RESOURCE MANAGEMENT PLAN

In association with:

EDAW, Inc.
753 Davis Street
San Francisco, CA 94111

Bureau of Reclamation
Pacific Northwest Region
Boise Idaho

And

Snake River Area Office
Minidoka Project
April 1995

United States Department of the Interior

BUREAU OF RECLAMATION
Pacific Northwest Region
1150 North Curtis Road
Boise, Idaho 83706-1234

IN REPLY REFER TO:
PN-5314
ENV-3.00

APR 27 1995

Ladies and Gentlemen:

Enclosed for your use is a copy of the Bureau of Reclamation American Falls Resource Management Plan. The plan is the result of a process of formulating and evaluating several alternatives for management of Bureau of Reclamation lands around American Falls Reservoir and along the Snake River downstream from American Falls Dam. A Finding of No Significant Impact and Final Environmental Assessment was completed in September 1994.

We wish to thank all of those who participated in the public involvement activities and in particular members of the Citizen/Agency Forum who helped identify problems and needs and develop goal statements.

If you have questions or would like additional copies of the plan, please write to:

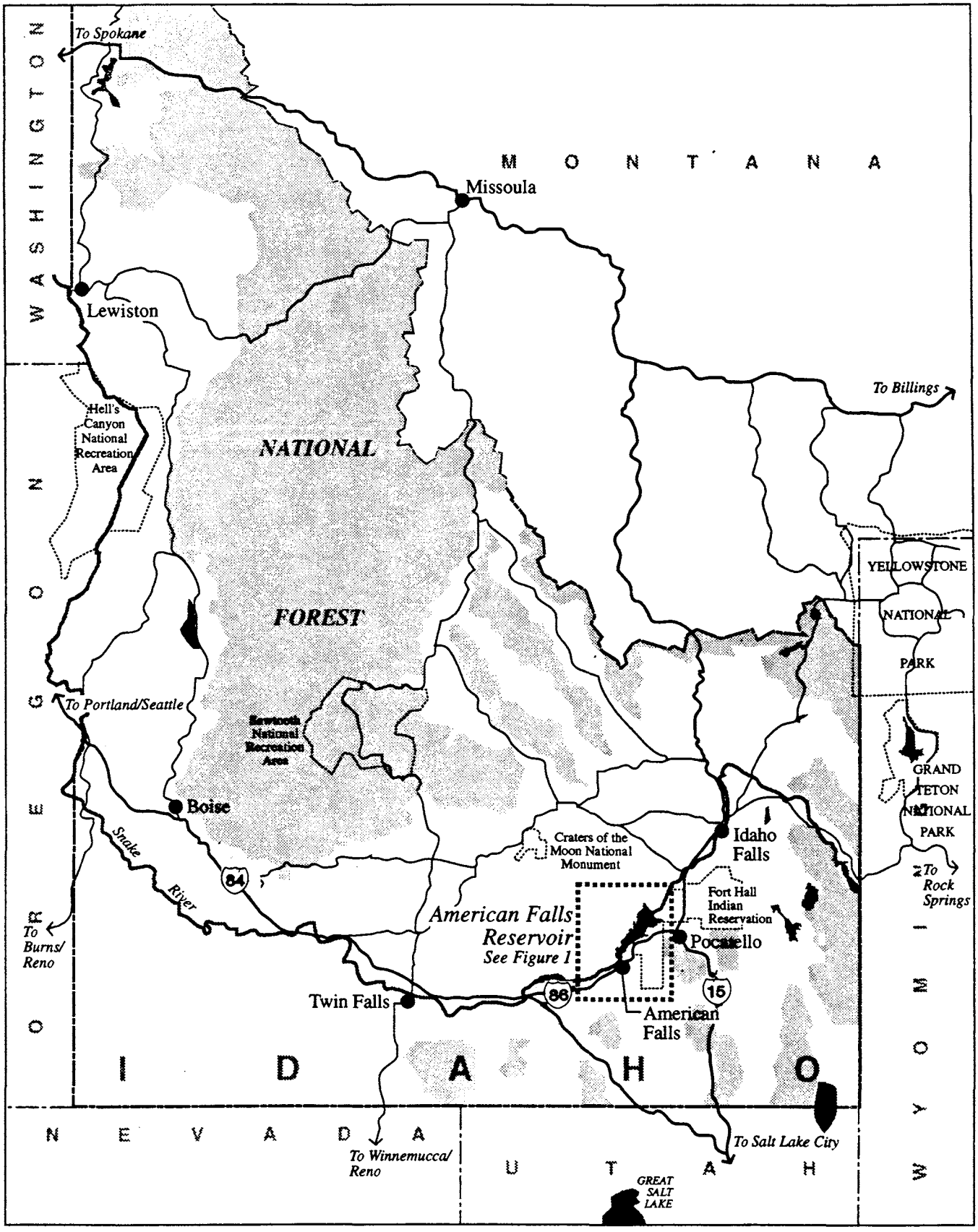
Karl Wirkus
Deputy Area Manager
Bureau of Reclamation
Snake River Area Office-East
1359 Hansen Avenue
Burley, Idaho 83318-1821

or telephone (208) 678-0461 Ext. 15.

Sincerely,

Eileen R. Salenik
Study Manager

Enclosure



NORTH

0 25 50 75 100 miles

Approximate Scale

Regional Location Map

Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
AFRMP	American Falls Resource Management Plan
AIRFA	American Indian Religious Freedom Act
AMP	Access Management Plan
ARPA	Archeological Resources Protection Act
AUM	Animal unit-month
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOD	Biological oxygen demand
CAR	Coordination Act Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CRMP	Cultural Resources Management Plan
DDE	Breakdown product of the pesticide DDT
DO	Dissolved oxygen
EA	Environmental assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHNHL	Fort Hall National Historic Landmark
FONSI	Finding of No Significant Impact
GIS	Geographic information system
GMP	Grazing Management Plan
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDOT	Idaho Department of Transportation
IDPR	Idaho Department of Parks and Recreation
IPC	Idaho Power Company
kV	Kilovolts
mg/l	Milligrams per liter
MNWR	Minidoka National Wildlife Refuge
MSL	Mean sea level
NAGPRA	Native American Graves Protection and Repatriation Act
NAWQA	National Water Quality Assessment
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
OHV	Off-highway vehicles
PCB	Polychorobiphenyl
RV	Recreation vehicle
SCORP	State Comprehensive Outdoor Recreation Plan
SCS	Soil Conservation Service—renamed Natural Resources Conservation Service
SHPO	State Historic Preservation Officer
SRMA	Special recreation management area
SWMA	Sterling Wildlife Management Area
TCP	Traditional cultural properties
USFWS	U.S. Fish and Wildlife Service
USGS	Geological Survey
WMP	Wildlife Management Plan

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CHAPTER 1

INTRODUCTION

The Pacific Northwest Region of the Bureau of Reclamation (Reclamation) is conducting a multi-year program to prepare Resource Management Plans for all of its major facilities. This program is guided by Federal legislation and policies aimed at ensuring that Federal lands are managed to serve a wide range of public purposes. Preparation of Resource Management Plans is specifically authorized in Title 28 of Public Law 102-575.

American Falls Reservoir, located on the Snake River in Southeast Idaho, is the largest reservoir of the Federal Minidoka Project (see Location Map). The Minidoka Project was authorized by the Secretary of the Interior in 1904 and was the first Reclamation project constructed in Idaho. It provides irrigation, hydropower, flood control, fish and wildlife, and recreation benefits. Lands needed for construction and operation of the project were purchased at the time of construction. At American Falls Reservoir, these include lands inundated by the reservoir, a narrow strip of land that surrounds the reservoir above the high water line, and some lands along the Snake River downstream from American Falls Dam (see Project Vicinity Map).

American Falls Reservoir and associated Reclamation-administered lands are operated to accommodate a wide variety of resource needs in accordance with existing Federal laws and Reclamation policy. However, the primary operation strategy is storage of water for irrigation of lands. Cooperative agreements have been signed with other agencies and organizations for programs focused on control of erosion and enhancement of wetlands and other wildlife habitat. Local jurisdictions and organizations have leased Reclamation lands to develop and operate recreational facilities. Project operations are monitored and evaluated to provide resource management that has the greatest benefits within statutory and policy guidelines.

At times, there are competing requests for use of Reclamation-administered lands and waters. Until now, no coordinated management plan has been prepared which clearly set goals, objectives, policies, and priorities related to such uses or could guide decision-making and resolve conflicts.

ORGANIZATION OF THE DOCUMENT

Chapter 1 provides a background that includes the purpose, scope, and public involvement processes involved in preparation of the American Falls Resource Management Plan (AFRMP). Chapter 2 describes the natural and cultural resources of the American Falls Reservoir and the downstream study area. This resource inventory is a compilation of the full range of existing conditions that may affect resource management. Chapter 3 is a discussion of resource opportunities and constraints and the issues identified during the planning process. Resources that require protection and/or enhancement, areas where certain uses are in conflict, and recreation demand/needs are identified. Chapter 4 (reservoir area) and chapter 5 (river area) describe the Plan including goals, objectives, and implementation schedules.

POLICY

The Bureau of Reclamation resource management policy is to provide a broad level of stewardship to ensure and encourage resource protection, conservation, and multiple use. Management practices and principles, in accordance with existing Federal laws, regulations, and policies, are to be applied to provide for the protection of fish, wildlife, and other natural resources, cultural resources, public health and safety, public access, and a wide variety of outdoor recreational opportunities to accommodate the increasing public demand to utilize Reclamation land and water areas.

PURPOSE OF PLAN

The AFRMP provides future guidance for operation of Reclamation lands associated with American Falls Reservoir including the lands downstream. It provides an action program and policy guideline for the conservation, enhancement, use, and development of Reclamation lands and associated natural and cultural resources. Reclamation seeks to balance public and private use of Reclamation lands with the protection of resource values. Goals of the AFRMP are to clarify Reclamation management policy and priorities, minimize conflicts in land use and facilitate coordination with other ongoing and planned activities in the region.

The AFRMP is intended to provide a 10-year framework for resource management. It may be necessary to review, reevaluate, and revise it, in cooperation with involved agencies, during this period to reflect changing conditions and management objectives. If modification of the AFRMP is expected to significantly affect area resources or public use, opportunities for additional public involvement will be provided.

PUBLIC INVOLVEMENT

An extensive public involvement program was developed to ensure full representation of those interested in American Falls Reservoir and the Snake River downstream from the dam. The program was designed to (1) reach a geographically dispersed population with diverse points of view and (2) provide opportunities for meaningful participation of those who want to be active in the planning process and represent a particular interest group or agency. To achieve these objectives, the public involvement program included the mailing of newsbriefs, a number of public meetings, and the formation of a Citizen/Agency Forum (Forum).

Four newsbriefs were prepared and disseminated to approximately 400 residents, user groups, affected agencies, and other interested individuals. This mailing list was compiled prior to and during the planning process. The newsbriefs included:

- Newsbrief No. 1: Introduced the study purpose, process, and objectives; explained the public involvement program; and requested input on issues and opportunities to be addressed in the AFRMP.

- Newsbrief No. 2: Provided an update on resource inventory studies, presented the full range of issues identified for study, and provided further information about the Citizen/Agency Forum.

- Newsbrief No. 3: Discussed the results of the resource analysis and described the goals, objectives, and other criteria to be used in assessing alternative plans.

- Newsbrief No. 4: Described and compared the alternative plans.

In October 1991, public meetings were held in American Falls, Pocatello, Blackfoot, and Twin Falls, Idaho at the beginning of the planning process to exchange ideas and information, identify issues and concerns, and discuss existing Reclamation policies, programs, and regulations. Additional public meetings were held in American Falls and at the Fort Hall Indian Reservation in late 1992 to review the draft alternatives. A third set of meetings was held in late 1993 at those locations to explain and answer questions on the draft Environmental Assessment.

The Forum was formed to assist Reclamation in developing: (1) a Problem Statement in which issues and opportunities were clearly defined (see Appendix A); (2) goals and objectives designed as a framework for resolving issues, pursuing opportunities, and assessing alternatives (Appendix B); and (3) recommend policies and programs. The Forum was comprised of representatives of a wide range of interest groups and agencies in the region. Members of the Forum are listed below:

Agricultural Easement Holder
Alan Funk
Aberdeen, Idaho

Agricultural Lease Holder
Terrell Sorensen
American Falls, Idaho

Audubon Society
Charles Trost
Pocatello, Idaho

Bingham County Commission
Vince O'Brien
Aberdeen, Idaho

Blue Ribbon Coalition
Clark Collins
Pocatello, Idaho

Bureau of Land Management
Pete Van Whye
Burley, Idaho

City of American Falls
Parks & Recreation Dept.
Mark Brunelle
American Falls, Idaho

Ducks Unlimited
John Ellesson
American Falls, Idaho

Grazing Lease Holder
John Houghland
Springfield, Idaho

Idaho Parks & Recreation Dept.
Max Newlin
American Falls, Idaho

Power County Commission
Ralph Wheeler
American Falls, Idaho

Region 5 Wildlife Council
Robert Elieson
Pocatello, Idaho

Shoshone-Bannock Tribes
Shaun Robertson
Fort Hall, Idaho

Spaceholder (Twin Falls)
Milner Irrigation District
Mike Kleinkopf
Murtaugh, Idaho

U.S. Fish & Wildlife Service
Rich Howard
Boise, Idaho

Idaho Dept. of Fish & Game
Tracey Trent
Pocatello, Idaho

Pheasants Forever
Eric Krasa
Pocatello, Idaho

Recreationist
Al Hartman
Pocatello, Idaho

Seagull Bay Yacht Club
Rob Rounds
Pocatello, Idaho

Soil Conservation District
Paul Muirbrook
Sterling, Idaho

Spaceholder (Twin Falls)
North Side Canal Company
Vince Alberdi
Jerome, Idaho

AGENCY COORDINATION

A wide variety of Federal, State, and local entities, agencies, and Tribes were consulted or otherwise contributed to the AFRMP by providing information or making specific suggestions for incorporation into the AFRMP. Most of these entities were also represented on the Forum, and some will be directly involved in implementation of the AFRMP or will contribute to cooperative, compatible management of adjacent lands.

The following entities were consulted or contributed to the AFRMP:

Bingham County
City of American Falls
Idaho Department of Fish and Game
Idaho Department of Parks and Recreation
Idaho Department of Transportation
Idaho Historical Society
Idaho State Historic Preservation Office

Idaho State Lands Department
Idaho State Waterways
National Park Service Advisory Council
Power County
Shoshone-Bannock Tribes
Soil Conservation Service
U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) prepared a Coordination Act Report (CAR) as part of this study; a copy is included in the Environmental Assessment/Finding of No Significant Impact under separate cover. The CAR includes a review and analysis of fish and wildlife resources in the American Falls study area. Recommendations and management strategies for the protection and enhancement of fish and wildlife resources, especially federally-listed endangered, threatened, and candidate species, were developed by the USFWS and are reflected in the AFRMP.

SCOPE

The scope of this AFRMP is limited to Reclamation-owned lands associated with the construction and operation of American Falls Reservoir. Included are Reclamation-owned lands that surround the reservoir and Reclamation-owned lands located adjacent to the Snake River and in scattered tracts along downstream from American Falls Dam.

Reclamation-owned lands located within the Fort Hall Indian Reservation are not within the scope of this AFRMP. Management of these lands is coordinated directly with the Shoshone-Bannock Tribes, who have primary jurisdiction over management of all waters and lands located within the Fort Hall Indian Reservation. Changes in irrigation water management and management of storage and release of water of the integrated system of reservoirs of the Minidoka Project are beyond the scope of this AFRMP and are not addressed.

The Forum identified problems, potential solutions, and general goals and objectives. Three major categories of management goals for the AFRMP were identified:

- Natural and Cultural Resources
    - Promote optimal use of water resources and protect water rights.
    - Protect and improve water quality.
    - Control erosion and siltation.
    - Protect and enhance important vegetation, fish, and wildlife habitat values.

  - Protect and enhance visual resources and scenic quality.
  - Protect cultural resources and provide educational and interpretive opportunities.
- Public Access and Recreation
  - Provide adequate safe and suitable road access to designated recreation areas.
  - Accommodate boating access and provide appropriate recreation site improvements, consistent with demand, available funding, and carrying capacity of the resource base.
  - Achieve a consistent framework for eliminating and avoiding encroachments on Reclamation land and managing mining and agricultural lease activities.
- Management and Implementation
  - Clarify and more actively and efficiently manage Reclamation-private land boundaries including tribal lands.
  - Promote cooperative management and program implementation efforts with other agencies and the private sector.
  - Achieve effective implementation of the AFRMP through appropriate planning for funding, enforcement, and public information programs.

PROJECT HISTORY

Early investigation of irrigation possibilities in Idaho were made under the direction of the Geological Survey (USGS) as early as 1889. At the time the 1902 Reclamation Act was passed, there was considerable data available, and, in 1902, the Secretary of the Interior withdrew from public entry a large body of land for the proposed Minidoka Project. In 1904, the Secretary of the Interior authorized construction of the Minidoka Project which began with construction of Minidoka Dam, completed in 1906. The first hydropower generation came from the Minidoka Powerplant which began generation in 1909. Additional storage for the project includes Jackson Lake Dam (1905), enlargement of Jackson Lake Dam (1911 and 1916), American Falls Dam (1925-1927), Island Park Dam (1935-1938), and Grassy Lake Dam (1937-1939).

Replacement of American Falls Dam was authorized by Congress (Public Law 93-206) on December 28, 1973 and the dam was replaced in 1976-1978.

CHAPTER 2

EXISTING CONDITIONS

PROJECT FACILITIES AND GENERAL OPERATION

General Reservoir System

American Falls Reservoir is the largest reservoir in the upper Snake River basin and is a storage facility of the Minidoka Project. Other storage facilities of the Minidoka Project include Lake Walcott (impounded by Minidoka Dam), Jackson Lake, Grassy Lake, and Island Park Reservoir. All of the storage capacity of the Minidoka Project is contracted, and spaceholder contracts are almost exclusively for irrigation purposes. The Minidoka Project supplies irrigation water to over 1,150,000 acres. In addition to irrigation, project functions include flood control, power generation, fish and wildlife enhancement, and recreation.

All major storage facilities in the upper Snake River, with the exception of Henrys Lake, Grays Lake, and Blackfoot Reservoir, are operated as an integrated system (see Upper Snake River Reservoir System map). In addition to the facilities of the Minidoka Project, there are Palisades Reservoir (part of the Palisades Project which supplies supplemental water to the Minidoka Project) and Ririe Reservoir (constructed by the U.S. Army Corps of Engineers). Total storage capacity of this system is approximately 4,166,000 acre-feet, with American Falls Reservoir contributing approximately 1,672,600 acre-feet. Total annual diversion demand from the upper Snake River system (including irrigation, municipal, industrial, and other uses) is over 12,000,000 acre-feet. Much of the demand is met by streamflows from snowpack in the mountains of eastern Idaho and western Wyoming.

When the water year ends on September 30, reservoir releases are still driven by irrigation demand. By the statutory end of the irrigation season, November 1, all of the Minidoka Project reservoirs have begun to fill. Winter operations seek a balance between a high probability of refilling and reserving enough space to contain spring floods. Palisades Reservoir and Jackson Lake have formal flood control regulations requiring reservation of flood control space based on runoff forecasts and the time remaining for snowmelt to occur. In very wet years, space is made available in American Falls Reservoir to contain flood waters. The operational goal is to have the reservoirs full when irrigation diversion demand exceeds natural runoff.

The need for irrigation water begins in early spring in the lower valley downstream from American Falls Reservoir. By early summer, when snowmelt runoff reaches its seasonal maximum in the watershed above Palisades Dam, irrigation demands are well developed throughout the upper Snake River basin and are approaching peak levels downstream from American Falls Dam. This overlap blurs the distinction between the water storage season and the irrigation delivery season. In dry years, American Falls storage will be drafted while Palisades and Jackson Lake are still filling. During a normal spring runoff, releases from Palisades will approach flood proportions to maintain American Falls at a full level while Palisades continues to fill. In a wet year, Palisades and American Falls will both pass water in excess of irrigation demand well into the summer.

During the irrigation season, Minidoka Project reservoirs are operated to supply water to the holders of water rights and storage contracts. An attempt is made to hold water in the reservoirs that are most difficult to fill. Since about 600,000 acres are irrigated downstream from American Falls and about 550,000 acres are irrigated between Palisades and American Falls and because of the earlier demand for water downstream from American Falls, it would appear simple to deliver more water from American Falls than from upstream reservoirs. Because of the substantial reach gains in American Falls Reservoir and the possibility of a late snowmelt or summer rains, American Falls contents at the end of the season may remain high. When this occurs, curtailment of winter releases from Palisades Reservoir are required in an attempt to bring American Falls and Palisades contents back into balance. Once behind, this balance can never be attained because winter reach gains downstream from Palisades Dam are much greater than inflow to Palisades Reservoir. Conversely, ending the irrigation season with American Falls contents low allows the maintenance of winter releases downstream from Palisades without damage to water rights.

American Falls Dam and Reservoir

American Falls Dam is a concrete gravity dam with embankment wings located on the Snake River at American Falls, Idaho. It has a structural height of 103.5 feet and a crest length of 5,277 feet. The outlets works consists of nine 7.17-foot-square low level outlets, each with two 7-foot-square slide gates, and has a capacity of 19,400 cubic feet per second (cfs). A concrete overflow spillway controlled by five 44- by 25-foot radial gates is located near the right abutment and has a capacity of 87,000 cfs. In addition, there are three 18-foot-diameter outlet tubes with a capacity of 13,500 cfs for power generation. Reclamation maintains a Visitors Center and recreation facilities at the dam.

