BFW	BFD	P.S.	P.V.	CAN	HAB
BIG WILLOW (001)	940531	B	B	6.43	2.4	0.08	130	40	60	17.7	5.8	0.3	10.9	0.6	N/T	N/T	98.5	147
BIG WILLOW (002)	940531	B	B	3.16	1.75	0.04	125	15	85	37.6	3.4	0.2	8.8	1	N/T	N/T	29.5	110
BEAR (U)	940705	N	B	10.23	3.5	0.04	40	2.2	87.8	4.8	5.4	0.3	9	0.7	7.0	*	32.5	146
CROOKED R (U)	940706	B	B	2.21	1	0.02	100	50.1	50.9	35.1	2.3	0.1	5.1	0.5	4.5	*	14.7	118
CROOKED R (L)	940707	B	B	1.76	3	0.05	115	7.8	92.2	10.2	5.8	0.2	11.1	0.5	6.0	*	89	144
WILDHORSE (U)	940707	B	B	18.53	3	0.02	100	36.7	63.3	4.6	7.8	0.4	12.5	0.8	4.5	*	23.5	121
WILDHORSE (L)	940707	B	B	24.29	2	0.03	100	0	100	30.5	8.7	0.3	15.3	0.8	N/T	N/T	41.5	130
MF WEISER U	930805	B	B	2.81	3	0.01	40	58	42	42.1	2.9	0.2	3.3	0.5	N/T	N/T	N/T	100
WF PINE (U)	940706	B	B	3.22	3.5	0.02	100	0	100	21.5	2.8	0.2	5.3	0.5	N/T	N/T	93.5	106
WF PINE (L)	940706	B	B	1.52	1.8	0.05	130	27.2	72.8	19.4	2.5	0.1	5.7	0.4	6.5	*	40	147

ECO - ECOREGION: N - N. ROCKY MTN
 B - BLUE MNTS.
 S - SANKE RIVER PLAIN

CT - CHANNEL TYPE
 S - SLOPE
 NO3 - NITRATES IN MG/L
 COND - CONDUCTIVITY IN MICROSEMENS
 %P - PERCENT POOL HABITAT
 %R - PERCENT RIFFLE HABITAT

W - WIDTH; D - DEPTH; WIDTH/DEPTH IN METERS
 BFW - BANK FULL WIDTH IN METERS
 BFD - BANK FULL DEPTH IN METERS
 PS - POOL SCORE (MEAN)
 PV - POOL VOLUME
 CAN - CANOPY RATING (BAUER/BURTON)
 HAB - HABITAT RATING
 N/T - NOT TAKEN

Table 5. Continued.

SOUTHWEST IDAHO REGIONAL OFFICE 1994 BURP SURVEY DATA

NAME	SITE ID	DATE	EC	CT	S	NOS	COND	XP	XR	PV	D50	W	D	BFW	BFD	CAN	HAB	BIO	
DEADHORSE (U)	94SWROA52	940809	N	B	0.4	1	0.04	20	15.8	84.2	32.4	13.4	3.4	0.3	4.5	0.8	235	130	50
FALL (U)	94SWROB19	940808	N	B	2.5	1.8		31.0	100.0	0.0	9.1	38.8	4.7	0.2	8.5	0.4	51.5	162.0	50
FALL (L)	94SWROA50	940802	N	B	0.5	2.5	0.05	35	77	33	49.5	8.2	3.9	0.2	8.9	0.5	47	105	38
LANDING	94SWROB19	940809	N	C	2.7	0.5		29.0			42.9	10.7	2.8	0.2	3.8	0.6	47.5	114.0	32

ECO-ECOREGION: N-NORTHERN ROCKIES, B-BLUE MOUNTAINS, S-SNAKE RIVER PLAIN
 CT-ROSGEN CHANNEL TYPE
 S-SLOPE
 NOS-NITRATES IN mg/l
 COND-CONDUCTIVITY IN MICROSEIMENS
 XP-PERCENT POOL HABITAT
 XR-PERCENT RIFFLE HABITAT

W-WIDTH, D-DEPTH IN METERS
 BFW-BANKFULL WIDTH IN METERS
 BFD-BANKFULL DEPTH IN METERS
 PS-POOL SCORE (MEAN)
 PV-Pool VOLUME
 CAN-CANOPY CLOSURE
 HAB-HABITAT RATING (100 POSSIBLE)

DENSITIES OF FISH BY SPECIES/100M²

DEADHORSE (U)	12.0	6.1
FALL (U)	8.0	25.0
FALL (L)	0.0	32
LANDING	0.0	60.4

RBT-RAINBOW TROUT
 BT-BROOK TROUT

Table 6. Summary of wild rainbow trout (redband subspecies) data collected by IDFG and DEQ personnel with electrofishing gear in Boulder Creek (Cascade Reservoir drainage) during August 23-24, 1995.

Sampling station	Date	Number	Size range (mm)	Mean length (mm) \pm SD	Density (no/100m ²)	Production (g/m ²)
B3	8/24/94	122	35-187	66 \pm 32	24.0	1.7
B4	8/24/94	58	31-120	48 \pm 13	12.0	0.2
B5u	8/23/94	106	37-168	54 \pm 20	20.0	0.4
B9	8/23/94	8	45-61	52 \pm 6	1.3	0.02

Table 7. Species composition (%) and fish production (g/m²) in Boulder Creek (Cascade Reservoir drainage) by IDFG and DEQ personnel, August 23-24, 1994.

Sampling station	Date	Species	Number	Species composition (%)	Fish production (g/m ²)	Total fish production (g/m ²)
B3	8/24/94	WRB	122	64	1.7	2.3
		SCU	68	36	0.6	
B4	8/24/94	WRB	58	34	0.2	0.53
		SCU	91	53	0.2	
		SPD	18	10	0.1	
		BRT	5	3	0.03	
B5u	8/23/94	WRB	106	32	0.4	1.8
		SCU	215	65	1.4	
		SPD	9	3	0.04	
B9	8/23/94	WRB	8	2	0.02	2.3
		SCU	49	6	0.2	
		SPD	98	12	0.4	
		NSF	47	6	0.2	
		SUC	55	7	0.4	
		RSS	531	67	1.1	

Fish species: WRB-wild rainbow trout (redband), SCU-sculpin spp., SPD-speckled dace, BT-brook trout, NSF-northern squawfish, SUC-sucker spp., RSS-redside shiner.

JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE TECHNICAL ASSISTANCE

Project No.: FW-7-R-1 **Title:** Magic Valley Region Technical
Guidance

Subproject No.: II **Job No.:** 4

Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year the Magic Valley Region environmental staff biologist provided comments, technical review, and support on approximately 383 occasions to other federal, state, local, and private organizations and individuals. Assistance provided by the environmental staff biologist addressed impacts to fish and wildlife populations or their associated habitats. Stream channel alterations, stream channel protection act violations, water rights, water quality working groups, antidegradation monitoring, hydropower reviews, and technical assistance pertaining to urban development issues constituted the majority of the workload. All activities were coordinated and reviewed with the appropriate regional staff and state office personnel for accuracy and thoroughness.

Author:

David E. Parrish
Environmental Staff Biologist

OBJECTIVES

To provide technical assistance and comments to other government agencies (state, federal, and local), organizations, or individuals regarding projects or activities which potentially affect fish or wildlife resources or habitat in the Magic Valley Region. Also, to fulfill Idaho Department of Fish and Game's (IDFG) responsibility to provide fish population data for the statewide antidegradation program.

TECHNIQUES USED

The Magic Valley Region environmental staff biologist used regional staff, field inspections, literature searches, and professional expertise to form comments and furnish recommendations on a variety of land and water management proposals which could affect fish and wildlife resources.

FINDINGS

The following is a breakdown of entities which were provided technical guidance or project review by the Magic Valley Region environmental staff biologist. Each contact represents a meeting or document response:

U.S. Forest Service (USFS)	33
Bureau of Land Management (BLM)	22
National Parks Service (NPS)	4
U.S. Fish and Wildlife Service (USFWS)	13
U.S. Armed Services	1
U.S. Geological Service (USGS)	2
Environmental Protection Agency (EPA)	9
Bureau of Reclamation (BOR)	3
U.S. Army Corps of Engineers (COE)	20
Federal Energy Regulatory Commission (FERC)	6
Soil Conservation Service (SCS)	1
Idaho Dept. of Water Resources (IDWR)	98
Idaho Dept. of Health and Welfare	
Division of Environmental Quality (DEQ)	37
Idaho Dept. of Lands (IDL)	10
Idaho Dept. of Transportation (IDT)	4
Idaho Dept. of Parks and Recreation (IPR)	2
Idaho Dept. of Agriculture	1
County/City Government	40
Private	77
Total	383

Major Projects of Interest

1. Antidegradation Activities

The majority of the field work was conducted with Beneficial Use Reconnaissance Program (BURP) personnel working for DEQ. In addition to conducting a two day training session, 22 streams were sampled within the Magic Valley Region to 1) determine beneficial use attainability, and 2) determine beneficial use support status for each of the identified streams using coldwater salmonids as indicator species. Results are summarized in Appendix 1.

In addition, "stream segment of concern" fisheries data were collected for Shoshone and Billingsley creeks. A copy of the results were submitted to DEQ for inclusion into the Basin Area Report and verbally reported at the Basin Area Meeting in Twin Falls, Idaho (Appendix 2).

2. Stream Alterations

A total of 82 stream alteration permit applications were reviewed for impacts to fish and wildlife resources. The majority of applications (58) were located in Water Basin 37 and were intended to address bank stabilization along the Big Wood River. Technical assistance was provided to IDWR and Blaine County in reviewing these applications.

Additionally, eleven Stream Channel Protection Act violations were reviewed within the region. Recommendations for mitigation and control of resource damage were forwarded to IDWR.

Four individual COE 404 permit applications were reviewed and responded to during the project year.

3. Hydropower Development

Technical guidance regarding the impact of hydropower developments to fish and wildlife resources required a significant amount of time during the project year. Document review, agency meetings, on-site reviews, inspections and drafting follow-up comments were conducted for the following projects:

Name (Federal Energy Regulatory Commission Number)

Upper Salmon Falls (2777)
Bliss (1975)
Twin Falls (18)
Auger Falls (4797)
Lateral 10 (6250)
Rimview (9543)
Billingsley Creek (7885)

Lower Salmon Falls (2061)
Shoshone (2778)
Sahko (11060)
Shorock (9967)
Magic Water (7923)
Arkoosh (7548)
Northside Projects (11468, 11469, and 11470)

4. Water Quality and Management

Participation and technical guidance was furnished to several groups concerned with water quality and water management in the Magic Valley Region. Specifically, the environmental staff biologist represented IDFG on the Technical and Executive Committees of the Middle Snake River Nutrient Management Committee, the Middle Snake River Irrigators Group, and the Jerome, Lincoln, and Gooding counties Middle Snake River Water Resource Commission. Two drafts of the Middle Snake River Nutrient Management Plan and one draft of the Middle Snake River Water Resource Commission Water Management Plan were reviewed and comments issued.

Public comments were also provided in response to IDWR's Eastern Snake River Basin and Aquifer Comprehensive Water Plan scoping meetings held in Shoshone and Twin Falls, during July 1994.

A total of nine new water rights or transfers were protested in the Magic Valley Region during the project year. All dealt with surface allocation of water for both consumptive and non-consumptive uses. Reasons for protesting included reducing in-stream flows, degrading water quality, appropriation of water which would reduce flow of an existing IDFG water right, point of diversion was moved up-stream in critical stream segments, or additional information was needed to make an accurate assessment of impacts to fish and wildlife resources. No formal hearings were required to resolve any of the protests.

5. Timber Sales and Sagebrush Eradication Proposals

A total of seven timber sale proposals were reviewed and responded to during the project year. The majority of the sale proposals were located in the southern portion of the region and were classified "salvage sales" due to insect infestations.

Approximately 20 sagebrush eradication proposals to improve range conditions for livestock were reviewed and responded to regarding impacts to fish and wildlife. Control methods included aerial application of herbicides, use of fire, and mechanical removal. Agencies sponsoring the sagebrush removal projects included the SCS, BLM, IDL, and private landowners.