Idaho Power Company (IPC) constructed, maintains, and operates a 92-megawatt hydroelectric powerplant located immediately downstream on the right bank[1] of the river. Power production is incidental to irrigation operations, but IPC has contracted for about 44,000 acre-feet of storage space in the reservoir.

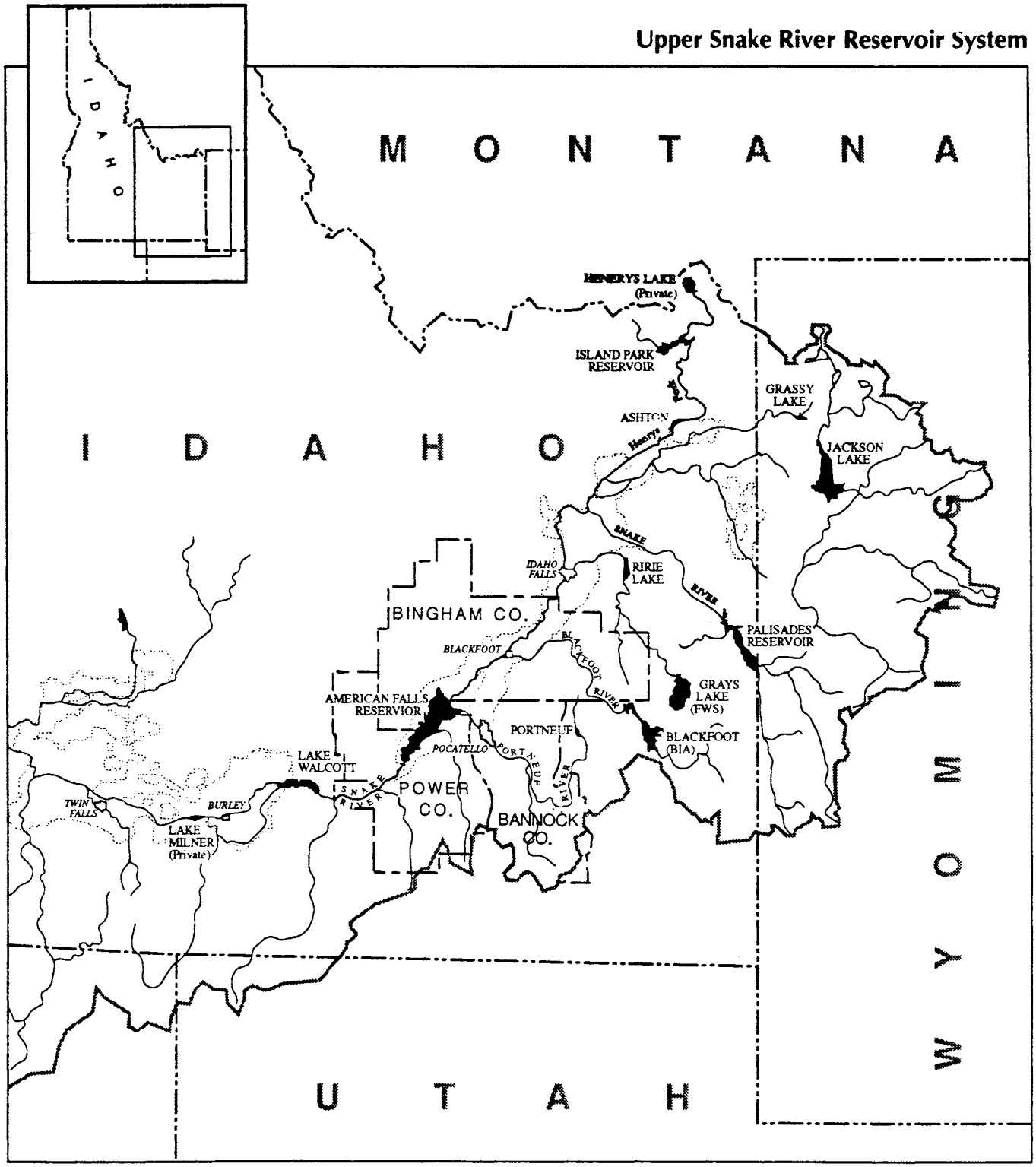
Table 2-1 summarizes selected physical data on American Falls Dam and Reservoir and information on reservoir operation and allocation of storage.

[1]Right bank and left bank assume that the viewer is looking downstream.

American Falls Dam

Downstream at Duck Point Area

Upper Snake River Reservoir System



NORTH

0 10 20 30 40 50 miles

Approximate Scale

- Minidoka Project Lands

Table 2-1.—American Falls Dam and Reservoir Data (Elevation is given in feet above mean sea level)	
American Falls Dam	
Height	
Structural	103.5 feet
Hydraulic	77.5 feet
Crest	
Width	42.5 feet
Length	5,277 feet
Elevation	4366.5 feet
Outlet works -Nine 7.17 foot square outlets	
Capacity	19,400 cfs
Power Outlet - Three 18-foot diameter tubes	
Capacity	13,500 cfs
Spillway - Concrete overflow weir with five 44- by 25-foot radial gates	
Crest elevation	4333.0 feet
Capacity	87,000 cfs
Reservoir	
Water surface elevation	
Operating range	4354.5 - 4295.7 feet
Normal maximum	4354.5 feet
Average minimum	4325.6 feet
Storage	
Normal maximum	1,672,590 acre-feet
Average minimum	490,000 acre-feet
Minimum pool	None
Surface area	
Normal maximum	58,000 acres
Average minimum	23,000 acres
Length of pool	
At normal maximum elevation	22 miles
At average minimum elevation	16 miles
Shoreline length	
At normal maximum elevation	115 miles
At normal minimum elevation	47 miles
Allocation of Storage	
Irrigation spaceholder contracts	1,628,315 acre-feet
Non-irrigation spaceholder contracts	44,275 acre-feet

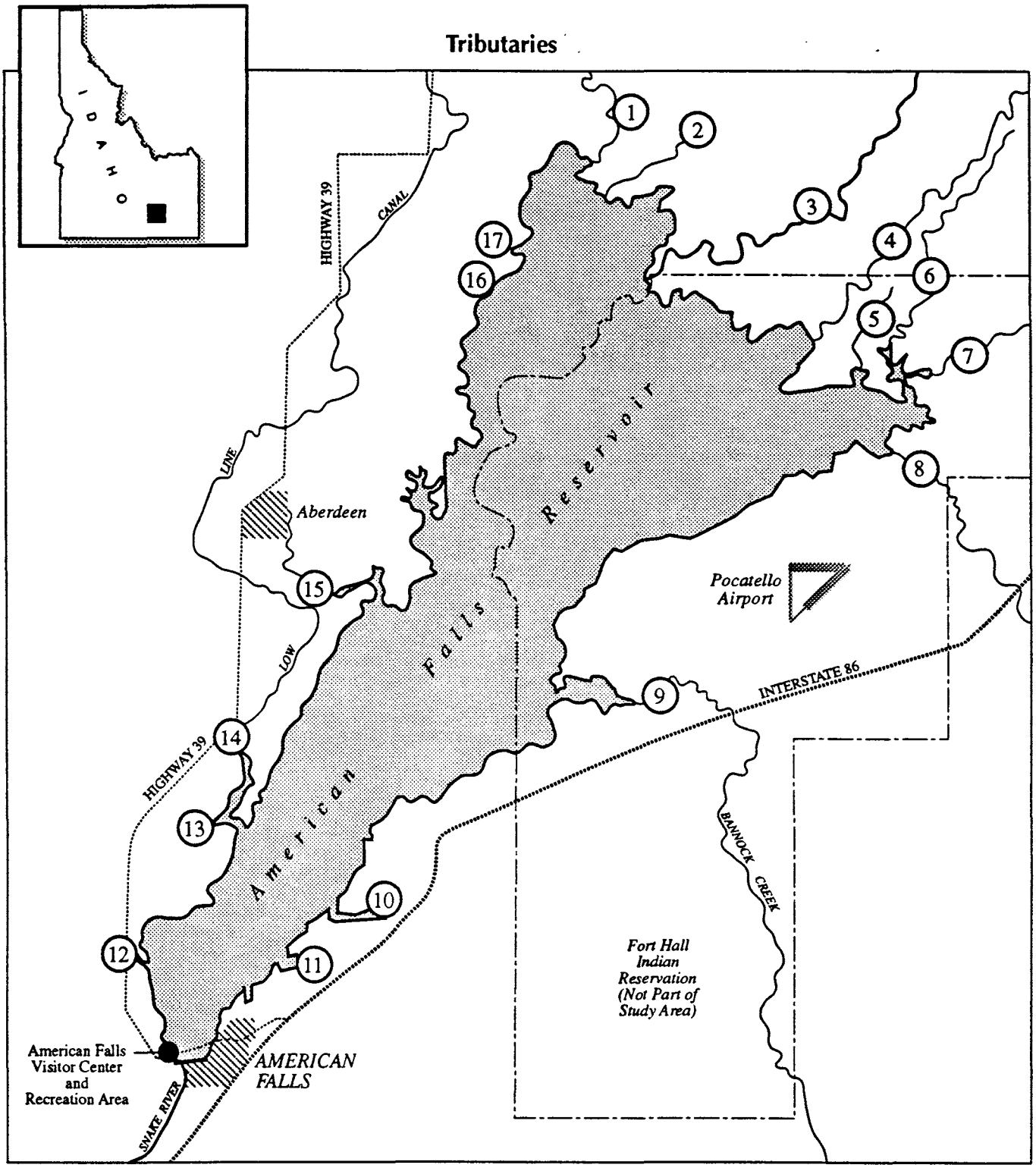
During the period 1951-1991, excluding the mid-1970's when American Falls Dam was being replaced, the reservoir filled to near normal maximum pool elevation each year. Maximum pool elevation is normally reached in late April or early May; irrigation deliveries begin in April and continue into October. An average low water elevation of 4325.6 feet is reached in September. There is no minimum pool, so the reservoir can be drawn down to the original river channel. This occurred in the drought years of 1977, the late 1980's, and early 1990's.

Water Supply

The headwaters of the Snake River are in Wyoming near Jackson Lake in Grand Teton National Park. The river flows through Idaho along a great arc curving south. The Snake River contributes about 60 percent of inflow and the Portneuf River contributes about 3 percent of inflow to American Falls Reservoir. Other surface sources provide about 3 percent of inflow and include numerous drains, wasteways, and creekbeds which channel runoff into the reservoir from the agricultural areas to the north and south. Irrigation drainage from approximately 550,000 acres of land enters the reservoir. Inflow to American Falls Reservoir is shown in the Tributaries map.

Ground water provides about 33 percent of inflow to the reservoir. Major aquifers in the area are part of the eastern Snake River Plain regional aquifer system. Discharges to the reservoir and the Snake River are from sand and gravel and basalt aquifers to the south and from basalt aquifers to the north. Recharge to ground water in the area is predominantly from river losses and upstream irrigation. Ground-water discharges are higher from June to January and lower from March to May than in pre-irrigation times. Measurable ground water entering the reservoir is channeled from perennial springs via Danielson, Spring, Kinney, and Clear Creeks. However, most ground water enters the reservoir below the water surface, is not observed, and cannot be directly measured.

General source and amount of inflow are summarized in table 2-2.



NORTH

Approximately 5 Miles

1. Danielson Creek
2. Crystal Wasteway
3. Snake River
4. Spring Creek
5. Kinney Creek
6. Clear Creek
7. Ross Fork
8. Portneuf River
9. Bannock Creek
10. Seagull Bay Tributary
11. Sunbeam Creek
12. Cedar Creek
13. Schiltz Drain
14. Tarter Drain
15. Aberdeen Wasteway
16. Coburn Wasteway
17. Sterling Wasteway

Table 2-2.—Average Annual Inflow to American Falls Reservoir
(Source: USGS Water-Resources Investigations Reports--No. 87-4063, 1988 and No. 90-4120, 1990)

Source	Acre-feet	Percent of Total
Riverflow (Snake and Portneuf Rivers)	3,694,000	63
Ungauged surface inflow[1]	174,000	3
Ground water/major spring flow[2]	1,900,000	33
Precipitation	50,000	1
Total	5,818,000	100

[1]Includes all creeks, drains, wasteways, and laterals not listed in footnote 2; comprised predominantly of irrigation drainage.
[2]Includes Danielson, Spring, Kinney, and Clear Creeks; primary source is springflow but does include some agricultural runoff from adjacent areas.

Water Quality

The major water quality problem at American Falls Reservoir is periodic high temperatures and low dissolved oxygen (DO). Water temperature and low DO levels combine to restrict trout habitat to approximately 30 percent of the reservoir on the average, and in summer to only 4 percent of the maximum reservoir pool. In poor water years, channels are cut through the reservoir bottom sediment, causing the water to become sediment-laden and murky before passing through the dam.

Contaminants

Surveys of American Falls Reservoir indicate that contaminants are at fairly low levels in water and sediment. Some biological samples have revealed mercury, selenium, DDE (a break down product of the insecticide DDT), and PCB (polychlorobiphenyl) levels which were at or near recommended maximums. Sources of the contaminants, effects of fluctuating reservoir level, and long-term trends have not been fully identified and evaluated.

Dissolved Oxygen

DO is one of several parameters that determine fish habitat, and low levels of DO are especially limiting for cold water game fish. Trout, for example, require a DO concentration greater than 5 milligrams per liter (mg/l). At a lower DO, trout become stressed, and at 3.5 mg/l, they die.

Equal-width, depth-integrated water samples from the reservoir reveal that DO is generally higher than 7 mg/l, except in summer when the level drops as low as 5.5 mg/l (Low and Mullins 1990). Surface DO ranged between 6 and 9 mg/l during two summer seasons of study (Heimer and Howser 1990). Low DO levels are associated with the collapse of the strong growth of algae in the late summer. Cloud cover or late summer rainstorms reduce the available sunlight, and phytoplankton become consumers of oxygen and drive DO levels down.

Based on a 1983 agreement with the Idaho Department of Health and Welfare and the Environmental Protection Agency (EPA), IPC is committed to monitor and maintain DO levels at and downstream from the American Falls Powerplant (see Appendix D). DO and temperature are monitored daily, and monthly reports are provided to the signatory parties, as well as to Reclamation and the Idaho Department of Fish and Game (IDFG). A 1986 revision to the agreement established the following as minimum DO standards to be met (Kaufman pers. comm.):

- A 30-day mean of 5.5 mg/l (for May 15-October 15);
- A 7-day mean minimum of 4.7 mg/l (for May 15-October 15), and;
- An instantaneous minimum of 3.5 mg/l (for May 15-October 15); and an instantaneous minimum of 6.0 mg/l for the rest of the year (Kaufman pers. comm.).

Aerators just downstream from the dam are turned on before the critical DO levels are reached. DO levels are generally being maintained at or above required concentrations, but there have been some lapses (Trent pers. comm.).

Water Temperature

Water temperature is a factor that determines fish habitat. Usable trout habitat is water that has a temperature of less than 19 °C. Water temperatures of American Falls Reservoir ranged from 5 to 12.5 °C during October 1987, but temperatures measured at the surface were 22 °C for much of the summer of 1988 (Heimer and Howser 1990).

Sources and Potential Sources of Contaminants

Portneuf River

The Portneuf River has been identified as a major source of nutrients due to high concentrations of ammonia and orthophosphates, the main constituents of industrial fertilizer. These act as a nutrient source for the blue-green algae *Aphanizomenon flos-aquae* and acceleration of the eutrophication process which has been associated with at least two major fish kills, in 1967 and 1972 (Heimer 1989).

Eastern Michaud Flats Superfund Site

The Eastern Michaud Flats Superfund Site was formally included in the EPA National Priorities List in August of 1990. The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) gives EPA the broad authority to investigate and clean up releases, or threatened releases, of hazardous substances. The Eastern Michaud Flats Superfund site includes two facilities, FMC and J.R. Simplot phosphate plants near the Portneuf River. This study will identify contaminant sources on the sites, evaluate impacts on surrounding areas (especially water and soils), and attempt to eliminate sources through appropriate mitigation and remediation.

According to EPA (EPA 1991), FMC has been extracting elemental phosphorus from shale ore and storing the element until it is shipped for use at other facilities. During the production of the phosphorus, two major by-products are created which contain heavy metals, inorganic compounds, and radionuclides. The J.R. Simplot site, located adjacent to the FMC facility, produces a variety of fertilizer products from phosphate shale ore. Gypsum and waste water are two of the major by-products of the processes. Currently, the gypsum is stored on-site, south of the facility. Waste water from the facility is recovered and used for irrigation on farmland near the site.

In September 1987, EPA collected soil, sediment, surface water, ground water and waste samples. The results of those samples showed elevated levels of trace elements in sediments of the waste-water ponds at both facilities. In addition, samples taken from ground-water monitoring wells indicated that arsenic, cadmium, and selenium were found in monitoring wells in the aquifer beneath the site.

Ground water on the site contains traces of arsenic, cadmium, and selenium. Soil on site contains arsenic, cadmium, selenium, copper, lead, vanadium, and zinc. Tests indicate that the contaminants are currently moving into the aquifer under the site. In addition, EPA is concerned about the effects of the site on the air, surface water, and off-site soils (EPA 1991).

National Water Quality Assessment Study

In 1991, the upper Snake River basin was chosen by USGS to be a study unit of recently-initiated National Water-Quality Assessment (NAWQA). The goals of the NAWQA are to describe the status and trends in the quality of the Nation's surface and ground water and to provide a scientific understanding of the primary natural and human factors affecting the quality of these resources. The study area includes about 450 river miles through the 35,800 square-mile upper Snake River basin above King Hill in south-central Idaho. American Falls Reservoir is located approximately midway in this reach of the river.

Major issues are impacts to ground and surface water from excess sediment, nutrients, and organic compounds. Findings will be reported in 1996 (Lowe pers. comm.) and should help in understanding water/sediment problems.

Lands

Lands were acquired and withdrawn for dam construction, reservoir and river protection, routine maintenance, and public access. These include lands inundated by the reservoir, a narrow band of lands around the reservoir and the lands along the Snake River downstream from the dam. In addition to the lands that are seasonally submerged, Reclamation manages nearly 7,700 acres of land above the normal high waterline. About 4,300 acres are located around American Falls Reservoir and 3,400 acres are located along the Snake River downstream to the Minidoka National Wildlife Refuge (MNWR) (see Project Vicinity map and exhibits 1 and 2 located at the end of this document).

Snake River Downstream From American Falls

American Falls Dam controls flow of the Snake River immediately downstream. The maximum release is normally about 30,000 cfs and the minimum release is 300 cfs which was set as part of dam replacement in the late 1970's. Average flow of the Snake River at Neeley, just downstream from the dam, is 7,260 cfs. Higher flows correspond with irrigation deliveries (April through October) and the lower flows correspond with filling operations during the balance of the year. Flows approaching 30,000 cfs are associated with wet years and flood control requirements. In normal years, maximum flows during the irrigation season range from 6,000 to 13,000 cfs.

The 10-mile reach immediately downstream from the dam is free flowing. The next 9-mile reach, although confined to a relatively narrow channel, is part of Lake Walcott, the impoundment formed by Minidoka Dam. Due to operational requirements and the needs of the MNWR, of which Lake Walcott is a part, the elevation of Lake Walcott is held near maximum during the irrigation season and then is lowered about 5 feet.

The only notable tributary in the 19-mile reach downstream from American Falls Dam is Rock Creek, which enters Lake Walcott downstream from Massacre Rocks State Park. Minor amounts of return flows from agricultural activities along the corridor enter the river.

CLIMATE

The climate at American Falls Reservoir is semiarid with cold winters and hot, dry summers. Annual precipitation averages about 10 to 12 inches, with snowfall averaging 30 inches. Most precipitation falls during the fall, winter, and spring. Summer rainfall is quite low, but some precipitation falls each month. There are about 24 thunderstorms each year and most occur in the summer. Winters are relatively mild for the elevation, about 4300 feet, with average winter temperatures varying from 15 to 25 °F. Temperatures below 0 °F occur for short periods, and a major portion of the reservoir freezes over every winter. Summer temperatures vary considerably from day to day, but most days are cloudless and warm and the nights are cool. Daily temperatures average in the mid-60's during the summer, and the frost-free period ranges from 100 to 120 days. The prevailing winds average 10 miles per hour from the southwest. Average annual evaporation from the reservoir is estimated at 180,000 acre-feet (38 inches).

TOPOGRAPHY

At American Falls Reservoir, the Snake River flows from the northeast to the southwest. The 87.5-square-mile American Falls Reservoir, which lies in an extensive, shallow valley, is shaped like an arrowhead pointing southwest. The terrain immediately surrounding the reservoir is flat. At the northeast end, representing less than one-fifth of the entire shoreline, the elevation change in the reservoir bottom is slight, resulting in a very shallow water depth. Mudflats exposed during drawdown are part of a wetland area referred to as the Fort Hall and Springfield Bottoms which extend upstream respectively along south and north sides of the Snake River. The remaining shoreline is generally composed of vertical cliffs that are up to 45 feet in height. Some of these cliffs are highly erodible and continuously retreating. Because of the small elevation changes of the bottomlands and the presence of cliffs in other areas, the reservoir shoreline is not easily accessed.

Downstream from American Falls Dam, the Snake River corridor is confined to a relatively narrow and deep channel and is surrounded by the flat terrain of the Snake River Plain. Near Eagle Rock where the free-flowing river enters Lake Walcott, the terrain on the northeast side of the river rises and forms a series of highly weathered columnar basalt cliffs. The mesas are irregular and undulate with large wind-deposited sand dunes and flood-deposited basalt boulders. This contributes to the outstanding scenic quality of the area. While the southern shoreline is slightly easier to reach, the terrain on both sides of the river is generally inaccessible.