6. Residential Developments

Eighteen residential or commercial developments were reviewed and comments provided regarding impacts to fish and wildlife resources in Twin Falls, Jerome, Gooding, Blaine, and Camas counties. Twelve responses to Blaine County Planning and Zoning Commission on issues such as public stream access, protection of wildlife migration corridors, and guidelines regarding methods to reduce conflicts and impacts from the construction of residential homes on traditional wildlife wintering areas were common topics addressed.

7. Mining Activity

The environmental staff biologist attended meetings and field reviews for six commercially active and two proposed exploration projects within the Magic Valley Region. Input was provided to: IDL, USFS, BLM, and IDWR.

Black Pine Mine, which is jointly administered by USFS and BLM, continued to expand and reclaim land during the project year. Negotiation of an agreement to provide wildlife mitigation, using the Habitat Evaluation Procedure (HEP), continued toward completion, sometime during the next project year.

A total of five reclamation plans were reviewed and comments provided to IDL on gravel operations scattered throughout the region. Three of the reviews were for pits in existence along the Big Wood River which have operated in excess of twenty years with no formal reclamation plan. The other two proposals were for the development of new pits.

The Biomyne Corporation continued exploration activities in the Sun Valley area during the project year. Comments were provided to the USFS on location of roads, exploration road reclamation plans, and seasonal timing of activities to minimize impacts to wildlife.

Commercial exploratory drilling was conducted in the James Creek drainage, a tributary to the South Fork Boise River. Comments were provided to the USFS on temporary road reclamation plans, vegetative seed mixes for restoration of drill sites, and seasonal restrictions to minimize impacts to fish and wildlife.

One application to IDWR to dredge on the South Fork Boise River was protested by IDFG and subsequently denied because of impacts identified to fish and wildlife.

LITERATURE CITED

Bell, R. J. 1983. Regional Fishery Management Investigations - Region 4 Stream Investigations. Idaho Department of Fish and Game, Job Performance Report. Project F-71-R-7. Boise.

Partridge, F. E., C. E. Corsi, and R. J. Bell. 1990. Regional Fisheries Management Investigations - Region 4 River and Stream Investigations. Idaho Department of Fish and Game, Job Performance Report. Project F-71-R-13. Boise.

Appendix 1. Synopsis of data collected during the project year for the Idaho Department of Health and Welfare Division of Environmental Quality Beneficial Use Reconnaissance Project.

NAME	EPA # 170402	LOCATION	MEAN WIDTH (m)	LENGTH (m)	SALMONID SPECIES* (# sampled)	MAX LENGTH (mm)	MIN LENGTH (mm)	MEAN (mm)
Billingsley Creek	12085.00	SE 24 7S 13E SE 19 7S 14E	12.3	280	RBT (395)	470	60	137.4
Big Cottonwood (Lower)	11054.00	SW 17 13S 21E	3.9	100	CUT (2)	135	135	135.0
Big Cottonwood (Upper)	11063.00	SE 30 14S 20E	2.0	100	CUT (15)	185	77	109.5
Birch Creek (City of Rocks)	11052.00	SW 24 14S 22E	2.9	100	RCT (37)	270	85	186.9
Cassia Creek (Lower)	10006.01	SW 22 13S 25E	4.9	134	RBT(2) BKT (2)	350 220	230 220	290.0 220.0
Cassia Creek (Upper)	10009.00	NE 33 13S 24E	2.6	120	CUT (22) BKT (70)	190 220	55 55	109.4 35.7
Cedar Creek	13102.00	NE 27 15S 13E	Dry when surveyed for fish	100	--	--	--	--
Fall Creek	11011.00	SW 19 15S 20E	3.1	100	RBT (3) BKT (15)	160 220	60 65	101.7 94.5
Goose Creek (Upper)	11030.00	NW 32 15S 19E	4.2	140	RBT (1) CUT (4) BKT (1)	110 120 70	110 85 70	110.0 103.8 70.0
Harrington Fork (Rock Creek)	12021.00	NE 17 13S 19E	1.7	100	RBT (35)	210	85	134.2
Marsh Creek	09028.00	SW 28 11S 25E	3.0	100	BKT (61)	170	75	115.5
Raft River	10018.00	SW 32 15S 26E	5.7	180	--	--	--	--

Appendix 1. Continued.

NAME	EPA # 170402	LOCATION	MEAN WIDTH (m)	LENGTH (m)	SALMONID SPECIES (# sampled)	MAX LENGTH (mm)	MIN LENGTH (mm)	MEAN (mm)
Rough Creek (Corral Creek)	20023.00	NE 7 1N 13E	6.2	140	RBT (5)	210	66	129.6
Salmon Falls Creek	13031.00	NE 20 16S 15E	9.4	450	RBT (5)	355	160	248.0
Shoshone Creek (Lower)	13091.00	NW 24 16S 16E	7.7	236	--	--	--	--
Shoshone Creek (Upper)	13099.00	SE 13 14S 17E	3.2	100	RBT (15)	165	90	120.0
Vinyard Creek	10054.00	SW 34 9S 18E	--	120	RCT (6) RBT (12) CUT (3)	180 190 275	115 85 130	157.0 131.7 181.7
Willow Creek (Lower)	20004.00	36 2N 15E	--	240	RBT (33)	195	40	140.9

*RBT - wild rainbow trout (*Oncorhynchus mykiss*); HRBT - fish hatchery produced rainbow trout; CUT - cutthroat trout (*Oncorhynchus clarki*); BRN - brown trout (*Salmon trutta*); RCT - rainbow - cutthroat trout hybrid

Appendix 2. Stream Segment of Concern data provided to DEQ at local Basin Area Meeting, November 1994.

**Idaho Department of Fish and Game
Stream Segments of Concern Fish Sampling Data
Upper Snake River Basin - Magic Valley Region
Author: David Parrish, Environmental Staff Biologist**

**Shoshone Creek
EPA Reach No. 17040213-91-00.00 PNRS No. 466.00
(Idaho-Nevada Line West to Magic Hot Springs)**

**Shoshone Creek
EPA Reach No. 17040213-97-00.00 PNRS No. 467.00
(Hot Creek North to Headwater)**

Shoshone Creek is a tributary to Salmon Falls Creek flowing southward out of the west side of the South Hills (Figure 1). Intense livestock grazing has led to the degradation of most riparian vegetation. The result to physical stream conditions include: widening of the stream channel, loss of pool habitat from increased sedimentation, increasing temperature fluctuations due to shallowing of the stream and loss of cover vegetation, and a general loss of fish habitat diversity. Coldwater salmonids were only found in the upper reaches of the drainage at site 5 (Table 6) in low densities.

In the lower reaches of Shoshone Creek (sites 1-4) electrofishing results indicate a high density of small nongame fish with only a few smallmouth bass (*Micropterus dolomieu*) present as game fish (Tables 1-5). Sampling conducted in 1993 and 1994 showed an absence of coldwater salmonids within the lower sample reaches; however, hatchery and wild rainbow trout were documented to be present in sampling conducted in 1982 (Bell 1983) and 1988 (Partridge et al. 1990) within this area.

Fish populations were sampled at five sites using blocknets at both the upstream and downstream boundaries. Sampling was done by electrofishing using a Smith-Root backpack shocker and a Coffelt VVP-15 shocker in a canoe. Dates of sampling were September 1993 and July 1994. All fish sampled were identified to species, when possible, and enumerated. Total length measurements were taken on fish of all species with subsamples taken on some species.

Table 1. Summary of fish sampled by electrofishing at site 1 of Shoshone Creek (PNRS No. 466.00), September 1993. Transect length was 152 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	29	138.4 mm	9.8
Chiselmouth Chub <i>Acrocheilus alutaceus</i>	2	132.5	0.6
Redside Shiner <i>Richardsonius balteatus</i>	189	64.7	63.6
Speckled Dace <i>Rhinichthys osculus</i>	72	61.2	24.2
Northern Squawfish <i>Ptychocheilus oregonensis</i>	5	158.0	0.8

Table 2. Summary of fish sampled by electrofishing at site 1 of Shoshone Creek (PNRS No. 466.00), July 1994. Transect length was 236 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	53	167.1 mm	17.4
Redside Shiner <i>Richardsonius balteatus</i>	96	109.2	31.5
Speckled Dace <i>Rhinichthys osculus</i>	73	72.5	23.9
Smallmouth Bass <i>Micropterus dolomieu</i>	5	141.0	1.6
Crayfish <i>Pacifastacus gambeli</i>	1	--	--
Mottled Sculpin <i>Cottus bairdi</i>	47	--	15.4
Unidentified	29	--	10.8

Table 3. Summary of fish sampled by electrofishing at site 2 of Shoshone Creek (PNRS No. 466.00), September 1993. Transect length was 137 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	35	104.7 mm	7.3
Chiselmouth Chub <i>Acrocheilus alutaceus</i>	2	77.5	0.4
Redside Shiner <i>Richardsonius balteatus</i>	172	63.2	36.0
Speckled Dace <i>Rhinichthys osculus</i>	268	65.2	56.1
Northern Squawfish <i>Ptychocheilus oregonensis</i>	1	80.1	0.2

Table 4. Summary of fish sampled by electrofishing at site 3 of Shoshone Creek (PNRS No. 466.00), September 1993. Transect length was 122 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	68	138.0 mm	15.8
Chiselmouth Chub <i>Acrocheilus alutaceus</i>	40	134.3	9.3
Redside Shiner <i>Richardsonius balteatus</i>	147	87.6	34.3
Speckled Dace <i>Rhinichthys osculus</i>	90	65.2	20.2
Northern Squawfish <i>Ptychocheilus oregonensis</i>	25	122.0	5.9
Smallmouth Bass <i>Micropterus dolomieu</i>	13	47.7	3.1
Mottled Sculpin <i>Cottus bairdi</i>	49	45.8	11.4

Table 5. Summary of fish sampled by electrofishing at site 4 of Shoshone Creek (PNRS No. 467.00), September 1993. Transect length was 152 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	17	157.1 mm	1.7
Redside Shiner <i>Richardsonius balteatus</i>	117	68.0	11.8
Speckled Dace <i>Rhinichthys osculus</i>	784	57.4	79.3
Mottled Sculpin <i>Cottus bairdi</i>	71	55.8	7.2

Table 6. Summary of fish sampled by electrofishing at site 5 of Shoshone Creek (PNRS No. 467.00), July 1994. Transect length was 100 meters.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Bridgelip Sucker <i>Catostomus columbianus</i>	24	114.3 mm	2.5
Redside Shiner <i>Richardsonius balteatus</i>	122	65.0	12.9
Speckled Dace <i>Rhinichthys osculus</i>	774	80.0	82.0
Mottled Sculpin <i>Cottus bairdi</i>	6	--	0.6
Rainbow Trout <i>Oncorhynchus mykiss</i>	15	120.0	1.6
Unidentified	3	--	0.4

Billingsley Creek
EPA Reach No. 17040212-085-01.00 PNRS No. 384.00
(Headwater to Lower Salmon Falls Reservoir - Snake River)

Billingsley Creek emanates from the Snake River Canyon southeast of Hagerman, Idaho and flows approximately eight miles into the pool of Lower Salmon Falls Reservoir (Figure 2). Aquaculture, hydropower, irrigation withdrawals, and irrigation return flows degrade water quality. Water quality problems have been exacerbated by drought and over pumping of the Snake River Plain Aquifer which has lead to highly reduced flows over the past five-year period.

Densities of fish, primarily rainbow trout, corresponded closely with the habitat sampled and management of the riparian zone (Tables 7 - 11). Site 1, showed the lowest densities of fish, had little overhanging vegetation, low fish habitat diversity, and was for the most part wider and shallower than other sample areas. Site 5 showed the greatest densities of rainbow and consequently contained the greatest habitat diversity (e.g., pools, riffles, runs, and woody instream debris), a robust riparian vegetation community, and the greatest streambank stability.

A sampling of fish populations took place at five sites. Electrofishing by using a Smith-Root backpack shocker or Coffelt VVP-15 shocker in a canoe with blocknets located at upstream and downstream transect boundaries was the means for the sampling. Dates of sampling were September 1991 and July 1994. Identification of all fish sampled was on the basis of species and enumeration. Total length measurements were taken on fish of all species with subsamples taken on some species.