Geology

The Snake River in southeastern Idaho lies approximately on the boundary between the Snake River Plain, which is part of the Columbia Lava Plateau physiographic province and the Basin and Range province. The mountainous areas south of the Snake River are composed of various Precambrian rocks and Paleozoic marine sedimentary rocks. The Snake River Plain north of the Snake River is composed chiefly of Quaternary basalt with interbedded sediments. American Falls Reservoir is underlain by a series of Pleistocene lakebeds deposited when intermittent basalt eruptions diverted and dammed streams to form lakes. The Lake Bonneville flood about 15,000 years ago caused much of the erosion and deposition of sediments in the reservoir area.

Soils

Soils around American Falls are made up of the Declo-Feltham-Paniogue map unit. This unit consists of very deep, nearly level to strongly sloping, well drained and somewhat excessively drained soils that formed in alluvium, on terraces and alluvial fans. The unit is about 75 percent Declo soils, 10 percent Feltham soils, 10 percent Paniogue soils, and 5 percent soils of minor extent. Declo soils are well drained and very deep and have a loam or fine sandy loam surface layer. Feltham soils are somewhat excessively drained and very deep and have a loamy sand surface layer. Paniogue soils are well drained, have a loam or sandy loam surface layer, and have sand or gravel at depths of 20 to 40 inches. Minor in this unit are the very deep Keck, Escalante, and Quincy soils; the moderately deep Portino soils; and the shallow stony Trevino soils.

In general, soils are highly erodible and have high rates of drainage. Consequently, they are easily impacted by off-highway vehicle (OHV) use, contribute significantly to sedimentation and suspended solids in the reservoir, and require unusually high volumes of irrigation water.

Soil map units along the Snake River include the Declo-Feltham-Paniogue, Quincy-Vining-Rock outcrop, and Kecko-Escalante-Clems. These nearly level to hilly, well-drained and excessively drained soils formed alluvium and windblown material (loess); basalt plains, alluvial fans, and terraces; and rock outcrop (exposed basalt). Most of the acreage is used for rangeland and wildlife habitat, though small areas are used for irrigated crops and pasture. The interspersed rock outcrop and the areas of shallow soils are the main limitations for farming and most other uses. Blowing soil is common in spring where the soils are disturbed.

NATURAL RESOURCES

Vegetation

The native vegetation is a mixture of salt-desert and sagebrush communities in upland areas and wet-meadow complexes at the Snake River influence zone near the upper end of American Falls Reservoir. Between these two plant communities there is a limited juniper woodland. Surrounding lands exhibit a mosaic of native and introduced vegetation (see exhibits 3 and 4). Land cover on Reclamation-administered lands is summarized in table 2-3.

Table 2-3.—Land Cover on Reclamation Lands Within the Study Area (Acres)

Cover	Reservoir[1]	Snake River	Total
Sagebrush-grassland	1,871	2,248	4,119
Juniper woodland	0	941	941
Riparian/wetland	917	36	953
Agricultural	1,107	117	1,224
Bare ground	133	38	171
Developed areas	151	5	156
Other	123	0	123
Total	4,302	3,385	7,687

[1]Does not include acreage within the Fort Hall Indian Reservation.

Sagebrush-Grassland

Sagebrush is a pervasive natural cover on the mesas above the reservoir and within the river canyon downstream from the dam. This vegetation community falls within the "Sagebrush Steppe" as described by Daubenmire (1968). Other woody species include snakeweed, green and gray rabbitbrush, and salt-tolerant *Suaeda spp.* on poorly drained sites. An herbaceous understory, where relatively undisturbed, is characterized by bluegrass, wheatgrass, muhly, fescue, and basin wildrye. Common cheatgrass and mustard are common on disturbed sites (agriculture, grazing, or frequent burning). On range sites in poor condition, cheatgrass can become the predominant cover (BLM 1984).

Juniper Woodland

Occurring downstream from the dam, Juniper woodland is an association that includes *Juniperus scapulorum* as the widely scattered overstory tree and rabbitbrush and grasses in the understory. It is not common in Idaho (Boccard 1980) and may provide thermal cover for wintering large mammals as well as roosting areas for birds.

Wetlands (Including Riparian and Emergent)

Tree/shrub wetland (or riparian) habitat is less common in Idaho than juniper woodland (0.7 percent according to Boccard 1980). These areas provide fish and wildlife habitat, erosion control, forage, late season streamflow enhancement, aquifer recharge, and water quality improvement. Wetland and riparian habitats have been subject to extensive modification in this century, particularly along the Snake River. Upstream from American Falls Reservoir, over 12,000 acres of woodland were flooded by the construction of Jackson Lake Dam. Downstream to the confluence of the Boise River, 250 miles away, stands of cottonwood bottomlands, such as those in Fort Hall Bottoms, have been reduced to perhaps only one other site of similar quality--Thousand Springs (Palmer 1991).

There are several sub-types, or vegetative associations, within the general category of wetlands around the reservoir:

- Fort Hall Bottoms, which extends along the south side of the Snake River upstream from the reservoir, and McTucker Island, at the upper end of the reservoir, represent remnant floodplain forest, with large cottonwoods and tree-form brittle willows in the overstory and a very diverse understory of willow, alders, and annual and perennial herbaceous vegetation. The dynamic nature of the cottonwood floodplain forest is the subject of considerable past and ongoing research (Everitt 1968). Studies (Brady et al. 1985) indicate that regeneration of this association is dependent on periodic, large scale disturbance through flooding. Absence of such flooding in the McTucker area may be adversely affecting regeneration.

- Riparian associations often form around runoff areas such as Spring Hollow and Danielson Creek, and some have been expanded by construction of check dams and impoundments. At the inflow of Bannock Creek and other streams and in some portions of the reservoir drawdown zone, a simplified but vigorous pioneer community of brittle willow and coyote willow form the streamside structure.

- Reservoir drawdown creates an emergent wetland not necessarily associated with active streamflow. At maximum drawdown, about 30,000 acres of mudflats exposed each spring and summer constitute an ephemeral wet meadow community important to migrating shorebirds and waterfowl and predators. As the water recedes, the higher elevations of exposed land are annually colonized by cockleburs, goosegrass, beggar's ticks, and knotweed. Where inundation is longer and water recedes more slowly, the

American Falls - Vegetation and Wildlife Habitat

Cottonwood Floodplain Forest, McTucker Island

Agricultural and Sagebrush-Grassland Types, Southeastern Shore

Sagebrush-Grassland Habitat, Cliff Habitat and Willows, Southeastern Shore

Mediterranean annual grass (*Heleochloa alopecuroides*) is the dominant species; associates are blunt-leaved yellow-cress and marsh cutweed (Holte and Mourtsen 1974).

Downstream from the reservoir, steep banks restrict riparian vegetation to a few woody species, such as Russian olive, black and common cottonwood, water birch, and an understory of squawbush, current, and Wood's rose (FERC 1984). Islands and promontories along the Snake maintain stands of rushes, cattails, sedges, and common reed.

Agricultural Crops

A majority of the acreage in this area is used for irrigated crops, and a much smaller portion is irrigated pasture. Irrigated areas produce good crops of sugar beets, potatoes, small grain, and alfalfa. Non-irrigated areas are used for rangeland where soils support vegetation.

Modern irrigation systems in the area produce cropland monocultures which do not provide much diversity or cover for wildlife. They do supply considerable amounts of forage for waterfowl; wintering ducks utilize grain stubble and residue, and geese use both wheat and potato fields. Thistle and milkweed are representative plants on the weedy fringes of fields.

Pest Species

There are many introduced plants in the area, such as cheatgrass and common reed, but two are frequently mentioned as troublesome to farmers and wildlife managers—flowering rush and Canadian thistle.

Threatened, Endangered, and Sensitive Plants

A few listed "special plants" (Moseley and Groves 1990) have been reported in Power, Bingham, and Bannock Counties, but none from the reservoir area (Holte pers. comm.).

Fish

American Falls Reservoir is relatively shallow (average depth of 50 feet), and the water temperature tracks the ambient air temperature much more closely than a narrow, deep reservoir would. In the summer, the water temperature increase considerably, and in the winter, much of the reservoir freezes over. Due to shallow water and winds that cause turbulence and circulation of water to deeper levels, the reservoir is largely unstratified. Stratification is also prevented by a short retention time of water, as little as 4 months (Heimer 1989).

Dynamic temperature fluctuation affects the growth and survival of trout and other species, and lack of stratification eliminates different habitats for fish to move between when water temperatures change.

Game Fish

The main game fish species found in the reservoir are rainbow trout, cutthroat trout, brown trout, yellow perch, and black crappie. Largemouth and smallmouth bass are also found.

There is virtually no natural reproduction of rainbow trout in the reservoir or upstream (IDFG 1991), but trout are stocked annually by the IDFG and IPC. Some spawning may occur in some of the spring-fed streams on Fort Hall Indian Reservation lands, but the amount is not known (Taki pers. comm.). Larger trout found in the reservoir are generally considered to be survivors from fish planting in the previous years.

There is considerable movement of fish after stocking. Although the data from different years show considerable variation, the general pattern indicates approximately 60 percent are caught in the reservoir and 40 percent are caught in the river downstream from the dam (Smith 1991 Heimer 1984).

Heimer (1989) studied the usable trout habitat as defined by water temperature lower than 66 °F and dissolved oxygen level greater than 5 mg/l. This study showed that in the late summer months, only 4 percent of the full reservoir pool is usable for trout. The other areas are too warm or the DO level is so low that the trout are seriously stressed. The limited year-round usable habitat is the main factor limiting trout productivity. Biomass production is comparable to similar reservoirs in Canada and Montana if calculation include the water management regime and the relatively small volume of available habitat that can be used by trout all year (Smith 1991).

IDFG regularly stocks catchable-size trout in three small totally enclosed ponds that cover approximately 10 acres near the upper end of the reservoir (part of the McTucker Ponds).

A popular misconception is that the large white pelican population is responsible for low fish numbers. Many people believe that the pelicans take large carry-over trout, and concern has been expressed that stocking with expensive hatchery trout benefits the white pelicans and not anglers. A study at Pathfinder Reservoir indicates that pelicans feed extensively on carp, chub, and Utah suckers and that game fish make up less than 5 percent of their diet (Groves 1991). Trout normally stay in deep water, and unless floundering on the surface due injury or low DO conditions, they are not accessible by white pelicans.

Low biomass production could conceivably be improved by the addition of small peripheral impoundments that would act as repositories of zooplankton and forage fish communities. When flooded as the reservoir refills, such impoundments could release planktonic

communities which would "seed" the entire reservoir and possibly result in greater production of fish biomass.

Lahontan cutthroat trout were planted in the reservoir in 1989 but none have been caught in the reservoir or in the river downstream.

The Snake River downstream from American Falls Dam is characterized by several types of fish habitat. It is a large river with some narrow, rapidly moving channels and other slower moving, broad, relatively shallow areas. The 6-mile reach from American Falls Dam to Eagle Rock is classified as a Class 1 or "Blue Ribbon" trout stream and is famous for its trophy size trout which can reach 10 pounds (Heimer 1983). There is limited natural production of trout in the Snake River and virtually all rainbow trout are planted. However, wild rainbow, brown trout, and cutthroat trout are occasionally caught in this reach (USFWS 1992).

Nongame Fish

The reservoir produces a large number of nongame fish which provide forage for predatory fish and wildlife. The most abundant is the Utah sucker. Suckers are so abundant during the spawning season they are considered a nuisance in Fort Hall Indian Reservation streams. The Utah chub, black bullhead, redside shiner, mountain whitefish, and common carp are also abundant. Utah chub compete with trout for zooplankton.

Sensitive Species

None of the species found in American Falls Reservoir are classified by Federal or State agencies as endangered, threatened, or of special concern. A limited number of juvenile white sturgeon were recently introduced into this reach. Although the white sturgeon is listed as a State Species of Special Concern, it is not native to this reach of the Snake River.

Wildlife

There are 263 bird, 45 mammal, 17 reptile, and 6 amphibian species known to occur in the area (USFWS 1992). These are listed in Appendix B. Although resident and migratory wildlife include a wide variety of species, it is the river/reservoir combination, in an area that averages 10 inches of rain annually, that is the basis for the unique wildlife community at American Falls.

This portion of southeast Idaho has continental significance, and is mapped as a "Waterfowl Habitat Area of Special Concern" in the North American Waterfowl Management Plan (USFWS 1985). Thirty-one species of waterfowl use the area, some seasonally (USFWS 1992). This area is relatively less important for waterfowl breeding compared to adjacent areas, but is still potentially productive.

The reservoir and environs provides exceptional habitat for migratory birds, especially shorebirds, and for several species considered for listing under the Endangered Species Act (ESA). The Fort Hall Bottoms, between the upper end of the reservoir and the town of Blackfoot, is one of the most valuable waterfowl nesting areas in the region (Trent pers. comm.).

Mammal populations are somewhat limited by the narrowness and fragmentation of uncultivated sagebrush grassland and juniper on Reclamation holdings adjacent to the reservoir. Exceptions are areas where the ownership provides stable and contiguous habitat blocks. Remnants of sagebrush grassland and juniper woodland are enhanced by the presence of the riparian vegetation and year-around water, and may have a long-term role in preserving wildlife diversity.

Areas used by waterfowl and other wildlife, including threatened and endangered species, are illustrated in exhibits 5 through 8.

Shorebirds

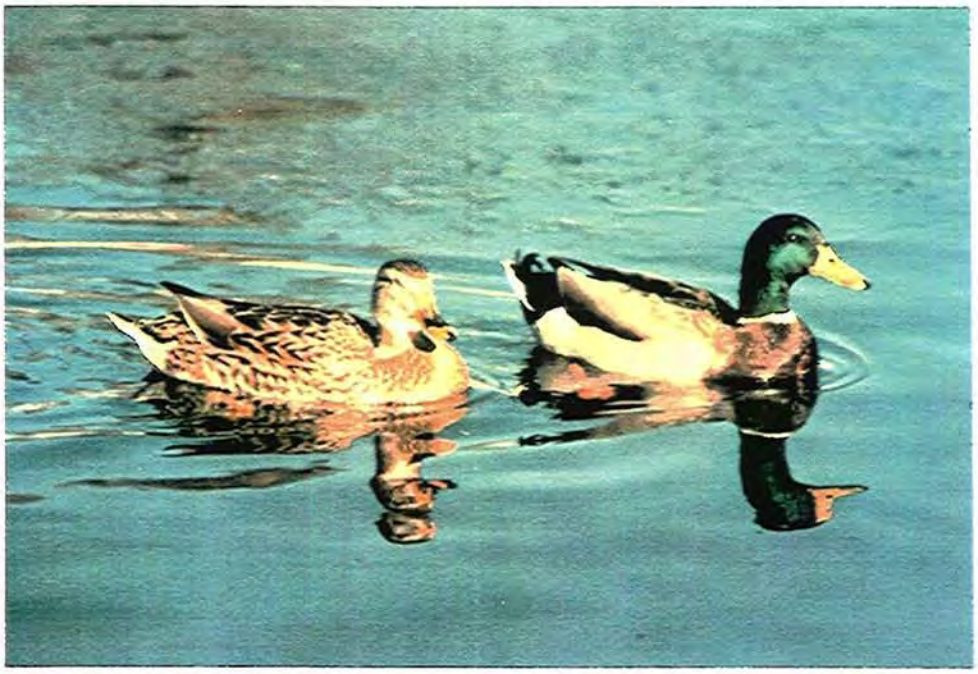
Mudflats created at the north end of the reservoir by the drawdown in late summer are arguably the largest, most unique, and most valuable resource for wildlife at American Falls. Rapid growth of annual grasses, followed by inundation and decay, are ideal conditions for building the base of a food chain and an impressive array of species diversity. The deep, soft mud harbors midge larvae and oligochaete worms at densities approaching 25,000 per square meter in the fall (Taylor et al. in press). Shorebirds migrating from the Arctic to South America use the site by the tens of thousands.

Shorebird abundance is anchored in seven key species, although there are 25 or more species of regular occurrence (Melquist 1987; Taylor et al. in press). These seven are the lesser yellowlegs, the killdeer, the western sandpiper, Baird's sandpiper, the long-billed dowitcher, Wilson's phalarope, and the avocet. Over 2,000 Franklin's gulls and up to 35,000 white-faced ibis use the reservoir mud flats as a migration staging area (Taylor et al. 1987; USFWS 1992).

Many shorebirds remain in the area through the spring. Avocets breed at American Falls, along with white-faced ibis, snowy and great egrets, black-necked stilts, snowy plovers, and California and ring-billed gulls.

Waterfowl and Other Aquatic Birds

The conditions that benefit shorebirds are important to other migrating and overwintering birds. Tundra swans, by the hundreds, use extensive areas at the northern end of the reservoir. Taylor and Trost (1987) recorded 35 species of birds at American Falls that have only rarely been observed in Idaho. Thousands of ducks and Canada geese begin arriving in late summer to forage. These birds forage in the reservoir and surrounding farmlands and



Mallards

American White Pelicans

loaf on exposed sandbars and mudflats predominantly in the upper end of the reservoir. Numbers can vary widely with the severity of winter weather conditions (USFWS 1992), but in some years, duck numbers peak at over 100,000 and geese at over 40,000. Trumpeter swans were reintroduced during the winters of 1990-91 and 1991-92 into the northern arc of the reservoir. The common loon may nest on rare occasions in the area although nesting has not been documented in recent years.

Waterfowl nesting include green- and blue-winged teal, gadwall, pintail, mallard, widgeon, Canada goose, redhead, and ruddy duck. Numbers of nesting pairs are modest compared to the extensive habitat provided upstream in the Fort Hall Bottoms and downstream at the MNWR. Although the nesting population of Canada geese has ranged as high as 130 pairs in recent years (USFWS 1992), the 10-year average (1978-1987) is 20 pairs compared to 155 at Blackfoot Reservoir, a smaller reservoir about 50 miles east. There are few islands, with the exception of the Big Hole area, and drawdown exposes nests to predators. More than 1,000 pelicans may be found at some time during the year.

The broad spectrum of aquatic birds includes many species whose populations are in decline elsewhere (cormorants, swans, and cranes) (see discussion under "Threatened and Endangered Species"). These species also attracts resident and migrant raptors.

The river reach from the dam to the MNWR is important nesting and migratory habitat for ducks and geese. The free-flowing water, open in winter, and the mosaic of cliffs, rapids, and riparian vegetation make the area between the dam and Massacre Rocks valuable for species infrequently seen in other areas of Idaho: white-winged and surf scooters, oldsquaws, and red-breasted mergansers.

The vicinity of Duck Point, about 9 miles downstream from the dam, has a high density of waterfowl nesting (FERC 1984), as does Tule Island near the southern end of the study area. Species present are similar to those found upstream. Habitat is of excellent quality in both areas but limited in extent. Nesting geese use the basalt cliffs throughout the Massacre Rocks area. Numbers of nesting pairs ranged from 8 to over 50 in surveys during the 1980's (USFWS file information).

Raptors

The large number of waterfowl and other birds in the area attract a variety of raptors. Migrants include gyrfalcons and peregrine falcons; bald eagles winter in the area. The cottonwood riparian forest at McTucker island provides roosting habitat for bald eagles. Red-tailed hawk, American kestrel, and osprey nest in the Fort Hall Bottoms (Howard 1987).

Peregrine and prairie falcons are occasionally sighted along the river reach downstream from the dam. Bald eagles can be found throughout the downstream area in the winter, but concentrate near the dam and the boundary of the MNWR (see exhibit 7).

Other Birds

The reservoir periphery provides critical winter and hiding cover for ring-necked pheasant, a species which, along with geese and some ducks, utilize agricultural areas for feeding. Pheasants are fewer than before the advent of clean farming practices, but are present in numbers great enough to provide sport hunting. Upland game species found downstream from the dam include Hungarian partridge, mourning dove, and sage grouse.

Inflow from Danielson Creek maintains open water habitat through the winter, and several other areas along the shoreline hold soil moisture after drawdown, presumably because of springs or seeps. The cottonwood riparian forest at McTucker Island supports roosting and nesting for the great blue heron. Cliffs, combined with a prey base of adult midges, support perhaps the largest aggregation of bank swallow nests in Idaho (Trost pers. comm.).

The Fort Hall Indian Reservation is a relatively large and ecologically rich and diverse area that has preserved much of the multi-layered riparian forest and braided-channel floodplain of the original river. It provides a significant buffer and security zone for migratory and resident wildlife. Saw-whet, western screech, great horned owls, and many other bird species nest on the Reservation.

Fish carrion at the dam outlet attracts scavengers, including uncommon species such as Bonaparte's gull.

Mammals

Mammal populations around the reservoir periphery are limited by the extensive "edge," or boundary, with agricultural lands. In many natural systems, edge between habitat types can augment diversity, but at American Falls, where the adjacent type is usually an aggressively controlled monoculture, the narrow strip of Reclamation land is more like a very long, narrow island. Species with large home ranges or special habitat needs are often absent from such areas, although white-tailed deer are found in the McTucker Island - Fort Hall Bottoms area (USFWS 1992), and wintering pronghorn antelope are occasionally found between Little Hole and Sterling. Small mammals are probably present in populations typical of sagebrush prairie elsewhere.

The river and riparian habitat support such mammals as the mink, muskrat, longtail weasel, and beaver.

The uplands downstream from the dam comprise a larger and more viable community than the strip of Reclamation land around the reservoir, since these Reclamation lands extend back from the river up to a mile in some areas. This land supports cottontail rabbits, small mammals, and associated predators: coyote, red fox, bobcat, badger, rough-legged hawk, and golden eagle. The riparian-upland transition zone near the MNWR on the northern shore is considered wintering habitat for mule deer and occasionally pronghorn antelope, but the

number of these animals and the sage grouse have declined through loss of adequate winter range elsewhere (BLM 1984).