Table 7. Summary of fish sampled by electrofishing at site 1 of Billingsley Creek (PNRS No. 384.00), September 1991. Sample time was 496 seconds.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	4	202.8 mm	100

0.48 fish per minute effort

Table 8. Summary of fish sampled by electrofishing at site 2 of Billingsley Creek (PNRS No. 384.00), September 1991. Sample time was 1,200 seconds.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	11	166.9 mm	91.7
Brown Trout <i>Salmon trutta</i>	1	330.2	8.3

0.55 fish per minute effort

Table 9. Summary of fish sampled by electrofishing at site 3 of Billingsley Creek (PNRS No. 384.00), September 1991. Sample time was 1,380 seconds.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	27	136.2 mm	100

1.17 fish per minute effort

Table 10. Summary of fish sampled by electrofishing at site 4 of Billingsley Creek (PNRS No. 384.00), September 1991. Sample time was 1,380 seconds.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	14	226.5 mm	82.4
Mottled Sculpin <i>Cottus bairdi</i>	3	79.3	17.6

0.61 fish per minute effort

Table 11. Summary of fish sampled by electrofishing at site 5 of Billingsley Creek (PNRS No. 384.00), July 1994. Sample time was 3,239 seconds.

<u>Species Present</u>	<u>Number Sampled</u>	<u>Mean Length</u>	<u>% of Total Sample</u>
Rainbow Trout <i>Oncorhynchus mykiss</i>	395	137.4 mm	92.3
Redside Shiner <i>Richardsonius balteatus</i>	29	77.9	6.7
Mottled Sculpin <i>Cottus bairdi</i>	2	--	0.5
Chiselmouth Chub <i>Acrocheilus alutaceus</i>	2	109.5	0.5

7.9 fish per minute effort

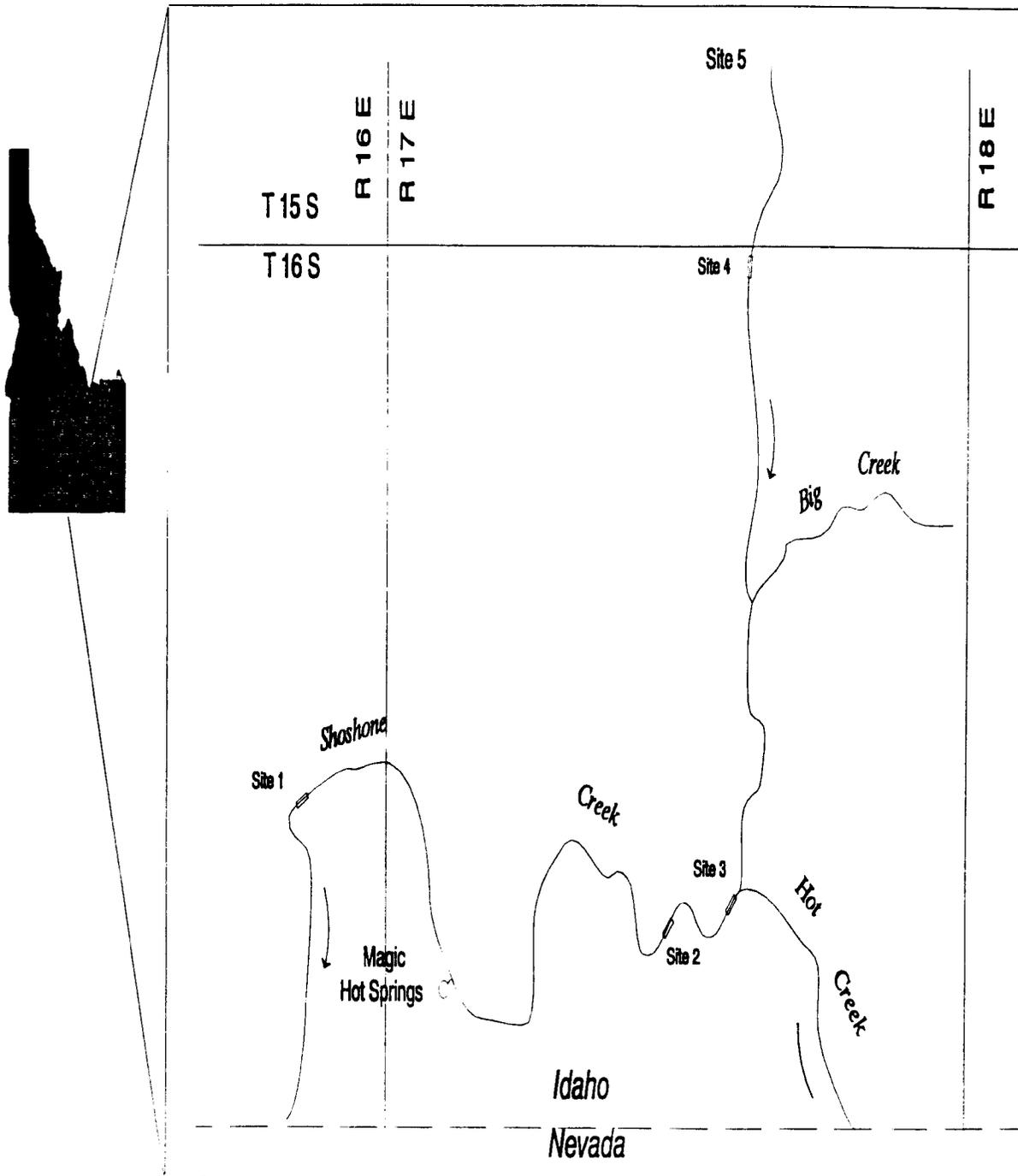


Figure 1. Map of Shoshone Creek drainage depicting sample sites.