Threatened, Endangered, and Sensitive Species of Wildlife

There are nine Federal endangered, threatened, or candidate species in the American Falls area (see table 2-4). Three of these species, the bald eagle, the American peregrine falcon, and the Desert (Utah) valvata snail, are listed as endangered species. The Bliss Rapids snail is listed as threatened but has yet to be described in the literature. Candidate species for possible listing as threatened or endangered include the white-faced ibis, long-billed curlew, yellow-billed cuckoo, Townsend's big-eared bat, and Idaho dunes tiger beetle.

Endangered and Threatened Species

The bald eagle is listed as federally endangered (i.e., in danger of extinction throughout all or a portion of its range). Wintering eagles in the area have been plentiful for at least the past decade. In five aerial surveys conducted between December 1979 and February 1981, an average of 50 eagles were observed between Minidoka Dam and the upper end of American Falls Reservoir (CH2M Hill 1982). Data supplied by Trost (pers. comm.) suggests a steady increase of eagles on the reservoir through the 1980's; 23 in 1982, 28 in 1984, and 40 in 1986. In February 1987, 59 eagles were counted from the reservoir upriver to Blackfoot (Howard 1987). Trost's data for 1989 gave a count of 74 eagles. The apparent increase in numbers of wintering eagles in the area is also supported by a recent USFWS (1992) report and by statewide figures. Numbers of nesting eagles in Idaho have more than doubled in the last 5 years (Groves and Melquist 1990).

Table 2-4.—Candidate, Threatened, and Endangered Species	
Species	**Category[1]**
Bald Eagle	E
American Peregrine Falcon	E
Desert (Utah) Valvata Snail	E
Bliss Rapids Snail	T
Long-billed Curlew	C-2
White-faced Ibis	C-2
Idaho Dunes Tiger Beetle	C-2
Townsend's Big-eared Bat	C-2
Yellow-billed Cuckoo	C-3b

[1]E=Endangered. Species in danger of extinction throughout all or significant portion of their range.
T=Threatened. Species is likely to become endangered within the foreseeable future throughout all or significant portion of its range.
C-2=Candidate Category 2. Species for which information now in possession indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not currently available to support proposed rules. Further biological research and field study may be needed to ascertain the status of taxa in this category.
C-3=Candidate Category 3. Species that were once being considered for listing as endangered or threatened, but are no longer receiving such consideration. Subcategories include: 3b: Taxonomic status is in question.

There appear to be two distinct wintering populations of bald eagles using the reservoir and downstream reach of the Snake River (Blair as cited in USFWS 1993). One population uses the upper end of the reservoir for foraging and roosts along the river at McTucker Island. The second population tends to use the Snake River downstream from American Falls Dam and roosts at Bowen Canyon, 9 air miles south of the American Falls Dam.

The areas most frequented by bald eagles are associated with large areas of open water, mature cottonwood stands, rock outcrops, and juniper trees that are within 50-100 yards of the Snake River. Frequency of use and total numbers of bald eagles at any one site are dependent upon ice conditions on the reservoir, waterfowl concentrations, large trees associated with old or existing farmsteads, and temporary displacement due to waterfowl hunters. During winter, bald eagles often rest on ice near areas of open water. Open water areas vary from several hundred to several thousand acres in size. The largest areas of open water consistently occur near the upper end of the reservoir. This area also serves to attract the highest winter concentrations of waterfowl and bald eagles in association with these waterfowl.

Although bald eagles are not nesting successfully at the reservoir, the cottonwood forests in and around McTucker Island and the Snake River upstream from the reservoir could provide nesting habitat for bald eagles. Those that attempt to nest in the area may be from the expanding population further upstream.

The arctic and anatum subspecies of peregrine falcon migrate through the American Falls area. No active nesting sites are found in the area. Abundant shorebirds and waterfowl provide a prey base and cliffs provide roosting areas. Generally, the arctic subspecies may be present in late August and early September on migrating from nesting sites in Alaska or northern Canada to wintering areas in Central and South America. The anatum subspecies is found nesting in the upper Snake River Plain and the Greater Yellowstone Ecosystem. About 230 peregrine falcons have been reintroduced into these areas during the past decade as part of a western-wide program to recover the species. Nine active pairs were found in eastern Idaho in 1992 (Levine as cited in USFWS 1993). Four of these pairs used 40-foot high nesting towers built for releasing and subsequently attracting the falcons to return for nesting purposes.

The Utah valvata snail has a fossil and historic distribution that includes the American Falls project area. The Utah snail is 0.2 inches long, the shell is turbinate (equally high and wide) with up to four whorls. It lives in deep pools adjacent to rapids or in perennial flowing waters associated with large spring complexes. The species avoids areas with heavy currents or rapids and prefers well-oxygenated areas of mud-sand substrate among beds of submergent aquatic vegetation. It is absent from pure gravel-boulder bottoms. The Utah snail historically occurred in the Snake River near Grandview, Idaho to river mile 585 just above Thousand Springs in the Hagerman Valley. A disjunct population occurs at River mile 709 near Eagle Rock, about 5 miles downstream from American Falls Dam (Beak as cited in USFWS 1993).

The Bliss Rapids snail (undescribed species), was only recently discovered in two flowing springs habitats associated with the Snake River upstream of the American Falls study area at river mile 749.8 (Pentec as cited in USFWS 1993). With this discovery, the known range of the species was extended upstream about 162 miles. The snail normally occurs only in areas associated with spring influences or on the edge of rapids environments with perennial well-oxygenated, clear, cold waters. The species is considered moderately photophobic and resides on the lateral sides and underside of rocks during daylight. The Bliss Rapids snail has been impacted by deteriorating water quality, reduced streamflows, and hydroelectric development in the middle Snake River and has declined in recent years. The species is currently restricted to a few disjunct populations along the Snake River.

Candidate Species

There are five known breeding colonies of white-faced ibis in Idaho. The American Falls colony (Trost as cited in USFWS 1993) nest in emergent vegetation or small trees in the Fort Hall Bottoms along Spring Creek. An estimated 200-250 nests have been counted. Ibis are

probing, non-visual feeders of invertebrates and rarely take small fish. Based on banding studies, these ibis winter along both coasts of Mexico.

The long-billed curlew is a migrating shorebird found throughout southern Idaho. It nests on the ground in short shrub and grassland vegetation in several upland areas around the reservoir.

Yellow-billed cuckoo are associated with and nest in riparian habitat along the first 2 miles of the Snake River upstream from American Falls Reservoir.

Townsend's big-eared bat occur throughout western North America in shrub/steppe grasslands, deciduous forests, and juniper/pine forests. These bats are insectivorous, eating primarily moths. During winter, when breeding occurs, they roost singly or in small clusters in caves, mine shafts, at rocky outcrops, or sometimes in old buildings. They do not migrate but will relocate roost locations within caves. Big-eared bats are sensitive to human disturbance and will abandon roost sites if disturbed.

The one insect candidate, the Idaho dunes tiger beetle, is known from a few sites along the Snake River Plain. It is found primarily in non-vegetated sand dunes which are surrounded by grassland vegetation. The beetle has been identified on BLM land approximately 2 miles north of the downstream river reach.

Idaho Species of Special Concern

There are eight Idaho Species of Special Concern included in the IDFG Natural Heritage Program (Moseley and Groves as cited in USFWS 1993) (see table 2-5). Species of Special Concern are those species which are either low in numbers, limited in distribution, or have suffered significant habitat losses.

Large numbers of American white pelicans forage in the vicinity of American Falls Reservoir. Based on recent surveys, upwards of 1,800 pelicans have been counted between McTucker Island and Ferry Butte. Pelicans are highly mobile, and it is believed that these may be nesting birds from either Utah or Wyoming foraging at the reservoir. One of the attractions, in addition to the availability of numerous forage rough fish, may be the large gull and cormorant colonies that nest at American Falls (Trost in USFWS 1993). Pelicans have been observed stealing fish from gulls and foraging cormorants in the area.

Table 2-5.—Idaho Species of Special Concern (Source: Moseley and Groves (USFWS 1993))	
Species	**Idaho Status**
American White Pelican	Category A[1]
Common Loon	Category A
Trumpeter Swan	Category A
Ferruginous Hawk	Category A
Mohave Black-collard Lizard	Category B[2]
Merlin	Category B
Yellow-billed Cuckoo	Category B
Townsend's Big-eared Bat	Category C[3]

[1]Priority Species are those which meet one or more of the criteria listed in the definition of Species of Special Concern and for which Idaho presently contains or formerly constituted a significant portion of their range.
[2]Peripheral Species are those which meet one or more of the criteria listed in the definition of Species of Special Concern but whose populations in Idaho are on the edge of a breeding range that falls largely outside the state.
[3]Undetermined Status Species are those that may be rare in the state but for which there is little information on population, distribution, and/or habitat requirements.

Since 1988, trumpeter swans have been captured in the Harriman State Park area of the Henrys Fork of the Snake River and released in the American Falls area and at other sites in Idaho. The capture and release program was initiated due to the high density of swans wintering in the Henrys Fork and low flows which caused the river to ice over in the winter eliminating potential forage. This strategy to change the migratory pattern of concentrating at Harriman State Park appears to have been successful (USFWS 1992). In 1992, swans made an unsuccessful nesting attempt in the American Falls study area.

The ferruginous hawk does not nest in the area but is observed as a migrant throughout the area during the fall and early spring.

Other Species of Special Concern that may occur in the project area include the merlin, a raptor associated with upland habitat, and the Mohave black-collard lizard.

American Falls localities are particularly important for Rancholabrean vertebrate assemblages. Represented animals include extinct bison, ground sloth, camel, llama, horse, mammoth, mastodon, dire wolf, and saber-tooth tiger. A summary of identified paleontological resources is included in the Final Environmental Assessment/FONSI.

There are approximately 9,000 paleontological specimens from the American Falls area curated at the Idaho Museum of Natural History. Some are single bones, while others contain multiple skeletal elements from individual animals. These were collected from 225 paleontological localities, of which 84 are on Reclamation lands. With a few exceptions, most recorded localities are on the eastern, western, and southern periphery of the reservoir and are exposed by erosion. Materials from the B layer are more common on the eastern side of the reservoir where the B layer tends to be thickest. Just 12 paleontological localities, concentrated in three areas, are recorded along the Snake River downstream from the American Falls Dam. These three areas are dispersed from near the dam, down to the far end of the study area, exposed where the river has cut through lacustrine sediments. Only 5 of the 12 localities are on Reclamation land.

Very few paleontological resources were located during a 1992 Class III survey, apparently because rapid drawdown of the reservoir in 1992 reduced bank erosion and exposure of fossils. Skeletal elements representing extinct species of camel, horse, ground sloth, and a skunk were collected and recorded as isolated occurrences. Fossil bones from an extinct species of bison were recorded within an archeological site in the downstream area near Eagle Rock.

CULTURAL RESOURCES

Cultural resources are historic and traditional properties that reflect our heritage. Historic properties include prehistoric and historic archeological sites, buildings, and places eligible for inclusion in the National Register of Historic Places (National Register). Traditional cultural properties (TCP's) are places of special heritage value to contemporary communities (often, but not necessarily, Native American groups) because of their association with the cultural practices or beliefs that are important in maintaining the cultural identity of the community.

Evidence of American Indian occupation in southeastern Idaho dates as early as 14,500 years before present (BP). Archaeologists have defined three prehistoric cultural periods in southeast Idaho. These are the Paleo-Indian Period (14,500 to 7,000 BP), the Archaic Period (7,000 to 300 BP), and the Protohistoric Period (300 BP to European contact). Clovis and Folsom projectile points representing the Paleo-Indian Period have been recovered from areas around the reservoir and from Lake Channel. A wide variety of temporally diagnostic projectile points, ceramic fragments, and other items recovered from lands downstream from the dam indicate extensive use through the Archaic and Protohistoric Periods. The study area also contains remains from historic-period mining and settlement.

The Shoshonean occupation of southern Idaho is thought to start between 650 to 550 BP (1300-1400 A.D.), although one researcher hypothesizes Shoshone occupation as early as 3,300 BP. The Bannock are linguistically related to the Northern Paiute, and may have been in southern Idaho since 450 BP (1500 A.D.). Shoshone and Bannock territory consisted primarily of southern Idaho, and bands congregated along the Weiser, Payette, Boise, and Snake Rivers. With the horse, they ranged north into southern Alberta and east to the Black Hills to hunt bison and trade. The Fort Hall Reservation was established in 1867.

Explorers and fur trappers first entered the study area in the early nineteenth century. Lewis and Clark passed through the area in 1805. Fort Hall, an important fur post and later a major stop on the Oregon Trail, operated from 1834 until 1856. From Fort Hall, the Oregon Trail continued west along the Snake River as far as the Raft River.

Settlement in southeastern Idaho began in 1860. During the 1870's, gold discoveries brought miners to southeast Idaho; Bonanza Bar was one of the most famous flour gold mining areas in the territory. The town of American Falls was platted in the 1890's. The biggest influx of population occurred in response to irrigated agriculture developments. Most settlement in the American Falls vicinity began after authorization of the Minidoka Project by the U. S. Reclamation Service (later renamed the Bureau of Reclamation) in 1904. Minidoka Dam, which impounds Lake Walcott, was completed in 1906, and American Falls Dam was completed in 1927.

Inventories

In 1992, Reclamation completed Class I and Class III inventories of cultural resources around American Falls Reservoir and downstream to the tailwater of Lake Walcott.

The Class I inventory was a records search that identified previously recorded or known (but not formally recorded) cultural and paleontological resources in the American Falls area. This Class I inventory encompassed 58,000 acres in Bannock, Bingham, and Power Counties in and around the American Falls Reservoir and for 25 miles downstream to the MNWR. In addition, consultation was initiated with the Shoshone-Bannock Tribes on the Fort Hall Reservation to identify areas of traditional cultural significance to the Tribes.

During the Class III survey, approximately 6,340 acres were examined, and 198 cultural resource sites were recorded. It was an intensive, systematic pedestrian survey of all previously unsurveyed lands administered by Reclamation around the perimeter of American Falls Reservoir and in the downstream area. It did not include the reservoir shoreline along the Fort Hall Indian Reservation, or lands lying more than about 100 feet below the reservoir high waterline. Three parcels of Reclamation land within the Sterling Wildlife Management Area (SWMA), several miles north of the reservoir, were excluded from survey.

Archeological and Prehistoric Resources

Of 198 recorded archeological sites, 177 date from the prehistoric or ethnohistoric period. Fifty-six of these sites are located around the reservoir perimeter; 103 are on the northern shore of the downstream area; 18 are on the southern shore of the downstream area or on an island. Ten additional sites contain both prehistoric or historic deposits as well as an historic period component: three around the reservoir perimeter, five on the northern shore of the downstream area, and two on the southeastern shore of the downstream area. Site density is markedly higher along the Snake River downstream of the dam and upstream of the Bonanza Bar area.

Archeological sites on Reclamation lands in the American Falls vicinity constitute a significant resource. This downstream area is one of the few remaining stretches along the upper Snake River where sites have not been greatly altered, obscured, or entirely destroyed by agricultural development, construction of dams and reservoirs, or other modern land use practices. The area retains many of the natural environmental conditions present before non-Indian incursions, and subsurface archeological deposits are largely intact. It is one of the few areas where a sufficiently large and varied complex of sites remains that could provide information to address a host of questions about past land use practices and cultural development.

This collection of sites reflects the full range of human history in the region, from the Paleo-Indian Period through the historic era. A wide range of site types have been identified that appear to represent diverse cultural activities. The diversity is represented by variation in site location/environmental association, tool types observed, relative density and types of cultural materials visible, and presence or absence of surface-visible features. Some of the sites were tentatively dated using observed projectile point styles. Dated sites include Paleo-Indian, Early, Middle, and Late Archaic, protohistoric, and historic components. Numerous sites appear to reflect periodic reoccupation through the years. The points include styles commonly found in the Great Basin, Plateau, and Northern Plains. Ceramic fragments were observed at some sites.

Sites were found in almost every environmental zone with surfaces suitable for occupation. Sand dunes were frequently observed to contain archeological deposits; possibly dunes were attractive use areas because they retained the sun's warmth or provided protection from the wind. Site types include: artifact scatters (often composed entirely of cutting and scraping tools and the debris that resulted from their manufacture, but sometimes also containing grinding implements, fragments of pottery, and burned bone); artifact scatters with features such as hearth or roasting pit remnants, or various rock groupings, alignments, or enclosures; isolated rock alignments; and rock shelters, some with associated features or rock art. Many artifact scatters contain dense deposits and appear to have high potential for subsurface components. The range of function represented might include: short-term camps used for a specific activity by a small group of people (such as a hunting or fishing camp);

more-intensive resource collecting or processing campsites that may have drawn more people for somewhat longer duration, and where a wider range of activities might be represented (hunting, plant harvesting and processing, tool manufacture, etc); substantial base camps, perhaps representing winter encampments of relatively large groups of people; procurement stations not associated with a camp; and features associated with ceremonial activities.

The surface areas of sites varied from less than 107 square feet to nearly 124 acres. It is probable that many of the sites could contain buried, stratified deposits. Limited subsurface testing was undertaken during the 1992 Class III survey, but geomorphological conditions indicate that numerous sites could contain buried deposits. In a 1981 study, test excavations were made at several sites near Eagle Rock. The testing program demonstrated that some sites in the downstream area contain stratified deposits over 3 feet deep, with components separated by sterile soils. These sites may contain the remains of many use episodes, with the oldest in the deepest levels, and later deposits superimposed in layer cake fashion.

The site assemblage downstream from American Falls Dam appears to contain deposits that can address complex research questions such as distribution of population and lifeways of prehistoric peoples, dates of occupation, foods used, seasons of use, activities, manufacturing or processing technologies, social patterns or conventions, organizations and changes through time.

Reclamation and the Idaho State Historic Preservation Officer (SHPO) have consulted on the historic significance of sites recorded in the downstream area as required by current regulations. The SHPO has agreed that the assemblage of sites in the downstream area is eligible for listing on the National Register as a National Register District, under criterion 36 CFR 60.4(d). Some sites may also be significant under criteria 60.4(a) and 60.4(c). The National Register District will include both the prehistoric and the historic period resources. About one-third of the sites contain surface-visible deposits that would make them individually eligible for the National Register, while most of the remaining sites might require subsurface tests to determine if intact subsurface deposits are present that would make them individually eligible for listing. Only five sites clearly lacked significant deposits.

Around the reservoir, there appears to be a more limited potential for significant sites. Far fewer sites are present, and many have been extensively affected by erosion, agriculture, or recreation activities. The lack of sites on lands above the reservoir is explained by the fact that these lands were located a distance from water before construction of American Falls Dam. Most inhabited and other archeological sites were likely on lands now under water for most or all of the year. Test excavations have been completed in a number of the sites above high water, in association with Reclamation projects. These tested sites have proved to contain deposits that were not of sufficient scientific value to warrant listing on the National Register. They generally were low density scatters of stone tool manufacturing debris, with deposits limited to disturbed, near-surface contexts. Some other recorded sites do appear to contain potential for significant subsurface deposits; 11 have been recommended as eligible to the National Register based upon surface information. Thirty-nine sites cannot be evaluated

from surface information alone, and 6 sites have been recommended as not eligible for the National Register from surface and/or test excavation information.

The National Register eligibility of individual sites around the reservoir would need to be tested individually, since a district designation does not appear appropriate.

Historic Resources

Historic resources refers to sites thought to reflect activities after the arrival of non-Indians. Thirteen archeological sites in the study area are historic sites. Six are located around the reservoir perimeter; seven are on the northern shore of the downstream area. Another 10 sites contain both historic and prehistoric or protohistoric components: three around the reservoir, five on the north shore, and two on the southeastern shore of the downstream area.

Historic site types include trash accumulations, a segment of the Oregon Trail, later roads, a railroad, placer mining areas, habitations, and the original American Falls town site. These sites date from the mid-1800's through the 1940's. The majority pertain to mining activities in the early 1900's.

Three sites were evaluated as not eligible for National Register listing, and 12 others remain unevaluated. Seven of the sites are recommended as eligible for National Register listing for their information potential. Two are judged significant both for their information potential and also their association with the historic development of the American Falls region. Additionally, one site embodies important mining-related engineering features.

Reclamation has an Interagency Agreement with the Bureau of Indian Affairs (BIA) for the management and protection of the Fort Hall National Historic Landmark (FHNHL). The FHNHL is located on the Reservation just south of the Snake River across from McTucker Island. It was listed in the National Register of Historic Places in October 1966. The BIA and Reclamation have joint responsibility for preservation and management of the FHNHL. According to the agreement drafted in February 1987, the Shoshone-Bannock Tribes, the National Park Service, and the Idaho SHPO are interested in the preservation of the FHNHL. This agreement is in force and effect until terminated upon the mutual consent of the BIA and Reclamation.

Native American Traditional and Sacred Resources

In oral testimony, members of the Shoshone-Bannock Tribes indicated that the northwest side of the downstream area is a sacred area. Non-Indian staff have added that some tribal members say that the entire study area is sacred. Specific archeological sites have been identified that contain features that appear to represent ceremonial activities. Additional sites and features are known to Tribal members that were not identified during the cultural

resource survey, and represent significant traditional cultural properties. Some emphasize that it is the area as a whole that is sacred and has great value, not segments of the area tied to identified locations. As one informant indicated, "We as Indian people have a deep respect for the mother earth and have a deep tie with the area that is surrounding the Fort Hall Indian Reservation, as well as the aboriginal lands of our ancestors. The area in question is a sacred site, not only because the particular area was utilized as a burial or a fasting place, but because we hold all of our mother earth as sacred" (Robertson 1993).