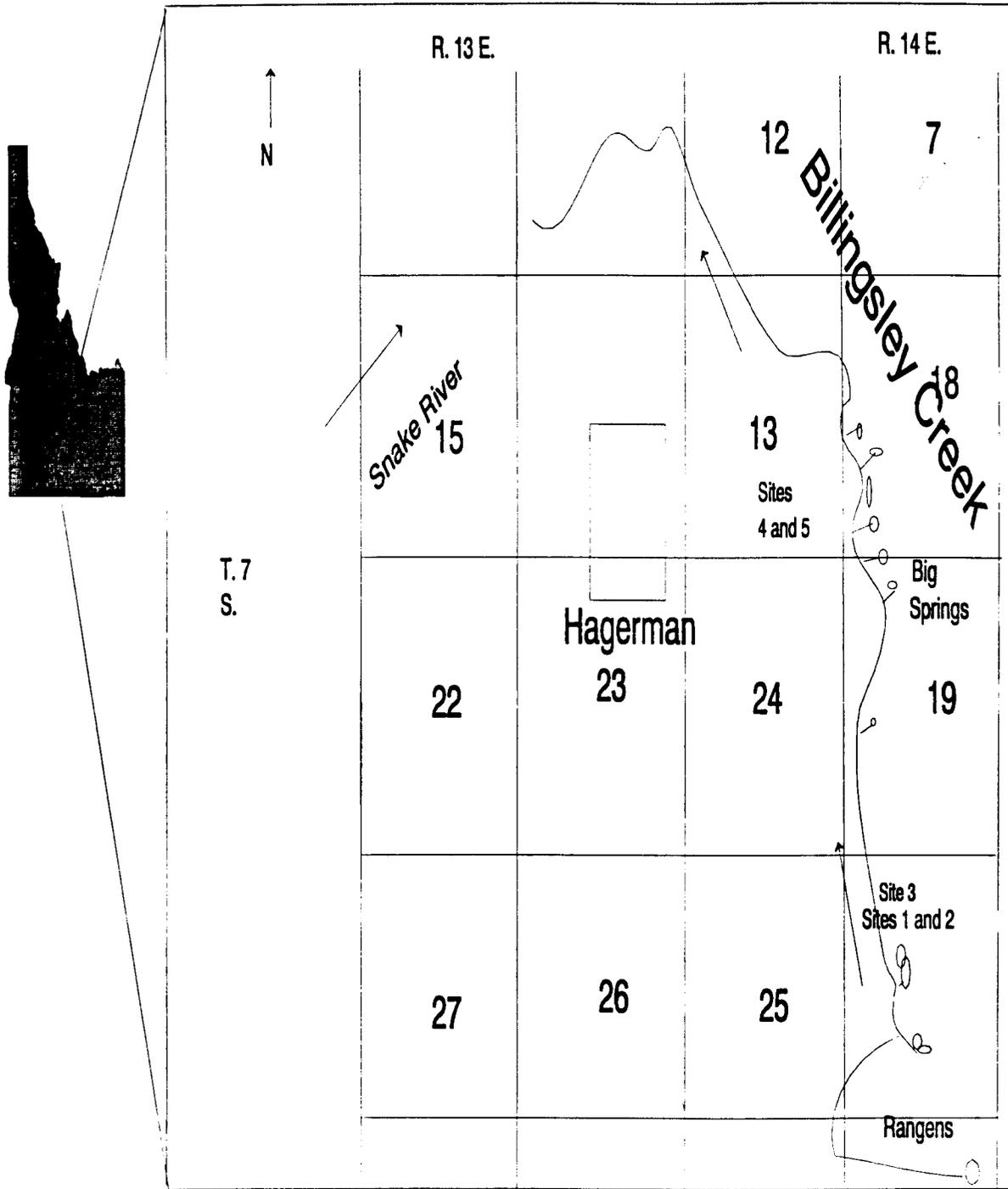


Figure 2. Map of Billingsley Creek drainage depicting sample sites.

JOB PERFORMANCE REPORT

State of: Idaho Name: STATEWIDE TECHNICAL ASSISTANCE
Project No.: FW-7-R-1 Title: Southeast Region Technical Guidance
Subproject No.: II Job No: 5
Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

The Southeast Region environmental staff biologist with support from wildlife, fisheries, and habitat staff provided technical assistance to public and private organizations in the form of field inspections, meeting attendance and project document reviews. We provided technical assistance during the project year on 199 occasions. We provided most of the assistance to the Caribou National Forest, followed by the Idaho Department of Water Resources and the Bureau of Land Management (Table 1).

Authored by:

Jim Lukens and Paul Wackenhut

OBJECTIVES

To provide technical assistance to city, county, private, and state and federal entities in matters relating to fish and wildlife sources.

TECHNIQUES USED

During the project year the Southeast Region environmental staff biologist provided technical assistance on a variety of land and water management issues which could have affected fish and wildlife habitats.

FINDINGS

The major categories for technical assistance in the Southeast Region during this report period were mining, timber sales, grazing, and water-related projects. Much technical assistance falls into the category of miscellaneous, including private sector projects and responses to concerned citizens regarding various projects.

Table 1. Summary of projects reviewed by Southeast Region personnel, 1986-1995.

Agency	Report year									
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
CFSA/NRCS/ RC&D's ^a	0	0	0	0	0	0	0	7	24	13
USACE ^b	2	1	1	0	2	1	0	2	6	13
BLM ^c	2	11	5	11	7	13	13	21	8	24
CNF/USFS ^d	16	12	18	13	18	26	22	32	53	46
USFWS ^e	1	0	0	2	1	2	1	3	0	0
IDL ^f	0	2	5	5	8	4	2	8	3	8
ITD ^g	3	1	2	3	5	0	0	2	2	6
IDWR ^h	--	--	--	--	--	--	--	--	19	27
FERC ⁱ /Hydro	--	--	--	--	3	2	1	0	6	14
Planning & Zoning	--	--	--	--	0	0	2	6	6	15
Others	10	16	19	18	26	26	19	24	38	33
Total	34	43	50	52	70	74	60	105	165	199

^aCooperative Farm Services Administration/Natural Resource Conservation Service/Resource Conservation & Development

^bUnited States Army Corps of Engineers

^cBureau of Land Management

^dCaribou National Forest/United States Forest Service

^eUnited States Fish and Wildlife Service

^fIdaho Department of Lands

^gIdaho Transportation Department

^hIdaho Department of Water Resources

ⁱFederal Energy Regulatory Commission

JOB PERFORMANCE REPORT

State of: Idaho **Name:** STATEWIDE TECHNICAL ASSISTANCE
Project No.: FW-7-R-1 **Title:** Upper Snake Technical Guidance
Subproject No.: II **Job No.:** 6
Period Covered: July 1, 1993 to June 30, 1994

ABSTRACT

During the project year the Upper Snake Region environmental staff biologist provided technical review and comments on more than 450 occasions. The majority of interaction was with federal and state agencies on a variety of land and water management issues having potential impact on fish and wildlife habitats. Major duties included forest management, hydropower project operations and compliance, stream alterations, wetland fills, and Henrys Fork basin issues. Activities were closely coordinated with appropriate Idaho Department of Fish and Game (IDFG) staff.

Author:

Robert C. Martin
Environmental Staff Biologist

OBJECTIVES

To provide technical assistance to city, county, private, state, and federal entities in matters relating to fish and wildlife habitats.

TECHNIQUES USED

Document review, literature research, field inspection, and consultation with appropriate policy and management personnel was used to provide comments and recommendations on actions proposed by private entities, local governments, and state and federal agencies.

FINDINGS

The Region 6 environmental staff biologist provided technical guidance/review during the following number of contacts with listed entities:

U.S. Forest Service	64
Bureau of Land Management	10
Corps of Engineers	35
Bureau of Reclamation	6
Fish and Wildlife Service	40
Federal Energy Regulatory Commission/Utilities	30
Environmental Protection Agency	5
Soil Conservation Service	6
Northwest Power Planning Council/Bonneville Power	3
Shoshone-Bannock Indian Tribes	2
Idaho Department of Water Resources	85
Idaho Department of Lands	6
Idaho Division of Environmental Quality	9
Idaho Transportation Department	6
City/County Governments	16
Private Developers/Environmental Groups	24
General Public/Media	85
Intradepartment	<u>18</u>
TOTAL	450

Summary of selected projects:

Idaho Department of Water Resources

Technical review and comments were provided on 31 stream alteration permit applications. A new Water Resources staff member is conducting their regional permitting program, and coordination has improved. Stream alterations are now being permitted in a more beneficial manner for fish and wildlife. I have finally replaced traditional rock rip-rapping with methods such as willow bundle barbs or rock barbs in combination with willow planting on the barbs and shoreline. I presented testimony at a hearing that resulted in preventing farming in currently dry streambeds in the Big Lost River valley. This will maintain the integrity of stream channels that are expected to support a fishery once sufficient water is available.

Five water right applications were protested. Four of the applications were withdrawn. One application was permitted, but required mitigation for adverse impacts.

Corps of Engineers

I reviewed and commented on pending permits for fill or excavation in wetlands, and attended quarterly coordination meetings. In addition, I assisted the regulatory office with provisions of a proposed statewide permit for fish and wildlife enhancement projects. This permit would facilitate fish and wildlife habitat enhancement projects in wetlands by IDFG and U.S. Fish and Wildlife Service. The permit is intended to: 1) pre-approve a range of projects IDFG could implement and 2) allow IDFG to co-sign applications with private cooperators, thereby covering the private cooperator with our permit. This should increase the number of fish and wildlife enhancement projects that will be implemented by cooperators that prefer to work with IDFG.

Birch Creek Hydroelectric Project

In addition to reviewing the annual monitoring report and inspecting the project, we commented on one new proposal. The licensee proposed to construct berms and channelize Birch Creek at three locations where icing tends to cause water loss to the power plant during winter. A test project was conducted, with a line of one-ton straw bales being placed at one location. As predicted, the experiment failed. At this time, the agencies do not intend to permit the licensee to channelize the creek.

Gem State Hydroelectric Project

I participated in developing strategies to resolve the licensee's wetland mitigation requirements. The licensee agreed to modify and expand the existing on-site emergent wetland area. The plan will create about eight more acres of emergent wetland. Fishing opportunity will continue at the pond although it will be delayed until July 15 to protect nesting waterfowl.

For the off-site area, the licensee installed a culvert that allows spring flood water to enter the wetland area and raise water levels. Piezometers were installed to measure subsurface water levels. The original extensive tree and shrub planting at this dry site has been a near-total failure. The interagency oversight group has agreed there is no value to further planting in the areas that failed. Continued protection from livestock grazing has allowed natural regeneration of trees and shrubs, although they are not the same diverse species mix as originally planned.

I assisted the licensee with equipment needs and methods to conduct their own fish salvage in the bypass reach below the dam. Many large trout are stranded whenever large spill flows are reduced back to the 20 cfs minimum flow. The city of Idaho Falls now has the necessary equipment and appears to be successfully returning stranded fish to the river.

Ashton Hydroelectric Project

In addition to reviewing the annual monitoring report, I participated in a field tour to plan for future goose pasture management and future licensee acquisition of grazing leases from private cooperators. I assisted with developing an agreement to resolve wetland mitigation requirements.

Island Park Hydroelectric Project

The project began operations this year. During their start-up testing, I detected license violations of flow requirements and initiated shut-down of the project until it could be run without subjecting the Henrys Fork to flow fluctuations. In addition to being a member of the Project Advisory Committee and attending bi-monthly meetings, I assisted with development of ramping rate protocols and a monitoring plan.

Extensive effort was spent assessing the potential impacts of the spillway modification proposal. The proposed spillway collar would allow the "top foot" of water in the reservoir (between elevation 6202 and 6203 feet) to be impounded rather than spilled. The same volume of water, during the same period of time, would instead be drawn from 72-foot deep and released through

the hydroelectric project penstock and turbines. Under current flow operations (the no action alternative), surface spilled water released to the Henrys Fork is near zero degrees Celcius prior to ice-out. After ice-out, surface spilled water is much warmer, and river temperatures rapidly increase to nearly July levels. As soon as the reservoir level drops to the top of the spillway (elevation 6202 feet), all releases now are from 72-foot deep, and river temperatures can decrease severely. The onset and duration of surface spills and the associated effects on temperature of releases depend on the timing and volume of spring runoff.