Tribal members remember participating with their older relatives in traditional social and ceremonial activities, as well as gathering important natural resources, in the downstream area earlier in this century. Further, they have stated that particular traditional activities can be practiced properly only in areas that have not been greatly altered by modern land use. Several canyons on the northwestern shore of the downstream study area are among the few remaining areas still appropriate for traditional uses in the Pocatello area.

Non-Indian tribal staff have stated that "it is impossible and inappropriate to attempt to separate these specific TCP's from the context of the geographic study area setting when determining sacredness. It is our interpretation that sacredness and significance is recognized through the integration into a holistic setting of the features, resources, tradition, religion, and other natural and spiritual trails represented within an area. Therefore, sacred areas cannot be bounded or segregated into specific features" (Robertson 1993).

DEMOGRAPHIC PROFILE

Historical and Projected Population Growth

Population growth in the Bingham, Bannock, and Power Counties has been slow but steady in the past few decades, increasing from 81,671 in 1960 to 110,695 in 1990 (see table 2-6). Population growth in the three counties during the 1980's was approximately one-third of the State average. Demographic trends suggests that population growth may be closer to the State average in the 1990's.

Table 2-6.—Population by County					
Year	**Bannock County**	**Bingham County**	**Power County**	**Three County Total**	**State of Idaho**
1960	49,342	28,218	4,111	81,671	667,191
1970	52,200	29,167	4,864	86,231	713,015
1980	65,421	36,489	6,844	108,754	943,935
1990	66,026	37,583	7,086	110,695	1,006,749
1980-1990 Population change (percent)	0.9	3.0	3.5	1.8	6.6
1995 Population forecast	70,118	41,447	7,052	118,617	Not estimated

Population in two of the nearby cities declined during the 1980's and grew at only 3.6 percent in the city of American Falls (see table 2-7).

Table 2-7.—City Population			
Year	**Pocatello (Bannock County)**	**Blackfoot (Bingham County)**	**American Falls (Power County)**
1980	46,340	10,065	3,626
1990	46,080	9,646	3,757
1980-1990 change	-0.6 percent	-4.2 percent	3.6 percent

The three counties are dominated by young families with about 32 percent of the population under 15 years of age and 27 percent in the 25-44 year age group.

The local population is predominantly Caucasian. Native Americans comprised approximately 4 percent of the three county population in 1980. The population density is 28 persons per square mile.

Economic Profile

Although heavily dependent on agriculture, the regional economy of Bannock, Bingham, and Power Counties is economically diverse. Phosphate ore mining and processing into fertilizer and elemental phosphorous are major industries along with food processing and electronics manufacturing. In the Pocatello area, the largest employers are: the Idaho National Engineering Laboratory, 11,000 employees; Idaho State University, 1,446 employees; Union Pacific Railroad, 1,373 employees; Gould-Ami Semiconductor, 900 employees; and Ore-Ida Foods Company, 500 employees.

Although agriculture was Idaho's largest industry in 1990, agriculture plays a smaller role within the three county area. Major agricultural crops produced in this region include wheat, hay, sugar beets, barley and the famous Idaho Russet Potato. Livestock production (primarily cattle and sheep) is also an important source of income for the area.

The largest industries in Bannock in 1989 were services, 19.3 percent of earnings; State and local government, 18.1 percent; and transportation and public utilities, 16.8 percent. The slowest growing industry from 1988 to 1989 (of those industries accounting for at least 5 percent of 1989 earnings) were finance, insurance, and real estate, contributing 6.5 percent to total earnings (a 5.2 percent decline from the previous period). Wholesale trade was the fastest growing industry, contributing 6.2 percent (an increase of 13.0 percent).

In Bingham County, the largest industries in 1989 were farming, 23.0 percent of earnings; services, 19.1 percent; and non-durable goods manufacturing, 14.2 percent. The slowest growing industry from 1988 to 1989 (of those industries accounting for at least 5 percent of 1989 earnings) was retail trade, contributing 5.6 percent to total earnings (an increase of 5.0 percent over the last period). Construction was the fastest growing industry, contributing 5.9 percent (an increase of 26.9 percent).

The largest industries in Power County in 1989 were non-durable goods manufacturing, 41.2 percent of earnings; farming, 28.3 percent; and state and local government, 7 percent. The slowest growing industry from 1988 to 1989 (of those industries accounting for at least 5 percent of 1989 earnings) was non-durable goods manufacturing (a 1.8 percent decline from the previous period). Farming was the fastest growing industry (23.4 percent increase).

Unemployment rates for 1988, 1989, and 1990 in the three counties were considerably higher than the State average (see table 2-8). Power County has a history of above average unemployment rates. The Pocatello area, with historically low unemployment rates, recently witnessed the loss of over 1,300 jobs in a 1 year period (June 1990 to June 1991).

In 1989, the per capita personal income in the three counties averaged 98.6 percent of the State average and 77.1 percent of the National average (see table 2-9), and averaged 9.4 percent from 1988 to 1989 compared to 8.2 percent for the State and 6.6 percent for the Nation. Bannock County's 7.3-percent increase was less than the State average.

Table 2-8.—Unemployment Rates (Percent)

Year	Bannock	Bingham	Power	3-County Average	State of Idaho
1988	6.3	7.1	8.9	7.4	5.8
1989	5.2	6.9	9.0	7.0	5.1
1990	6.4	6.8	10.9	7.9	5.8

Table 2-9.—1989 Per Capita Personal Income Data

Area	PCPI	Percent of State Average	Percent of National Average	88-89 Increase (percent)
Bannock	$12,288	89.3	69.8	7.3
Bingham	$11,462	83.3	65.2	8.9
Power	$16,941	123.1	95.4	12.1
3-County	$13,564	98.6	77.1	9.4
State average	$13,760	--	78.2	8.2
Nation	$17,592	127.8	--	6.6

INFRASTRUCTURE

Roads and Access

The major roads in the vicinity of the American Falls Reservoir are U.S. Interstates 86 and 15, located to the south and east of the reservoir and State Highway 39, to the west of the reservoir. A segment of the Union Pacific Railroad runs along the northwestern side of the reservoir with its terminus in Aberdeen. Another leg runs adjacent to U.S. Interstate 86 from Pocatello to American Falls and on further west.

The Seagull Bay Yacht Club, at Seagull Bay located on the east side of the reservoir, is accessed by a gravel surface county road from U.S. Interstate 86. Willow Bay Recreation Area, located a few miles south of Seagull Bay, is also accessed from the Interstate via a bypass linking the Interstate with State Highway 39. This bypass was completed about 1 year ago to relieve traffic congestion in downtown American Falls.

The American Falls Visitors Center/day use area, located on the southwestern shore of the reservoir, is accessed directly from State Highway 39.

Sportsman's Park and the surrounding area referred to as Big Hole are accessed primarily via Boat Dock and Fingal Roads from State Highway 39. This area has numerous unimproved and meandering roads. Many of them, especially those on the peninsula, present a serious hazard due to proximity to edges of bluffs, steepness, and lack of maintenance.

"Sportsman Access" signs lead to the SWMA which is reached from Stang, Vanderford, and Fingal Roads from State Highway 39. Beach Road is the primary access to the Little Hole area of the SWMA. IDFG is working to provide parking, install stiles and foot bridges where needed, place informational signs at access points, provide boundary markers and maps, and develop a brochure for the SWMA.

McTucker Island and Springfield Bottoms areas, at the upper end of the reservoir, are accessible via Chandler Road and other county roads which have "Sportsman Access" signs leading to gravel pit ponds and a boat ramp. From the county road, numerous unimproved roads wind down to the reservoir and the in-flowing streams.

Access to Reclamation lands and the reservoir through the Fort Hall Indian Reservation is regulated by the Shoshone-Bannock Tribes.

Major roads leading to areas used for hunting, swimming, and other recreation activities are generally signed; however, the roads closest to the reservoir are generally unimproved and difficult to find. In some cases, adjacent landowners have erected "No Trespassing" signs on roads which are on Reclamation lands and a few roads have been gated or otherwise closed to public access. A number of public access points to the reservoir were established during the early settlement of the area. Over time (especially in the last 10 years), some private landowners have closed these public access roads, and Power and Bingham County have abandoned some roads that were the only access to Reclamation lands.

Reclamation lands along the Snake River are accessed via county roads from U.S. Interstate 86, which runs south of and parallel to the Snake River, and from State Highway 39 which crosses the dam and then turns west on Lake Channel Boulevard. Massacre Rocks State Park, three noncontiguous land areas located along the south side of the river, is accessed by paved roads from Interstate 86. There are numerous river access points that are Neely Road. Roads into sportsmen access points which have been improved to some extent are generally signed and maintained. All other roads are generally passable only in four-wheel drive vehicles and some are hazardous due to proximity to steep bluffs, highly erodible

soils, and shifting or blowing sand. Undesignated roads and trails are present along the north side of the river and on the south side between the several tracts that make up the Massacre Rocks State Park.

Traffic Volumes

Traffic on area roads has increased markedly in the past two decades as summarized in table 2-10. Traffic on U.S. Interstate 86 is highest during the summer months and the lowest in January when road conditions are the worst. Much of the higher traffic levels are attributable to local and interstate recreational traffic. The Interstate Highway is a major east-west route to Grand Teton and Yellowstone National Parks.

Table 2-10.—Average Daily Traffic Volumes
(Source: Idaho Department of Highways)

Location	1970	1980	1990
Highway 39 just north of American Falls	3,170	4,380	4,090
Highway 39, south of Aberdeen	1,350	1,760	2,140
Highway 39, north of Aberdeen	1,100	1,290	1,700
I-86, south of Pocatello, before connection with I-15	3,810	4,550	5,510
US-91 and I-15 intersection south of Blackfoot	1,900	2,840	2,670

Public Utilities and Services

Electric Power

IPC is the major electrical utility in the area and provides power to farms, homes, and recreation areas. Electrical power is available at all of the developed recreation sites. Bingham County supplies power to the gravel mine (generator powered) adjacent to McTucker Island. Fort Hall Indian Reservation administration and tribal buildings are supplied by tribal resources, but IPC supplies electricity to homes on the Reservation.

Numerous transmission lines cross the study area. A number of 46-kilovolt (kV) lines are located to the west and northwest of the reservoir; a 161-kV line runs along the north; and 161-kV and a 46-kV lines cross the Fort Hall Indian Reservation in close proximity to the reservoir. Running approximately 2 miles south of Interstate 86 from Pocatello to the

American Falls Dam are 46-kV, 138-kV, and 230 kV lines; another few miles to the south is a 345-kV line. All of these lines cross the Snake River approximately 1-1/2 miles downstream from the dam. From the dam the 46-kV line follows highway 39 to the north, all of the other lines follow the Union Pacific Railroad alinement toward the east.

Potable Water

The city of American Falls, the Willow Bay Recreation Area, and the Reclamation Visitors Center are supplied with potable water from the city-owned natural spring and five wells. Sportsman's Park, the Seagull Bay Yacht Club, and farms in the area obtain potable water from individual wells. Developed recreation sites around the reservoir have potable water sources.

The BIA, Indian Health Service, and the Shoshone-Bannock Tribes supply water from a centralized well to tribal members on the Fort Hall Indian Reservation.

Downstream, individual wells supply potable water for the farms and Massacre Rocks State Park.

Sewage

The city of American Falls sewage treatment facility handles waste from the city of American Falls and the recreation vehicle (RV) dump station at Willow Bay Recreation Area. Waste water undergoes secondary treatment and is returned into the Snake River just downstream from American Falls Dam. The cities of Aberdeen, Pocatello, and Blackfoot have waste treatment plants that provide secondary treatment of sewage. The cities of Aberdeen and Pocatello return treated waste water to streams that empty into the reservoir. The city of Blackfoot discharges treated waste water into the Snake River. To comply with EPA regulations, biochemical oxygen demand (BOD) and suspended solids are recorded for inflow and effluent.

In addition to city facilities, there are several waste treatment ponds in the area associated with smaller towns that treat the sewage through direct aeration. Water returned to the Snake River from these ponds is considered primary treated sewage. Other small towns, farms, and other recreation areas adjacent to the reservoir and along the river have individual septic systems. Tribal homes on the Fort Hall Indian Reservation use individual septic systems.

Solid Waste

Solid waste collected within Power County is deposited in the County sanitary landfill located approximately 2 miles southwest of the city of American Falls. Waste collected within Bingham County is deposited in the County landfill located approximately 15 miles northeast

of Blackfoot. Developed recreation sites adjacent to the reservoir and along the river are supplied with trash containers or dumpsters which are picked up by the counties.

Fire Protection

The BLM provides fire protection for Reclamation lands through a national memorandum of understanding, dated March 25, 1983 (see Appendix D). The Aberdeen/Springfield Fire District (District No. 5), under the Bingham County Sheriff's Department, also provides fire protection for the reservoir area within Bingham County. Power County has an all volunteer service which provides fire protection for the city of American Falls and all rural areas, including the reservoir and Snake River areas within the county. Power County has cooperative agreements with the cities of Aberdeen and Chubbock for their service if the need arises. The Shoshone-Bannock Tribes has a fire service which provides protection for tribal lands and members within the Reservation.

Law Enforcement

Bingham and Power County Sheriff Departments have jurisdiction on Reclamation lands for law enforcement within their respective counties. Each department has a patrol boat for law enforcement. Responsibilities include: boat and ramp inspections; boat landings and facilities maintenance/replacement; navigational aid inspection and replacement; response to emergencies; towing boats that have broken down or run out of fuel; and picking up floating debris. The police department for the city of American Falls has jurisdiction within the city boundaries.

The most common law enforcement problem related to Reclamation lands appears to be conflicts with private landowners and lease holders over public access rights to the reservoir. Trespass and vandalism are the most common charges. In general, vandalism, misconduct, and other behavioral problems are not a significant problem.

There have been increasing complaints regarding the noise and other impacts associated with OHV use along the north side of the river, particularly during the spring. Concern has been expressed regarding the potential for rock climbing accidents across the river from Massacre Rocks State Park. Reclamation does not have law enforcement authority and relies on assistance from other Federal agencies, the local county Sheriff, etc.

MANAGEMENT OF NATURAL RESOURCES

Reclamation Lands

Reclamation manages 4,302 acres of land above the normal high waterline around American Falls Reservoir and 3,385 acres of land along the Snake River downstream to the MNWR (see exhibits 1 and 2). Reclamation management also includes over 58,000 acres of land inundated by the reservoir at normal maximum pool elevation. Management activities include leases and permanent easements; some of the leased lands are seasonally covered by water.

Reclamation lands along the Snake River are interspersed with BLM, Idaho Department of Lands, Idaho Department of Parks and Recreation (IDPR), and privately owned lands. The bulk of Reclamation lands stretch for approximately 10 miles along the north side of the river, centered across from the Massacre Rocks State Park.

There are several private encroachments on Reclamation-administered lands. A significant encroachment involves about 7 acres on the west side of the reservoir where a number of old farm buildings have been erected and implements stored. Small infringements that include farm equipment, irrigation systems, and cattle grazing exist throughout the area.

Leases and Agreements

Reclamation leases include lands above the high waterline and lands that are seasonally submerged. A total of 6,536 acres are leased for agriculture and livestock grazing and of these, about 5,525 acres are below the high waterline located primarily at the upper end of the reservoir. Other leases and agreements include 1,982 acres to the IDFG for wildlife, 669.4 acres for recreation purposes, and 47 acres to Bingham County for excavation of road building material. There are 190 acres adjacent to the reservoir that have permanent agricultural easements. In addition, there are 1,800 acres under agreements with the BLM are within BLM grazing allotments. Lastly, there are a total of 5,685 acres of Reclamation lands within the Fort Hall Indian Reservation which are not included in this AFRMP. Table 2-11 indicates specific Reclamation lease types and land uses with corresponding acreages and general location. Exhibit 9 shows the location of leases around the reservoir, and exhibit 10 shows the location of leases along the river downstream from the dam.

Table 2-11.—Status of Reclamation Lands (acres)			
Land Status	**Reservoir**	**River**	**Total**
Leases for grazing[1]	6,104.5	0	6,104.5
Leases for agricultural cropland	346.1	85.4	431.5
Subtotal grazing and agricultural leases	(6,450.6)	(85.4)	(6,536.0)
Leases and agreements for wildlife areas	1,356.0	626.0	1,982.0
Leases for recreation areas	669.4	0	669.4
Leases for road building material excavation areas	47.0	0	47.0
Permanent agricultural easements	190.0	0	190.0
Reclamation lands within Fort Hall Indian Reservation[2]	5,685.0	0	5,685.0
Reclamation lands within BLM grazing allotments[3]	0	1,800.0	1,800.0

[1]5,525 acres of lands leased for grazing are below the high waterline in the reservoir drawdown area.
[2]Reclamation lands on the Fort Hall Indian Reservation are not part of the AFRMP.
[3]These lands are located within the Eagle Rock, Cedar Fields, and Ponderosa grazing allotments which are all located on the north side of the downstream portion of the Snake River.

Agriculture and Grazing

Agricultural and grazing leases are issued through a bid process for a 1-year period and are renewable for an additional 4 years. Due to the planning for the AFRMP, these leases expired on February 28, 1994. Leases will be made in the future in accordance with and pending completion of the AFRMP.

Grazing leases for lands above the high waterline are for April 15 to June 15 whereas leases for land in the drawdown area are for July 15 to October 15. All of the grazing leases are subject to the following requirements: 15 acres per animal unit month (AUM) on dry grazing land, 1/2 acre per AUM on irrigated pasture land and 7 acres per AUM in the reservoir drawdown area. There are 10 acres of irrigated pasture land under grazing lease along the reservoir. The largest single grazing lease is for 6,025-acres, and all but 500 acres are located below the normal high waterline of the reservoir.

Agricultural cropland leases along the reservoir have a 75-foot setback. All of the agricultural leases require the following: all grain stubble is left standing in the field over the winter; burning of stubble is not allowed; and hunting and fishing by the public cannot be restricted by the lessee. There are only two agriculture leases along the southeast side of the Snake River--74.9 acres and 10.5 acres--totaling 85.4 acres.

Approximately 1,800 acres of Reclamation land along the north side of the river (exhibit 10) are within three of BLM's adjoining grazing allotments (the Eagle Rock, Cedar Fields, and Ponderosa allotments). These Reclamation lands are being used for grazing purposes pursuant to agreements between the BLM and Reclamation dating back to 1941. The permittees use Reclamation lands primarily for access to the Snake River for water and secondarily for forage. The BLM has not been charging for forage consumed on the Reclamation lands. Thus, carrying capacities and forage allocations have not been calculated for the Reclamation lands in these allotments. Grazing prescriptions of each of the three allotments are:

Eagle Rock: The season of use is from November 1 to 21 for 147 cattle at 51 percent public land for a total of 52 AUM's. This use is licensed annually on a temporary non-renewable basis, depending on forage availability. The Snake River is the source of water for livestock.

Cedar Fields: The season of use is from April 16 to September 15 for 79 cattle and 15 horses for a total of 470 AUM's. The use is licensed at 100 percent public land (discounting the Reclamation lands within the allotment).

Ponderosa: This is an unallocated allotment with no active permittee and no calculated AUM's. The allotment is only used if forage is available and someone applies for its use. When the allotment is permitted, the season of use is usually in the fall. The area was last grazed in 1989.

Wildlife

Reclamation lands are included in the SWMA (see later discussion). The IDFG has four 50-year leases which expire in 2039 and total 806 acres along the northwestern edge of the reservoir. In addition, IDFG also has a long-term cooperative agreement with Reclamation for another 550 acres within the Little Hole Wildlife Area, a part of SWMA (see exhibit 1). Although the primary purpose of the leases and agreement is to manage and enhance wildlife habitat, leased areas are used by recreationists, primarily hunters. These leases are summarized in table 2-12.

IDFG also leases approximately 626 acres along both sides of the Snake River adjacent to Eagle Rock. In July 1991, Reclamation extended the current lease by 3 years.

Table 2-12.—IDFG Leases and Agreements: Sterling Wildlife Management Area		
Effective Date/Length	**Acres**	**Lease/Agreement**
1979/50 years	200	Lease
1981/50 years	160	Lease
1981/50 years	271	Lease
1981/50 years	175	Lease
1987/Long-term	550	Agreement
Total	**1,356**	

Recreation

Lease agreements for public outdoor recreation exist for three areas around the reservoir. Bingham County has a 30-year lease agreement for approximately 545 acres of land surrounding the Big Hole area along the west side of the reservoir. The county operates the 13-acre Sportsman's Park on the western shore of the Big Hole inlet within the overall leased area. This lease expires on July 14, 2002.

The Seagull Boat Club leases 36.4 acres at Seagull Bay on the east side of the reservoir. This lease has a term of 30 years and will expire on October 7, 2004.

The city of American Falls leases about 88 acres located approximately 1 mile northeast of the city. The lease is for 30 years and will expire on June 16, 2002. Leased land is included with another 40 acres owned by the city and operated by the city Parks and Recreation Department as Willow Bay Recreation Area. Licenses to private concessionaires to operate and maintain the various facilities are granted by the city.

Mining

Bingham County has a mining license for removing road building materials (sand, rock, and gravel) from approximately 47 acres at the north end of the reservoir adjacent to McTucker Island. This license expired April 9, 1994.

Easements

There are 5,685 acres of Reclamation lands located along the reservoir and within the Fort Hall Indian Reservation that were acquired through a Congressional Act in 1926. Tribal members retain a permanent easement to continue grazing, hunting, fishing, and gathering wood on these lands. Winter grazing on lands exposed by drawdown is restricted to tribal members. Lands adjacent to McTucker Island are used the most for this purpose.

When private property was purchased by Reclamation to create the reservoir, some of the land was being used for cattle grazing and farming. Many sellers asked for and received permanent easement rights to continue these uses to the exclusion of non-agricultural uses (other than reservoir management purposes) and development. Reclamation retains fee title to these lands and the right to use them for reservoir purposes. A total of 190 acres with a linear length of about 12 miles mostly along the northwest side of the reservoir are subject to these permanent agricultural easements; about 1/2-mile of agricultural easement land is located on the east side of the reservoir near Seagull Bay. The agricultural easements average 300 feet in width.

Other Reclamation Lands

Reclamation manages approximately 10 acres of land specifically for recreational purposes at the Visitors Center and day use area located on the west side of the dam.

Approximately 1,491 acres of Reclamation lands around the reservoir and outside of the Fort Hall Indian Reservation are not reserved for a specific use. These lands are identified as being primarily undeveloped and important for wildlife habitat, water quality, erosion control and dispersed recreation.

Surrounding Lands

Land ownership around the reservoir, other than Reclamation lands, is predominantly private. Irrigated cropland is the dominant use of land surrounding the reservoir. A small amount of livestock grazing occurs as well. Residences are widely scattered throughout the area, but there are two areas around the reservoir where residential lots border Reclamation lands. A few lots cover a short distance of shoreline just north of the Reclamation Visitors Center and there are six lots south of the Reservation/Reclamation boundary on the east side of the reservoir. The city of American Falls, at the southern end of the east side of the reservoir, covers approximately 3 square miles; immediate land uses are primarily industrial. There are no developed recreation areas on the reservoir except those located on Reclamation lands. Other areas, particularly in the SWMA and the Fort Hall Bottoms, are undeveloped and used for hunting and fishing.

Approximately one-third of the American Falls Reservoir and its shoreline are within the Reservation and are used by tribal members for hunting, fishing, and wood gathering. The primary land uses on the Reservation are irrigated cropland and cattle grazing. A number of tribal residences and a few administration buildings are located within the Reservation. The remainder of the lands are open space.

Along the Snake River downstream from the dam, there are interspersed BLM, Idaho Department of Lands, IDFG, IDPR, and privately-owned lands. On the north side of the river and especially toward the dam (east), the terrain is considerably higher, steeper, and

rockier. IDFG operates a fish hatchery just south of the American Falls Dam, and approximately 1 mile due west of the hatchery there is an industrial waste-water pond. Due to the irregular terrain and rocky soils, lands within the first mile or so of the river are generally not irrigated. These lands, if used, are used for livestock grazing. As discussed earlier, grazing occurs within four BLM grazing allotments which include other public and private lands. Three of the allotments (Eagle Rock, Cedar Fields, and Ponderosa) adjoin Reclamation lands.

The south side of the river, near American Falls, is primarily irrigated cropland. Further west, Massacre Rocks State Park is managed by the IDPR, and there is additional cropland. There are also a number of small developed and undeveloped BLM recreation sites along both banks of the river.

Sterling Wildlife Management Area

The SWMA consists of 3,647 acres of land managed by IDFG and includes IDFG lands interspersed with Reclamation and private lands that cover a non-contiguous area about 7 miles by 2 miles along the northwest side of American Falls Reservoir. These lands are about 4 miles northeast of the city of Aberdeen. Two of the three private land holdings have formal cooperative agreements with IDFG; the third private parcel operates in accordance with a mutually beneficial informal agreement. IDFG operations include setting annual work plans, operation and maintenance, patrolling and security, wildlife habitat enhancement, and setting recreational use (primarily hunting) goals and objectives. Table 2-13 outlines the current land ownership status within SWMA.

Table 2-13.—Sterling Wildlife Management Area Land Ownership

Ownership	Acres
IDFG	1,951.3
Reclamation	1,356.0
Private	340.0
Total	3,647.3

Land acquisition began in 1968 when 122 acres were purchased by the now defunct American Game Association and donated to the State of Idaho with the provision that the land would be used for public hunting and waterfowl production. Initially, developments were concentrated on boundary fences, removal of old buildings, and construction of access areas. During the mid-1980's, work began on developing larger cultivated areas, new ponds, and cross fencing for controlled grazing.

The SWMA offers good habitat for a variety of waterfowl and other birds and is one of the few public areas in eastern Idaho with good pheasant habitat. The available food and the amount of nesting and brooding cover promote pheasant production. The heaviest public use is hunting for pheasants, ducks, and geese. Other uses include bird watching, horseback riding, and dog training.

A 4-year management plan for the SWMA was developed by IDFG in 1986. Table 2-14 lists the land use categories and priorities established by IDFG in that plan. Subsequent work plans have been developed annually and follow the guidelines set in the 1986 plan.

Table 2-14.—Sterling Wildlife Management Area Land Use

Land Use	Priority
Waterfowl production	1
Public hunting	2
Pheasant production	3
Wildlife appreciation and other wildlife production	4

Cedar Fields Special Recreation Management Area

The BLM Cedar Fields Special Recreation Management Area (SRMA) is located along the north side of the Snake River adjacent to Reclamation lands. Starting about 1 mile west of American Falls Dam, the SRMA extends approximately 13 miles along the north side of the Snake River to within about 2 miles of the MNWR. The SRMA varies in width from approximately 1,000 feet to 1-1/2 miles. Management strategy for this area is to provide a variety of recreation activities including OHV use, sport fishing, and river floating; to maintain or enhance wildlife habitat; and to protect scenic quality, fragile soils, and cultural resources. OHV use is restricted where high quality and highly visible scenic areas, fragile soils, significant wildlife values, and significant cultural resources are being significantly damaged. OHV use is further restricted by BLM within two subareas of the SRMA to designated trails to be consistent with Reclamation limitations on adjacent lands. Reclamation policy prohibits OHV use on all Reclamation lands along the river.

Minerals Management

The public and highway departments have a continuous need for sand and gravel since these materials are available only in small deposits and are critical to many users. Sand and gravel are currently being mined on approximately 10 acres of Reclamation lands by Bingham County in the McTucker Island area. The Bingham County lease area contains eight ponds of varying sizes and requires that levees be retained between the ponds for access. Bingham County was granted a lease extension to April 1993 which provided for mining activities at and beyond the easternmost pond. The westernmost pond was until recently leased by the Idaho Department of Transportation. Future extraction of sand and gravel will most likely occur in a westerly direction, but the presence of wetlands may eventually restrict activities. It may be possible to extract sand and gravel in the future by making the existing ponds deeper. The gravel pit currently being excavated is approximately 25 feet deep, while the remaining ponds range from 10 to 15 feet in depth.

Following excavation, the mined areas have filled with water and resemble a series of generally rectangular ponds which attract considerable recreational use, primarily fishing and swimming (IDFG stocks selected ponds).

In 1980, a filing was made to the Department of the Interior to extract flour gold (gold flake) from a site on McTucker Island. The filing included a contract for testing to evaluate the exact location and extent of mining operations. No testing work was performed due primarily to major environmental concerns, and the contract for testing expired in mid-1992 and has not been renewed.

The Snake River has been placer mined by gold miners since the early 1860's. During the 1870's, flour gold was recovered in extensive operations along most of the river. The ruins of several mining activities including the Joe Winters cabin along the Snake River downstream from the reservoir can be seen today. Currently, Snake River gold placers are operated largely on a recreational basis. However, a medium-sized placer mining operation exists on Bonanza Bar, southwest of American Falls, north of the river. Some private interests are in the process of testing for minable deposits in the area; Reclamation lands are not open to mineral entry. The financial outcome of these ventures may affect management of lands open to mineral entry which lie adjacent to the Snake River, as well as those lands containing ancient channels of the river.

Shoreline Erosion

Erosion of the shoreline at American Falls ranges from severe to none depending upon the specific area. Rates of horizontal land loss (based on comparison of photos dated 1950 and 1982) range up to 6 feet or more per year depending on height of the shoreline bluff, composition of the soil profile, and the direction of storm winds. The actual mechanical

Erosion Control

Unmanaged Off-Higway Vehicle Use

causes of shoreline retreat include wind erosion of the sand layers, undercutting of the bluffs by wave action, shrinking and swelling of the soils and subsequent shearing of clay layers, erosion due to natural precipitation and irrigation of farmland near the edge of the bluffs. In the past, the shoreline sloughed into the reservoir, resulting in the loss of prime farmland, wildlife habitat, and valuable reservoir storage space and lowered water quality and created an unsightly shoreline. At some locations, adjacent private land was acquired by Reclamation and/or erosion control established.

The United States is obligated to acquire sufficient lands to construct, operate, and maintain Federal Project works. Landowners are entitled to compensation for any lands acquired for a Federal Project and have cause for action if lands are taken by erosion without compensation.

In 1980, Reclamation and spaceholders embarked on a program of structural activities, vegetation plantings, and land acquisition to help control shoreline erosion. To date, approximately 13 miles of shoreline have been riprapped and/or planted with willows. To date. Most of this effort has been on the northwest shoreline in locations where erosion is greatest. The status of erosion control is shown on Erosion Control map. The following priorities for erosion control projects and land acquisition are based primarily on erosion rates and land ownership:

1. Erosion of private lands already occurred and control projects would protect a larger stretch of shoreline;

2. Erosion of private lands is probable within the next 5 years; and

3. Erosion of private lands is probable after more than 5 years.

Some of the highest priority areas that will receive attention for erosion protection in the next 5 years are on the left bank (south side) of the reservoir including a significant portion of the Fort Hall Indian Reservation, south of the Portneuf River.

Several erosion control methods (mass rock riprap, post and wire protection, post and tire protection, and willow plantings) have been attempted with varying degrees of success. Mass riprap appears to be the most effective method from engineering and economy standpoints. This method (see Typical Erosion Control Structure illustration) has been effective for 90 percent of the storms encountered. Mass riprap consists of sloping the top one-third of the bluff and using the material that falls to the base of the bluff to build a work pad and berm with an height of about 4 feet above the high water mark. A trench is excavated at the base of the berm to provide a keyway to hold the riprap. Next, a geotextile filter blanket is placed in the trench and secured at the top of the berm. Trucks haul and dump a graded, angular basaltic rock with maximum size of 2-3 cubic feet. The rock is carefully placed to avoid tearing the filter blanket.

Post and wire protection was installed (primarily in the Bronco Point area within the Fort Hall Reservation) in response to the public request for the use of smaller rock. Initial

construction costs are similar to mass riprap. The post and wire has proven to be labor intensive and not very durable (estimated life of 25 years) and is unlikely to be repeated.

Post and tire protection was attempted at two sites. This type of erosion control was installed at Bronco Point as a jetty and has worked satisfactorily in piling up the sands and silts and protecting a section of shoreline. However, ice flows destroyed about 50 to 100 feet at one end. Another experimental section was installed parallel to the shoreline at Seagull Bay. Although erosion was reduced, costs were such that mass riprap would probably be more economical. One problem both areas have encountered is that the tires tend to disappear below the sand level and must be replaced from time to time. If the method is used where ice is a problem, the end posts will need to be significantly strengthened.

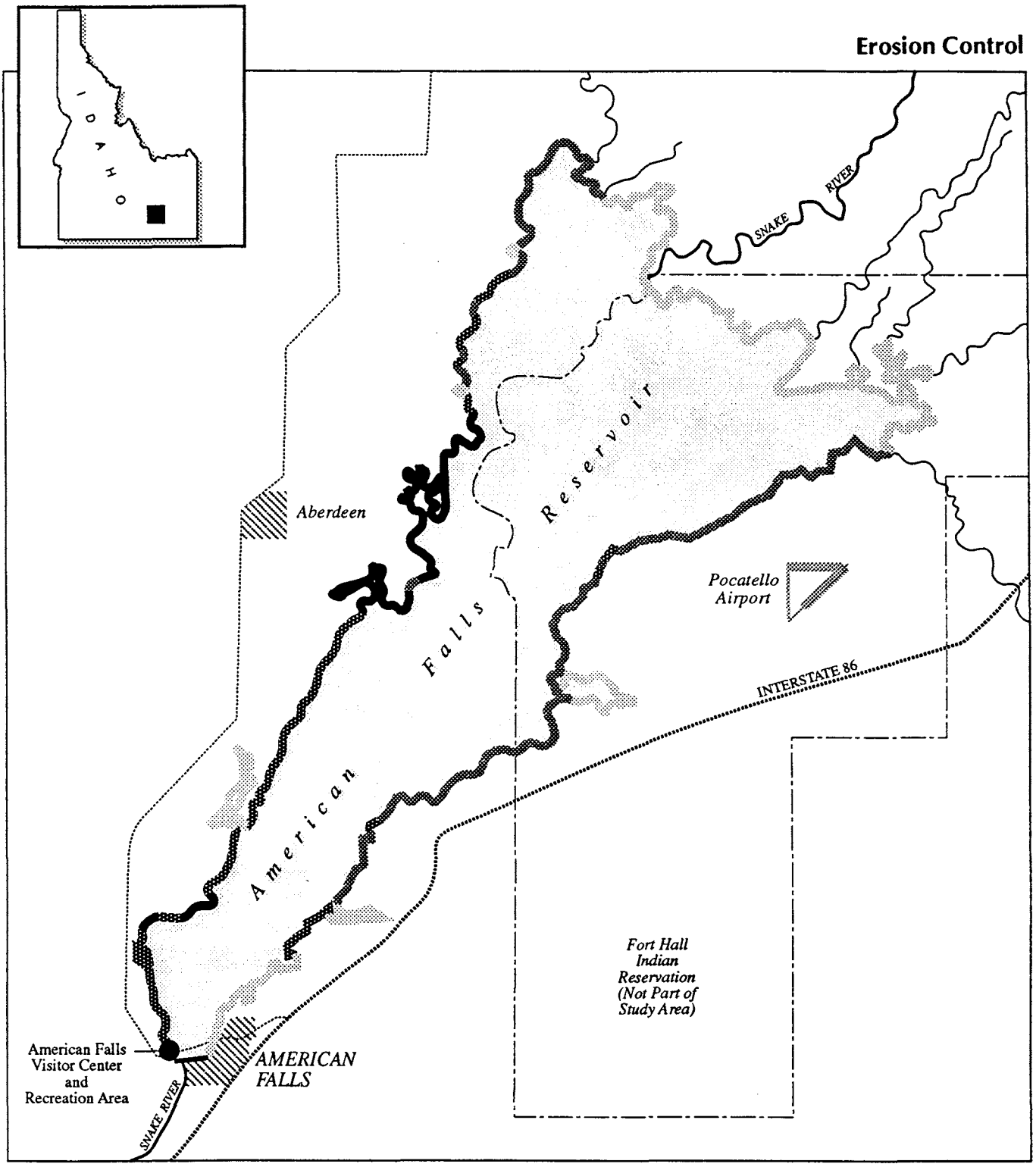
Since 1987, costs for erosion control structures have been split between water users (58.5 percent) and the Federal government (41.5 percent). The 1991 budget was $500,000 for construction, land purchase, plant material, and other support costs. Control work has been undertaken by mutual agreement of Reclamation and spaceholder entities (represented by the Committee of Nine). Key water users have generally supplied equipment and labor to help reduce costs. Typical costs for a new section of erosion control are $32.22 per linear foot for construction and $1.32 per foot per year for maintenance. Actual costs have varied from job to job depending upon the haul distance, filter material, access roads (gravel, dirt, or paved), and the location and type of rockpit.

Reclamation prevents ice damage to erosion structures during normal water years by holding the water level of the reservoir at 10 feet or more below maximum capacity until the ice cover is off. Reclamation has an agreement with the Soil Conservation Service[2] (SCS) and its Aberdeen Plant Materials Center to find suitable plant materials (primarily willows) to use for erosion control. The center is researching species, planting techniques, and planting location for performance and stabilization effectiveness. A nursery is being developed for propagating large numbers of plants to be used for erosion control effort. To date, plantings to control erosion appears to be satisfactory but must be tailored to specific situations.

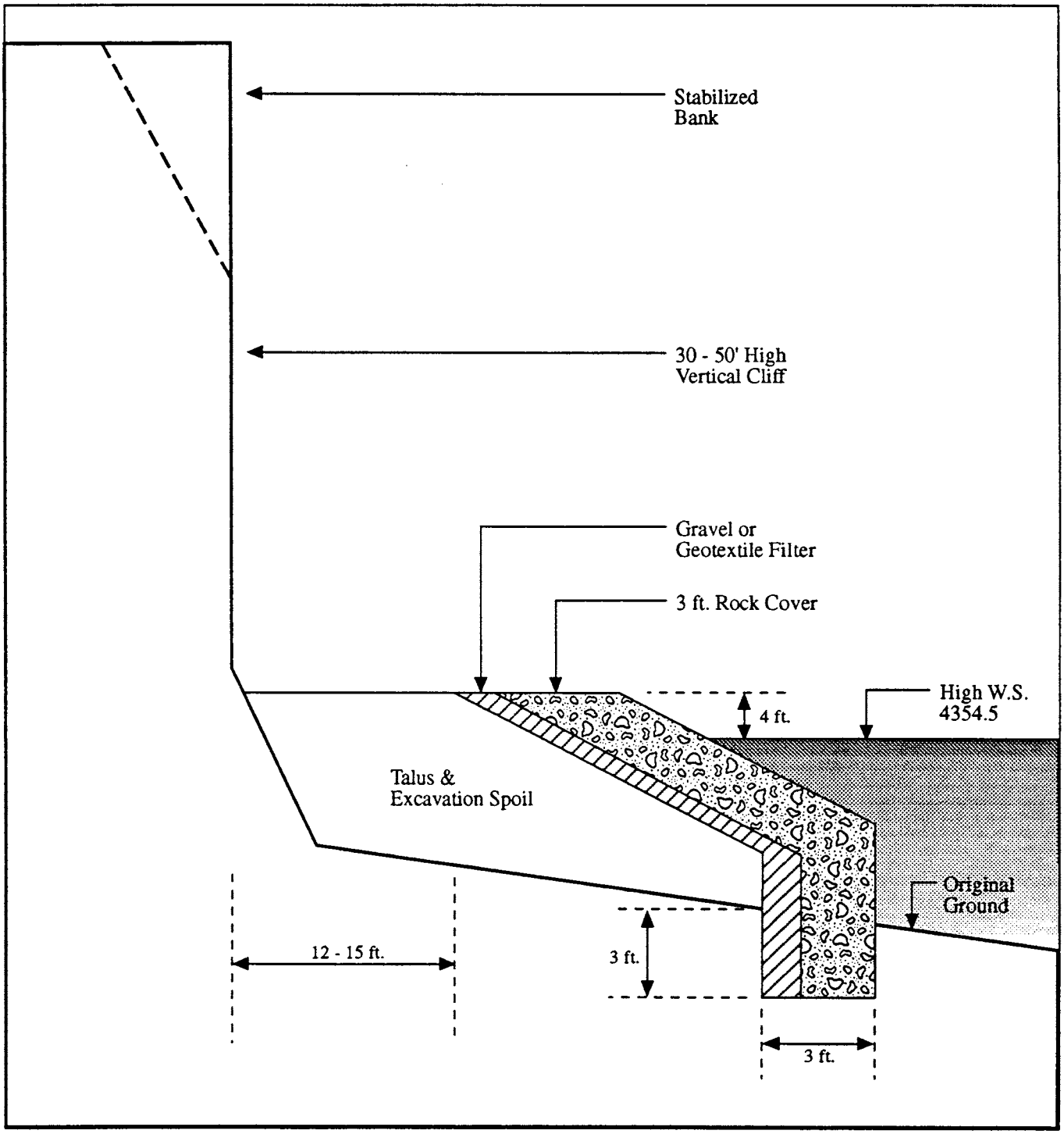
Soil erosion along the Snake River occurs primarily along the north side of the river. Erosion is confined mainly to the steeper slopes of buttes and breaks to the river where there are concentrations of livestock, where recreationists are active, and where erodible rocky/sandy soils do not support vegetation. The major causes of erosion have been livestock grazing and OHV use which result in surface disturbance, compaction of soils, and loss of vegetative cover.

[2]The name of the Soil Conservation Service changed to Natural Resources Conservation Service in the fall of 1994.

Erosion Control



Typical Erosion Control Structure



Fish Resource Management

The fish of American Falls Reservoir and the Snake River downstream from the American Falls Dam are important to wildlife and to recreational and commercial fishing. They are managed administratively as one unit as part of IDFG Management Watershed No. 25 (IDFG 1991). The fish resources of the reservoir and the river downstream are interconnected biologically; however, for the purposes of the AFRMP, they are discussed separately below.

The majority of anglers fish the lower one-third of the reservoir (the area from the dam to Seagull Bay and West Bay). During a 1981 survey, it was found that a slightly greater percentage of anglers fished the reservoir from boats (57 percent) than from the bank (43 percent).

Reservoir Trout

Hatchery-produced catchable trout are stocked by IDFG in early spring. At planting, fish weigh approximately one-quarter pound (Heimer 1989) and grow rapidly early in the season when the water temperature is ideal and the zooplankton population is high. Trout are limited to approximately 30 percent of the reservoir on average because of temperature and DO levels and to only 4 percent of the reservoir in the summer. In July and August, the trout concentrate in the deep water near the dam. As the water drops to its lowest level, some trout migrate downstream. A significant number of fish are drawn through turbines and killed or injured. One study found that 60 percent of the trout caught had injuries that may have been from a turbine and 34 percent were killed during passage (Heimer 1989). Many injured trout do not die immediately but succumb later to predators or disease. These injured trout become essential forage for eagles and other predators.

Since 1981, the IPC has had the responsibility for stocking the reservoir with 8,000 pounds of catchable trout each year as part of mitigation arrangements (Heimer 1983). The current practice is for IDFG to release 75,000 to 100,000 trout, 8-9 inches long, in mid-April. This corresponds to a stocking rate of approximately 1.5 fish per surface acre (Heimer 1989).