If the spillway is modified, instead of nearly freezing water being spilled from the surface prior to ice-out, 4-degrees-Celcius water could be released from 72-foot deep. After ice-out, instead of warmer surface water being spilled, much cooler water could be released from 72-foot deep. After the reservoir elevation drops to 6202 feet, releases could continue to be from 72-foot deep. Rapid temperature fluctuations would be reduced for both the ice-out period and the termination of surface spill period. Again, effects depend on the timing and volume of spring runoff. Temperature changes caused by the project would be greatest from the dam to some distance downstream from the Buffalo River, which would moderate temperatures in the Henrys Fork after sufficient mixing. Temperature modeling predicted no spillway modification project impacts below Last Chance.

It appears the project would provide the benefits of releasing warmer water prior to ice-out, reducing severe temperature fluctuations during two periods, and delaying some insect hatches until fishing season begins. However, the thermal units that fuel this highly productive aquatic system could be severely reduced by the project. Temperature modeling was used to compare thermal conditions of the 1970 to 1994 period to predicted conditions with the project. The predictions show a potential for thermal unit reductions during the surface spill period of up to 38 percent, with an average estimated decrease of 18 percent.

In order to maintain the productivity in this key reach of the Henrys Fork, IDFG recommended a hybrid mixing alternative be developed. This would maintain the benefits of reducing severe temperature fluctuations, while providing more thermal units to the river. The project proponent conducted an economic analysis and reported that 180 cfs of warmer surface water could be spilled after ice-out, and the project would still be financially viable. They reported that any additional surface spill would cause the project to not meet financial criteria and would cause the project to be abandoned. Temperature modeling indicates a hybrid alternative (72-foot-deep releases until ice-out, followed by a minimum 180 cfs surface spill for the duration of the surface spill period) would maintain about 90 percent of the current (no-action alternative) thermal units during the surface spill period.

Buffalo Hydroelectric Project

The FERC permitted this rebuilt project to begin operating this year without turbine screens or fish passage facilities. The project is a complete barrier to upstream migration. The Henrys Fork fishery is considered to be recruitment-limited, while six plus miles of potential spawning habitat on the Buffalo River are blocked by this hydro project. IDFG entered into an agreement with the licensee to assist with designing fish passage facilities and a monitoring program to test the benefits of fish passage and the need for turbine screening.

Fall River Hydroelectric Project

The FERC determined that last year's (1993-1994) winter flow fluctuations and project underreleases were mostly attributable to project start-up difficulties, which would be solved when operators became more experienced. This winter, the project again reported severe fluctuations in the Fall River during winter. Ice-jams at the head of the hydro diversion pool restrict flows for a period of time, then release large pulses of water. Although minimum bypass flows of 200 cfs are required, underreleases up to 94 cfs occurred, and pulses of water up to 3,450 cfs were reported.

Idaho Department of Lands

I reached an agreement this year on interagency coordination for timber sales. I provided a list of information they agreed to provide to facilitate our review and technical assistance to protect fish, wildlife, and habitat.

Teton County Planning and Zoning

Teton County growth, and development in wetlands, continued at high rates this year. In addition to cooperating with the Teton Valley Land Trust, I made one presentation to the public, and one presentation to the County and Planning and Zoning Commissions. The purpose of the public meeting was to inform the public of wetland development regulations, administrative processes, fish and wildlife habitat needs, and private property habitat enhancement opportunities. The purpose of the meeting with the Commissions was to discuss wetlands and development. I offered suggestions on methods to protect the wetlands they intended to protect with their County comprehensive plan, but which are being developed due to the Corps of Engineers permitting wetland fills.

Idaho National Engineering Laboratory

I participated on the Governor's task force assessing the spent nuclear fuels alternatives. I provided the review and comments for the fish, wildlife, and ecology sections.

BLM San Felipe Ranch Proposal

IDFG appealed a BLM decision to plow and seed 540 acres of sagebrush. The area is important sage grouse and antelope habitat. The decision was withdrawn as a result of our appeal.

Targhee Forest Plan Revision

I continued to represent IDFG at Citizens Involvement Group meetings and attended several meetings with Targhee staff on forest planning and impacts on fish and wildlife. IDFG and the Targhee Forest reached an agreement on methods to analyze motorized use on the forest. One public meeting on access management was conducted. IDFG assisted with and reviewed working papers on elk habitat effectiveness and elk vulnerability. I provided extensive written comments on forest-wide standards and guidelines, management prescriptions, and alternatives. Throughout this process, I am assisting numerous agencies and private citizens with their understanding and comments on the plan revision.

Between June and December, the plan revision team ignored our repeated requests to meet with them as an agency, not just as members of the public. The Federal Advisory Committee Act was cited as a reason they could not meet with us. I made several requests, beginning in June, to reconvene the elk working committee in order to assist the Targhee with their elk vulnerability and elk habitat effectiveness analyses and goals. These requests were also ignored.

I wrote two letters to the forest supervisor regarding the Targhee Forest's failure to comply with the key provisions of the June 5, 1992 agreement between IDFG and the Forest. The agreement was intended to settle our appeal of the Pole Bridge/Big Grassy timber sale. The agreement called for immediate implementation of an off-road motorized vehicle closure in the Warm River area, if administratively possible. Later discussions with Forest Service staff indicated it was administratively possible to have implemented this closure immediately. Instead, the Forest initiated NEPA planning, with agreed-upon goals of a decision in May 1993, and implementation of the area closure for wildlife protection by September 1993. Neither of these events occurred. During 1993 summer the Forest informed us that they were indefinitely delaying planning for the area closure, in order to develop a grizzly bear recovery strategy for the Targhee portion of the Plateau bear management unit. The Targhee predicted that access restrictions under that strategy would satisfy their 1992 agreement

with IDFG. In January 1994, the grizzly bear strategy was finalized. However, in June 1994, the forest supervisor rescinded the decision to implement the grizzly bear strategy. Therefore, the Forest Service continues to be in violation of the 1992 agreement.

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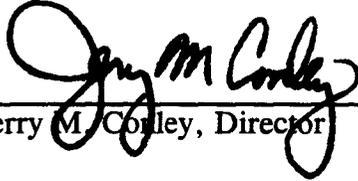
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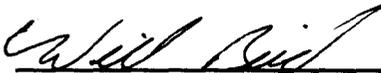
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