In a typical year, 20,000 to 30,000 anglers harvest an estimated 26,000 rainbow trout in approximately 125,000 angler-hours during the season (IDFG 1991a, Heimer 1984). Virtually all the trout fishing is from boats and focused near the dam and increases in effort as the reservoir level drops.

Creel census data indicate that most trout caught in the reservoir range in size from 1 to 2 pounds. The smaller fish are the product of the trout stocking program in the same year but are relatively large due to the time between stocking and the peak fishing effort. The larger trout are carry-overs from fish stocked the previous year. Some trout migrate upriver during late summer and then return when water conditions are more favorable. In low-water years, carry-over is generally poor.

The McTucker Ponds consists of eight, small, totally-enclosed ponds that cover approximately 10 acres near the upper end of the reservoir. Three ponds are regularly stocked with catchable-size trout by IDFG and are open year round to anglers (IDFG 1991).

River Trout

Virtually all rainbow trout in the river are hatchery-produced fish that are planted in the river or moved downstream from the reservoir. In 1990, IDFG planted 2,000 catchable rainbow trout and 2,000 rainbow/cutthroat trout (Smith 1991). Creel census of angler effort and catch in 1981, 1982, and 1990 indicate that approximately 58,000 angler-hours are expended annually between the dam and Massacre Rocks State Park.

The success ratio of river catch is high when the season opens and then drops off rapidly. Approximately one-third of the sport fishing and one-quarter of the total catch take place in the first 2 weeks of the fishing season (Smith 1991). Fishing pressure is intense on opening day, and approximately half of all the large carry-over trout caught are taken on opening day.

The opening day catch rate has dropped from approximately 0.5 fish per hour in 1982 to 0.1 fish per hour in 1990. This reduction can in part be attributed to increased angler effort. In recent years, there has also been a decrease in the average size of trout creeled. The smaller average size may in part be attributed to direct stocking when the reservoir is expected to be drawn down.

Other Game Fish Species

IDFG has evaluated the reservoir for several alternative species which would make full use of all habitats and planktonic food sources. Sixty thousand Lahontan cutthroat trout were planted in the reservoir in 1989. This species has a high temperature tolerance and can survive low DO levels. None were known to be taken in the reservoir sport fishery nor in the river in 1990.

Smallmouth bass are being considered for an increasing number of small impoundments on the Fort Hall Indian Reservation and other impoundments in the American Falls area (Smith 1991).

IDFG (1991) reports that statewide, yellow perch and crappie receive approximately 10 percent of the fishing pressure. These species are not abundant in the reservoir due to a lack of suitable rearing habitat characterized by woody debris and vegetation along sandy shorelines (USFWS 1992).

Boat Fishing

Shore Fishing

Commercial Fishery

IDFG has issued one commercial fishing license for the reservoir. This fishery targets carp and suckers as there is a demand for whole fish, fish roe, and fish fertilizer products (Hawker pers. comm.). Carp eggs are in demand in Greece and sucker eggs find a market in several countries overseas.

IDFG records indicate large quantities of carp and suckers are taken in the reservoir; in July, 1991, for example, over 134,000 pounds of carp and suckers were harvested. This tonnage is a significant indicator of the inherent biological productivity of the reservoir for rough fish. Even though the commercial value of carp and suckers is much lower than trout, the magnitude of the catch suggests that this fishery contributes to the local economy.

Some tests of tissue samples of carp have shown unacceptably high levels of mercury, particularly for pregnant women (Low and Mullins 1990). Though there is some concern that fish taken in the commercial carp fishery may find their way into the human consumption market network, most of it is apparently rendered into fish fertilizer and not eaten by humans.

Wildlife Management

IDFG and the USFWS assist Reclamation in managing wildlife and wildlife habitat. IDFG is responsible for resident animals and has authority over the harvesting of resident game species on non-tribal lands. On the Fort Hall Indian Reservation, hunting is administered through a permit system for on- and off-reservation tribal members and non-tribal individuals hunting on the Reservation.

IDFG installed and maintains 10-15 goose-nesting platforms downstream from American Falls Dam—50 at the SWMA and 20 near but upstream from the reservoir (USFWS 1992). The SWMA is administered by IDFG for waterfowl and pheasant production, public hunting, and wildlife appreciation.

The USFWS monitors migratory wildlife, administers national fish and wildlife refuges, and administers and enforces the ESA. The BLM manages scattered holdings on the river upstream from the reservoir and on the north side of the river downstream from the dam.

The Shoshone-Bannock Tribes have an ongoing fish and wildlife program, supported by a full complement of qualified biologists and technicians (Robertson pers. comm.). Target species for habitat improvement include upland game and waterfowl; for example, 20 acres near Bronco Point are intensively managed for pheasant habitat (Broncho pers. comm.).

The Fish and Wildlife Coordination Act, the ESA, and the NEPA mandate that Reclamation, as a Federal agency, protect, conserve, and enhance wildlife and fish resources. There are

several current planning efforts for wildlife conservation that affect American Falls directly or indirectly. The array of plans and programmatic documents give a clear indication of the regional importance of American Falls for wildlife and the need for close coordination among a variety of interests and agencies.

Currently, there is an initiative to develop an Intermountain West Wetland Concept Plan for the North American Waterfowl Management Plan. Its goal is to protect and enhance wetland areas throughout the intermountain West, and American Falls is identified as an important wetland complex. As the Plan evolves, efforts to improve habitat for wintering and nesting will be identified for each complex (USFWS 1992).

General plans for wildlife management that are applicable to the study area are the Bald Eagle Recovery Plan (USFWS), the Trumpeter Swan Management Plan (IDFG), and the Upland Game and Waterfowl Management Plans (IDFG). Programs developed to guide land management include the Bowen Canyon Area of Critical Environmental Concern (BLM), the SWMA Plan (IDFG), and the Monument and Big Butte Resource Management Plans (BLM). In addition, the Swan Falls Agreement, recognizes " . . . significant Federal interests in fish and wildlife. . . above Milner Dam," and states that the Interior Department will consider the need for additional studies there (FERC 1988).

A program to reintroduce wild turkey above the reservoir has met with limited success (Trent Pers. comm.). Wild turkeys can be found on and around McTucker Island and throughout the Fort Hall Bottoms (USFWS 1992).

The northern arc of American Falls Reservoir has been nominated as part of the Western Hemisphere Shorebird Reserve Network (Melquist 1987). This program was inaugurated in 1985 through a resolution of the International Association of Fish and Wildlife Agencies. It seeks to maintain indispensable and irreplaceable locations along the migratory pathways of shorebirds to protect both populations and wetland habitat. The proposed Reserve boundaries are shown on exhibit 6.

Livestock grazing in the upper end of the reservoir exposed during drawdown negatively affects nesting success, but the mudflats, when ungrazed, provide highly valuable brood cover. There is a vast potential for improving waterfowl breeding in the area north of Rainbow Beach around the northern arc of the reservoir at least as far as Springfield Bottoms. Springfield Bottoms is listed as one of 94 selected sites in Idaho for wildlife photography and observation (Carpenter 1990). No records are available for use intensity, but this aspect of wildlife-oriented recreation is expected to increase.

The most commonly harvested species in the SWMA are green- and blue-winged teal, pintail, Canada goose, pheasant, mourning dove, and muskrat. There is very active hunting for similar species throughout the shoreline arc from Sterling to McTucker Island. Duck hunting (pass or jump shooting) is also popular downstream from the dam.

Hunter activity data are organized by IDFG by county (see table 2-15 for Bingham County). The data for Bingham County indicate that hunting for ducks and geese around the reservoir is concentrated along the west shore and northern arc in the Sterling-Springfield areas. Most of the remaining hunting activity is along the Snake River upstream from the reservoir.

Table 2-15.—Waterfowl Hunting in Bingham County, Idaho (1985-1990)

Year	Hunters	Hunter-Days	Harvest
1985	1560	15,947	14,834
1986	1124	12,097	13,999
1987	840	6,489	7,154
1988	785	7,107	5,595
1989	904	9,706	7,492
1990	980	no data	6,372

Duck populations have declined region-wide over the past several years, with corresponding decreases in hunters and harvests. The decline has been caused by poor reproduction, habitat loss in Canada, and a prolonged period of drought in southern Idaho. Conversely, Canada geese populations have increased over the past several years, with a corresponding increase in hunters and harvests. Pheasants have been declining in numbers for a long time, primarily because of decreasing amounts of habitat due to agricultural expansion and changes to clean farming.

Duck hunting and ice fishing make up some of the visitation during the fall and winter months. Winter recreation use is limited due to the inconsistent ice conditions caused by spring flows and snowfalls which are too light to support snowmobile use.

Recreation

American Falls Reservoir plays a large part in meeting regional recreation demand in the area. The reservoir area receives approximately 185,000 recreation visits annually. Recreation demand at the reservoir has steadily increased at a slow rate over the past two decades. Boating has decreased in recent years due to drought conditions which limit accessibility early in the peak recreation season. The drought has also affected fish and wildlife habitat, resulting in lower numbers of hunters and anglers. Overall recreation demand along the river has been increasing, especially at Massacre Rocks State Park where the numbers of campers rose 37 percent between 1986 and 1990.

Table 2-16 summarizes general information on developed and undeveloped recreation areas around the reservoir and along the downstream reach of the Snake River. General information on recreation and more detailed information on specific recreation sites and facilities is provided in this section.

User Base

Most visitors to the reservoir come from the local communities of American Falls, Pocatello, and Blackfoot. For the purposes of this study, the primary area of influence is identified as Bannock, Bingham, and Power Counties, which include these communities. A smaller number of visitors come from other counties in southeastern Idaho.

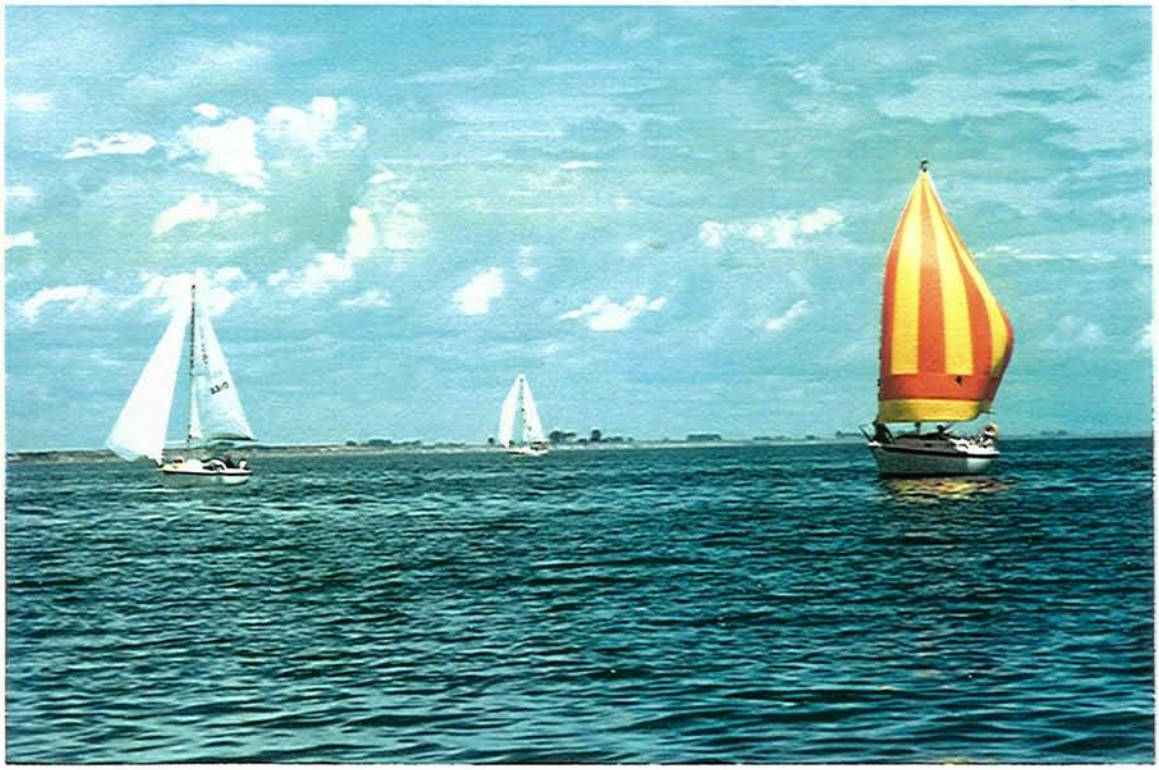
A high proportion of the visitors to this area pass through the American Falls area to Yellowstone National Park, located approximately 170 miles to the northeast. Roadside rest areas along the Snake River near the American Falls area receive up to one million visitors annually. Although the American Falls area is not a destination for most of these visitors, many use a variety of existing recreation facilities as they pass through.

Recreation Activity

In Idaho, fishing is especially favored by males, while participation in other activities is less gender biased. With the exception of fishing, most outdoor recreation activities are dominated by the 30-39 years of age group. The elderly fish more than any other age group and also represent a high number of the campers. Retirees play a significant role in recreation demand as they currently comprise 24 percent of Idaho leisure travelers.

According to a number of surveys administered in support of the 1989 State Comprehensive Outdoor Recreation Plan (SCORP), the top-ranked activities, in order of preference, for residents and non-residents in this area are: sightseeing, hiking/walking, nature study, sports, water activities, camping, and fishing. With the possible exception of sports, all of these activities occur at American Falls Reservoir and the immediate downstream section of the Snake River.

Activities preferred by resident recreationists are sightseeing, nature study, hiking/walking, and camping. Non-residents have the same preferences with slightly more emphasis on sightseeing and less preference on camping. Non-resident campers tend to use public campgrounds while residents more frequently camp at undeveloped and dispersed sites. Hunting activities also differ between the two groups. Non-resident hunters focus on big game while residents prefer waterfowl hunting, and to a lesser extent, upland game bird hunting. Nature study and educational activities are pursued by a greater percentage of non-resident than resident recreationists, possibly reflecting current interpretive programs associated with public campgrounds.



Sailing is a Popular Sport

Beach Activities

Table 2-16
Recreation Facilities in the Study Area

		Access & Parking						Day Use Facilities						Overnight Facilities			Support Facilities														Planned Improvements / Facility Notes
		Road Access (Paved, Gravel, Unimproved)	Car Parking Spaces	Boat Trailer Spaces	Boat Ramp	Docks	Marina Slips	Picnic Area	Picnic Shelter	Beach	Trail/Path	Sports Fields	Visitor Center/Information	Developed Campsites	Informal Camping	Group Camping	Permanent Restrooms	Portable Restrooms	Potable Water	Showers	Electrical Hookups	Septic Hookups	RV Dump Station	Marine Dump Station	Commercial Supplies	Fuel/Gas Pump	Maintenance/Storage	Physically Challenged Accessible Restroom	Physically Challenged Accessible Campsite	Physically Challenged Accessible Dock/Ramp	
Reservoir Recreation Sites	**Seagull Bay Yacht Club** (Member-Owned Facility, leased from Reclamation)	G	●	●	●	●	●	●						●			●		●	●	●			●		●		●			Area has small beach; however, most visitors go to other beaches by boat. Overnight use by members only; day use open to public at modest cost.
	Willow Bay Recreation Area (City of American Falls, leased from Reclamation)	P	●	●	●	●		●	●	●	●	●		●		●	●	●	●	●	●	●	●		●		●	●	●		Planned improvements: construction of 2.5 mile bike path; physically challenged accessible phones; and dock. Future needs include additional auto/trailer parking, breakwater and cafe/restroom remodeling.
	Visitors Center-North Side (Bureau of Reclamation)	P	●	●	●	●		●	●	●								●										●			
	Visitors Center-South Side (Bureau of Reclamation)	G	●					●					●				●		●									●			
	Sportsman's Park (Bingham County, leased from Reclamation)	P	●	●	●	●		●	●					●	●	●	●	●	●	●	●	●						●		●	County will install a large physically challenged accessible portable toilet during the summer of 1992.
	Gravel Pits Near McTucker Island (Bureau of Reclamation)	G	●																												Portable toilets are used on an as-needed basis for special events.
	Sterling Wildlife Management Area (Idaho Department of Fish and Game, Portions leased from Reclamation)	P/G	●							●																					
	Springfield Lake (Idaho Department of Fish and Game/Bingham County)	P	●			●		●										●													Planned improvements: paved parking and physically challenged facilities.
Snake River Recreation Sites	**American Falls Fish Hatchery** (Idaho Department of Fish and Game)	G	●								●																				
	Mary's Mine (Bureau of Land Management)	G/U	●												●																
	Snake River Vista (Bureau of Land Management)	U	●	●	●										●			●													Planned improvements: a permanent restroom and a 10 to 15-unit campground.
	Trenner Park (Idaho Power)	P	●			●		●																							The park has an overlook with a view of the old powerhouse.
	Power County Sportsman's Access (Power County)	P	●	●	●	●		●									●											●		●	Construction underway on paved parking area and permanent restrooms.
	Pipeline (Bureau of Land Management)	G	●	●	●	●		●						●			●											●			Current plans to expand camping capacity to 10-20 units pending purchase of additional land.
	Monument Sportsman's Access/Eagle Rock (Bureau of Reclamation/Idaho Fish and Game)	U													●																Dispersed recreation.
	Massacre Rocks State Park (Idaho Department of Parks and Recreation)	P	●	●	●	●		●			●		●	●		●	●		●	●	●		●					●	●		Planned improvements: remodeling of visitor center and installation of additional docks at launch area for physically challenged accessibility.

Developed Recreation Facilities on the Reservoir

There are four developed, public recreation sites around the reservoir, and each offers a different mixture and intensity of recreational opportunities (see table 2-16 and exhibit 1). Seagull Bay Yacht Club, located on the east shore of the reservoir, is a member-owned and operated facility which provides limited services for the general public. Willow Bay Recreation Area, located on the east shore approximately 1 mile south of Seagull Bay, is located adjacent to and managed by the city of American Falls and is the most developed of the four recreation areas. The American Falls Dam Visitors Center and day use recreation area, operated by Reclamation, is located immediately north of the dam on the west side of the reservoir. Sportsman's Park, operated by Bingham County, is located on the west shore near the community of Aberdeen and offers many of the same opportunities as Willow Bay Recreation Area.

Visitation at the developed sites is, to a great extent, dependent on reservoir levels and the usability of boat launching facilities. When launching becomes difficult or impossible at the Seagull Bay boat ramp, the first to be affected on the reservoir, recreationists shift use to Willow Bay, Sportsman's Park, and American Falls Dam Visitors Center. Later in the season, when all the ramps become unusable and the weather becomes hot, boaters and other types of recreationists generally move to Palisades Reservoir, Island Park Reservoir, Henry's Lake and other bodies of water located in the mountains to the northeast. A small number of boaters and anglers also relocate to the downstream segment of the Snake River, as well as to other reservoirs near American Falls.

In 1990, the launch at Seagull Bay became unusable for motorboats and deep draft sailboats in early July. Launching at Willow Bay closed within a week or two, followed by Sportsman's Park another week or so later. Reclamation's launch near the Visitors Center remained open until the beginning of October, but siltation frequently caused it to be inoperable until the sand deposits could be removed by Power County Waterways. This typically occurs twice a week. Although Willow Bay is partially protected by a breakwater, storms from the north deposit enough sand to block the launch ramp several times during the season. Dredging the launch area may not be effective as storms can immediately close access again after dredging has occurred. After storms, the ramp is cleared with a front-end loader and a backhoe.

Seagull Bay Yacht Club

Seagull Bay Yacht Club on the east side of American Falls Reservoir, approximately 4 miles north of American Falls Dam, is accessed from U.S. Interstate 86 via a 3-mile gravel road and is the nearest developed recreation site to Pocatello. The club is operated as a member-owned, non-profit organization with annual dues. Currently, the club has 95 members, most of whom reside in the nearby communities of American Falls, Pocatello, Twin Falls, and Idaho Falls. Due to drought conditions, membership has dropped in recent years from a high of 160 members. Current facilities can accommodate approximately 200 members.

The 37-acre site provides 95 full-service trailer/recreation vehicle spaces, picnic areas, seasonal boat docking and storage facilities, and a club house for members, as well as boat launching for the public at large. There are two separate single concrete boat ramps at the site.

The shoreline of Seagull Bay is covered by willows and does not have beaches for swimming activities; however, beaches are accessible by boat along the shoreline north and south of Seagull Bay. A variety of facilities and services are available at Seagull Bay which do not exist elsewhere on the reservoir; the most important being a fuel pump and marine sewage dump station. Government funding and maintenance services are difficult to obtain because of the club's private ownership and membership status.

The heaviest use occurs from the beginning of April through July or later if water levels permit. Of the four developed recreation areas on the reservoir, Seagull Bay is generally the first to be affected by lowering water levels. The ramp ends at an elevation of 4330 feet, with access typically limited for powerboats beginning in July, sailboats in mid-July, and small boats by the end of the month. Peak usage occurs on weekends, when up to 100 boats are launched. Use on weekdays typically ranges from 5 to 10 boats. Wildlife in the bay attracts bird watchers in the late winter and spring. The area receives a moderate amount of hunting use in the fall.

Willow Bay Recreation Area

Willow Bay Recreation Area, on the southeast shore of the reservoir approximately 1 mile north of the city of American Falls, is managed by the city Parks and Recreation Department. The city owns 88 acres of the 128-acre recreation area. Facilities include 26 pull-through, full hook-up spaces in the main campground, an additional 50 less developed campsites, a boat ramp, boat docks, a 4-acre picnic area, and sports fields. The concrete boat ramp is in good condition and is wide enough for three lanes; however, two lanes are typically used for launching. Support facilities include a restaurant, restrooms, showers, and a recreational vehicle dump station. The park has one accessible campsite for the physically challenged and the campground laundry/restroom facilities were recently remodeled to accommodate use by the physically challenged. The area has a large parking lot with hundreds of vehicle spaces and approximately 30 boat trailer spaces. Additional softball fields are currently under construction.

Of the four developed recreation areas around the reservoir, the marina at Willow Bay receives the greatest use. The area has good beaches, and use is high for beach related activities such as swimming, waterskiing, parasailing, and windsurfing. Other primary recreation activities of Willow Bay include powerboating and fishing. Recreationists participating in these activities generally utilize the campground and related facilities. Recent conflicts between OHV users and other users on the beach has resulted in the adoption of a new city regulation which restricts motorized vehicles from the beach. Most visitors are from local communities in Power and Bannock Counties; however, a small group of sailboarders come from as far away as Salt Lake City.

Seagull
Bay

West
Bay

The boat launch is usually the second of the four to close, typically in mid-July, when the water level drops below elevation 4327 feet. When the boat launch closes, visitation to the marina drops drastically. Beach and day use remain active until water quality drops in the latter part of summer.

The city of American Falls has recently prepared a master plan to increase the number and range of facilities available at Willow Bay Recreation Area. The new plan includes the following elements: a waterslide complex, miniature golf, more softball fields, a restroom and group picnic shelter on the beach, an additional boat launch and associated parking, a bike path, and an expanded camping area. The plan responds to the most critical needs for increased weekend camping opportunities and additional boat trailer parking spaces. Access for the physically challenged will be improved with the construction of the bike path/pedestrian trail. Work on the park pay phones to allow handicap access was completed in 1992. Future needs for improved access include docks and access improvements to the cafe. A particularly crucial element of the plan is the construction of a second breakwater at the marina. Engineering estimates put the cost of this improvement at $1 million; the city is seeking funding for this project. Construction of the breakwater would extend the period during which boat launching is possible by reducing sedimentation of the marina. It is not known how much longer launching would be extended, but estimates of up to several weeks have been made. More important, this improvement would allow for the long-term docking of boats by protecting them from storm damage. Another breakwater would also reduce use pressure on the boat ramp because many recreationists would leave their boats in the water until the end of the season rather than repeatedly launching.

American Falls Dam Visitors Center/Day Use Area

Reclamation developed day use recreation facilities on approximately 10 acres of land adjacent to the Visitors Center and dam operation office just off Highway 39 at the west end of American Falls Dam. Signs supplied by the IDFG identify this site as a sportsman access point. Facilities include a large gravel parking area, boat ramp, three picnic shelters, portable restroom north of the Visitors Center, a small gravel parking area to the south, picnic tables, and a portable restroom. The boat ramp is concrete, in good condition, and wide enough to accommodate two lanes of launch traffic.

Bank fishing, boat fishing, and other motorized boat activities are the predominant uses. The beaches along this area are popular and receive recreational use. Use on weekdays and weekends are relatively comparable. Although there are no camping facilities, people occasionally camp overnight at the parking area. The boat launch is heavily used, partly because it offers free public boat launching but also because it is the last to close. At an elevation of 4311.6 feet, the ramp is usable throughout the year in normal to high water years, but closes towards the end of the peak recreation season in poor water years. The launch is subject to frequent sedimentation due to wave action and storms, making launching and navigation difficult when there is accumulated sediment. Poor water quality associated with low water elevations discourages some use of the launch area late in the season. In

addition, the lack of on-shore developed recreation facilities and shelter from wind and sun cause some recreationists to seek opportunities elsewhere.

Sportsman's Park

Sportsman's Park, located near the mid-point of the west shore of the reservoir approximately 3 miles east of the community of Aberdeen, was developed and is managed by Bingham County. Access is from Highway 39, and directional signs are supplied by IDFG. The 13 acres and two campgrounds with a total of 60 campsites are considered to be more than adequate for current use levels. Facilities at the park include picnic shelters (four single, one pavilion), three restrooms, and a boat launch. Access for the physically challenged is provided at two restrooms and at water fountains. The older campground, which has mature trees and electrical and water hook-ups, has been the more popular. A water line, electrical hook-ups, barbecue facilities, dump station and pavilion for the newly developed campground have been recently completed.

This recreation area is most heavily used from mid-June through mid-September. Visitation levels of 200 or more individuals per day on weekends during this period are not uncommon. Weekday camping use is light. As many as 25 boats are launched on weekdays and between 50 to 60 per day on weekends. The concrete ramp is wide enough for two lanes of traffic, although one lane is typically used. At an elevation of 4322.1 feet, this boat ramp is the third of the four to closes in a typical year and is reflected in high use levels. The majority of visitors are from the Pocatello area and from smaller communities on the northwest side of the reservoir.

Undeveloped Recreation Areas at the Reservoir

Although use is concentrated at developed sites, a number of other areas along the northwest shore are used informally by campers, boaters, swimmers, fishermen, waterfowl hunters, and bird watchers. Many of these sites are identified as sportsman access points by IDFG signs at highway turn-offs. Recreationists also access dispersed beaches by boat.

Two of the more popular areas are Spring Hollow on the northwest shore about 3 miles north of American Falls Dam and McTucker Island at the upper end of the reservoir. Spring Hollow is easily accessible from Highway 39. The beach is popular with waterskiers and teenagers. Use tapers off in mid-season as inlet waters recede.

McTucker Island is closed to vehicles to prevent further damage to vegetation and wildlife. The island is used primarily for hunting and fishing. Just to the north of the island, there are eight ponds where Bingham County and the Idaho Department of Transportation have removed sand and gravel for road construction. These ponds are heavily used for fishing and swimming. Scuba diving classes and county search and rescue practices are regularly held there. Also, twice a year National Field Trials for hunting dog competitions are conducted in this area, attracting large numbers of people, many from out of state. Informal

Big Hole
and
Sportsman's
Park

Little
Hole

camping, deer hunting, waterfowl hunting and wildlife watching also occur in the area. A small metal boat ramp (10 to 12 feet wide) exists west of the island on the Snake River and is used primarily by hunters during goose season. The ramp is identified by signs as a sportsman access point and is maintained by Bingham County Waterways. Anglers and jet boaters typically access the river above the reservoir from larger launch ramps located upstream at Tilden Bridge or Jackson's campground.

A considerable portion of the northwest shoreline provides good bank fishing (especially where erosion control has been implemented) and waterfowl hunting, although access is limited in some areas because of a lack of public roads and signs. Inlets provide protection from winds and storms for boaters and other recreationists. Stretches of beach along the Little Hole and SWMA are especially popular, particularly at high water when other beaches are limited. These are reached by boat or road; many of the roads are not on maps and are not well marked or maintained.

The SWMA and Little Hole receives considerable use for waterfowl and upland gamebird hunting. Signs to the area are supplied by the IDFG. There are areas to park, but no facilities.

Bronco Point, an undeveloped access site on the east shore within the Fort Hall Indian Reservation, is heavily used by members of the Shoshone-Bannock Tribes. The area has good beaches and use is predominantly water sport and beach oriented. Rainbow Beach is a similar, less used, undeveloped recreation area located south of Bronco Point.

Recreation Areas Upstream from the Reservoir

Springfield Lake, located several miles north of the reservoir adjacent to the community of Springfield, is 15-20 acres in size and is fed by a series of freshwater springs which flow year-round. The IDFG owns the lake and stocks it with fish, but the surrounding land is privately owned. Bingham County manages the small recreation site south of Springfield which includes picnic facilities, a concrete boat launch, and docks. A small roadside pull-out with a portable toilet is located along Highway 39 at the northwestern shore of Springfield Lake.

Upstream from American Falls Reservoir there are numerous access points to the Snake River. The majority of these have Bingham County Waterways' facilities that typically include a parking area, improved boat ramps, and trash dumpsters. This portion of the Snake River is used principally by float boaters, jet boaters, and anglers. Fishing use is heaviest during the fall. Deer hunting is also popular in this area at the same time of the year. Camping is generally limited to dispersed/informal camping. Flows along this stretch of the river fluctuate on a seasonal basis in response to releases from Palisades Reservoir located upstream.

The Blackfoot River upstream from American Falls Reservoir receives less recreational boating than the Snake River. Shallow water conditions limit powerboat; recreationists use inner tubes or float boats instead. Moderate levels of informal camping occur on BLM and private lands along the north bank. A small amount of fishing and hunting occurs on the south side which is within the Fort Hall Indian Reservation.

Other water oriented recreation opportunities include a large pond in Jenson's Grove, a Blackfoot city park and a reservoir located east of Blackfoot. The former provides opportunities for boating and other day use activities. The reservoir is used primarily by waterskiers and has a boat ramp and docks.

Snake River Downstream From American Falls Dam

The downstream stretch of the Snake River supports a variety of recreational uses. A number of developed or signed recreation sites exist on BLM, IDPR, IDFG, and IPC property along the river between American Falls Dam and the MNWR (see exhibits 2 and 11). Reclamation has no developed or designated recreation sites on this reach of the Snake River, although informal recreation use occurs at various locations. Visitors use on BLM lands (Cedar Fields SRMA) was 21,000 visits in 1988 with the majority of these being anglers and boaters.

The river attracts mostly local residents. Local residents prefer camping at dispersed locations which are not well known and are less accessible. Sites with boat ramps serve principally as overnight and day use areas for boaters and fishermen. Sites without boat ramps provide opportunities for bank fishing and primitive camping. Boat camping occurs across from the Massacre Rocks State Park where beaches are available.

The 7-mile reach of river immediately downstream from American Falls Dam supported an excellent trout fishery until recent years when downstream releases were decreased because of drought. Large-sized rainbow trout found in this section of the river are primarily trout that moved downstream from the reservoir. Based on studies by IDFG, approximately 60 percent of the hatchery-released fish caught by anglers are taken in the reservoir and 40 percent are taken in the river downstream from the dam. When fishing is good, this section of the Snake River receives fishing pressure comparable to other well known Idaho fishing streams. Fishing activity is heaviest from Memorial Day to Labor Day weekend. The river between American Falls Dam and Eagle Rock is closed to fishing during the winter in order to protect the high quality fishery.

The river downstream from Duck Point/Eagle Rock changes from a free-flowing river to the upper reach of Lake Walcott. During a 1-week period near the end of September, the water level of Lake Walcott is dropped about 5 feet and maintained at that level until the ice melts in the spring. In 1993 and 1994, work on the Minidoka Dam resulted in lower water levels. Currents are strong in this reach and are potentially hazardous to swimmers. While boating is limited to skilled and knowledgeable jet boaters and float watercraft users in the upper,

free flowing shallow segment, power boating and waterskiing can and do occur on Lake Walcott. Boaters use the concrete boat launch at Massacre Rocks State Park. Fishing is also permitted year-round in this lower portion of the river.

Waterfowl hunting occurs all along the river, and especially in the MNWR. In 1985, 350 hunting-visits were recorded.

OHV use occurs throughout the area on the north side of the river, primarily during the late fall and early spring when the soil is semi-frozen and the canyon is relatively warm. OHV use has been officially prohibited on Reclamation lands since 1974 but not rigorously enforced until 1993. Adjacent BLM lands are currently open to OHV use (see exhibits 10 and 11). Reclamation and BLM have conducted independent studies over the past 15 years which address OHV use in this area; however, none of the proposals or decisions were formally adopted. A considerable amount of cultural resource damage has occurred on sandy slopes and along the river bank from OHV use and general uncontrolled motorized access. Concentrated areas of trails are highly visible from the Interstate rest area and Massacre Rocks State Park; park visitors occasionally complain about OHV noise. The mesas are also becoming increasingly popular for rock climbers. Recreationists are attracted to the scenic qualities of and the abundant wildlife, including wintering bald eagles.

Massacre Rocks State Park

Massacre Rocks State Park is located between the Snake River and I-86 approximately 10 miles downstream from the community of American Falls. The park consists of a central Visitors Center, hiking and interpretive trails, a two-lane concrete boat launch, and a 51-unit campground. One campsite at the park is designed specifically for handicapped access, as are the restrooms at Register Rock Picnic Area. Planned improvements include remodeling of the Visitors Center and docks to provide access for the physically challenged. Register Rock Picnic Area is located to the southwest and Register Rocks Rest Area to the northeast. A variety of outdoor activities are accommodated at the 90-acre park, including bank fishing, boating (all kinds), waterskiing, swimming (as limited by water currents, temperature, and quality), hiking, camping, and bird watching. Group camping is now being allowed at the Register Rock site. Interpretive programs at the park are popular, and school groups visit the park in the spring.

Estimates of visitation based on camping fee receipts for the years 1986 through 1990 reflect an increase of approximately 37 percent for overnight visits. Park attendance is related to visitation patterns at Yellowstone National Park since Massacre Rocks State Park is ideally located for overnight camping for many travelers to and from Yellowstone. Out-of-state visitors represent approximately 67 percent of the overnight use. The largest group of out-of-state visitors are from California (approximately 35 percent). Significant numbers of visitors also come from Oregon, Washington, Utah, and Canada.

Idaho residents, comprise nearly 75 percent of the day users. A significant draw of the park for local residents is that it offers boat launching and docking facilities on the river. When

water levels at American Falls Reservoir limit boat access in mid- to late summer, some boaters come to Massacre Rocks State Park. This use has created a small group of regular users at the park, consisting of 20 to 25 boaters. Launch area parking can accommodate approximately 30 auto/trailer units; however, parking becomes crowded late in the summer. Some consideration has been given to the creation of 10 to 20 overnight camping units at the boat launch area to meet this demand.

Typically, the park will fill to capacity on holiday weekends three or four times during the peak recreation season, which lasts from April to October.

River Access Points

On the north side of the Snake River close to the dam, IDFG provides a fishing access point downstream from the American Falls Fish Hatchery. The facility is signed and offers a parking area for five or six vehicles and a trail to the river edge.

A 1-mile-long reach of the north bank generally referred to by locals as Mary's Mine is located on BLM land about 4-5 miles downstream from the dam. A few dirt and gravel roads and trails lead to this area from Lake Channel Road, a county road which runs along the north side of the river for several miles. Camping, fishing, and other recreation are pursued at dispersed sites along this reach. No developed facilities are available.

Snake River Vista is located on BLM land just downstream from Mary's Mine area. Facilities are limited to a concrete boat ramp, undeveloped campsites, and portable toilets. Power County Waterways recently improved the ramp. BLM has plans underway to install a permanent restroom at the site. Future plans include the development of a 10 to 15-unit campground.

On the south side of the river immediately downstream from the dam, the IPC owns and manages Trenner Park. The park consists of a large parking area, picnicking facilities, river overlook, and a stairway to a fishing dock. No restrooms are available at the site.

Immediately downstream from Trenner Park on the south bank, Power County Waterways has developed a sportsman access with a boat ramp and docks, paved parking for approximately 50 trailers, restrooms, and a picnic area. The ramp and docks provide access for the physically challenged.

The Pipeline site is located on BLM land on the south side of the Snake River approximately 3 miles downstream from the dam. It is accessible by paved roads. Facilities at this site include five semi-developed campsites, a picnic area, a permanent restroom which is accessible to the physically challenged, a concrete boat ramp, and docks. Future plans for the site include expansion of the camping area to accommodate an additional 10 to 15 vehicles, pending purchase of approximately 20 acres of land from adjacent property owners.

Monument Sportsman's Access near Eagle Rock is a sportsman access area on Reclamation land located about 5 miles downstream from Pipeline near Massacre Rocks State Park. Fishing is the dominant use between May 30 and November 30. Wildlife viewing is also a popular activity. No facilities currently exist at the site. The access road is graded once a year by Power County. Like other Reclamation lands along the river, this area is officially closed to motorized access.

Of all the primitive recreation sites along the river, Snake River Vista and Pipeline receive the greatest use. It is estimated that 8,000 to 12,000 visits were made to these areas in 1991.

Minidoka National Wildlife Refuge

The MNWR includes approximately 11,000 acres covered by Lake Walcott and lands around the Lake for a total of about 27,000 acres. The relatively stable water levels of Lake Walcott support the growth of aquatic plants which provide food and cover for wildlife throughout the year. In particular, the refuge provides safe molting for waterfowl in the summer and safe nesting during the spring. Recreational activities specific to the refuge include wildlife observation, photography, hiking, hunting, and fishing. Limited sport hunting is permitted on portions of the refuge. Boating is restricted to the lower half of the reservoir and to designated upstream boat fishing lanes at Smith and Gifford Springs. The Gifford Springs boat fishing area is located on the south bank of the river and is reached via improved road from U.S. Interstate 86. Facilities at Gifford Springs include a boat ramp and docks. The Smith Springs site, also located on the south bank, is accessed by unimproved roads and is undeveloped; boat launching is limited to small boats. Boat access to the refuge from the Snake River is restricted, beginning at the western boundary near Tule Island.

The last reliable visitation statistics for the refuge (1985) indicate that fishing attracts the greatest number of visitors, followed by wildlife observation and hunting. Hunting use for the 1990-1991 season was estimated at approximately 300 visits. A majority of the visitors go to Walcott Park, a 22-acre community park located within the refuge boundary near Minidoka Dam. Walcott Park receives the most use between April and October. The boating season extends from April to October. Unlike Massacre Rocks State Park, the majority (94 percent) of the park users are local residents from the nearby communities of Burley and Rupert. Boating, picnicking, fishing, waterskiing, and bird watching are popular activities at the park. Facilities currently serve day users, with over 130 picnic sites, 200 parking spaces, a boat ramp, and docks. The park was designated an Idaho Centennial Project which prompted development of plans that include overnight camping facilities. Construction of restrooms and additional picnic areas begun in 1990 included development of a 25-unit campground and a paved and handicap-accessible interpretive trail have been completed.

CHAPTER 3

CONSTRAINTS OPPORTUNITIES AND ISSUES

The key factors which influenced development of the American Falls Resource Management Plan are discussed in this chapter. These factors were identified through two basic lines of investigation:

- Review and analysis of existing data on conditions (performed by the Reclamation planning team); and
- Public involvement (public meetings, newsbrief inquiries, and the Citizen/Agency Forum)

A detailed Problem Statement defining the major constraints, opportunities, and planning issues affecting the AFRMP effort was written. The Problem Statement (see Appendix A) guided the development of the goals and objectives which are the basis for alternative management strategies. Alternative management strategies and planning directions were reviewed with the Citizen/Agency Forum and the public. These alternatives were identified and analyzed in the American Falls Resource Management Plan Draft Environmental Assessment (Reclamation 1993) to show potential environmental effects. Through these consultation and assessment processes, a preferred plan was selected. A Finding of No Significant Impact and Final Environmental Assessment was completed (Reclamation 1994).

This chapter discusses the constraints, opportunities, and planning issues that were identified and considered in developing the AFRMP.

CLIMATE

Climate is a major constraint in planning resource management strategies. The semiarid climate in the study area is characterized by cold winters with low amounts of snow and hot, dry summers. These climatic conditions influence vegetation, wildlife species, and recreation potentials and should be considered in developing potential measures to enhance wildlife and recreation.

Although bald eagles winter in the area, few migratory birds are resident during the winter and bald eagles have had limited nesting success near the reservoir. The large majority of migratory birds pass through and only temporarily rest or roost in the area; however, many migratory birds use the area as breeding grounds during the spring and summer. Wildlife enhancement measures to be developed should be consistent and in harmony with these conditions.

Recreation activity is low during the winter, in part because there is insufficient snow to support the kinds of winter activities available just hours away in the mountains. Some fishing, hunting, and a limited number of other activities are pursued during the winter. In contrast, recreation activity peaks from late May through early September. In the summer afternoons, prevailing winds from the southwest regularly blow at an intensity that limits

most boating and other water activities to less exposed areas. As a result, activities concentrate along the northwestern shore and inlets.

A major management concern is to avoid incompatibility between management for wildlife and management for recreation purposes.

A major management constraint is that periodic droughts are a natural occurrence in the area and adversely affect fish and wildlife populations, fishing, boat access to the reservoir, and other recreation activities. Management strategies need to recognize periodic droughts.

TOPOGRAPHY AND GEOLOGY

Topography affects access to the shoreline and the reservoir. Much of the reservoir shoreline is dominated by steep cliffs, and several popular beaches have no, or limited, road access. Terrain suitable for road access to the shoreline is found at tributary inlets and in the northeast where the topography is relatively flat. Much of the Reclamation land is located along the tops of the cliffs and is not suitable for recreation uses due to safety considerations.

The cliffs around the reservoir are subject to constant sloughing from wave action. This causes loss of land area and increased sedimentation which reduces reservoir storage capacity and lowers water quality. Erosion control is an important ongoing program and will continue to be a focus in the future. Recreation, agriculture, and other uses that would contribute to erosion need to be carefully controlled and monitored.

The gentle terrain at the upper end of the reservoir results in shallow water and restricts boating late in the recreation season. Around mid-July, drawdown of the reservoir exposes much of the reservoir bottom at the northeast end of the reservoir and affects boat launching capability elsewhere on the reservoir.

Hilly topography along the north side of the river downstream from the dam is attractive to OHV users. On BLM lands open to such use, steep sandy slopes present challenges for OHV users. Reclamation lands along the river are closed to vehicle access and will remain closed.

Soils around the reservoir and along the river are sandy and include loess, a fine, wind deposited volcanic ash that is highly erodible. Loess soils are quite soft whether wet or dry and can limit vehicle access. Sand dunes formed at the base of weathered basalt mesas have been destabilized by OHV use; the fragile plant cover which helps to stabilize the dunes has been damaged. Protection of these easily eroded soils is an important consideration.

HYDROLOGY AND RESERVOIR OPERATION

There are two major constraints to reservoir operation. All of the storage space in American Falls Reservoir is contracted, primarily for irrigation. In addition, there is a requirement to release a minimum flow of 300 cfs at the dam for downstream enhancement.

In normal and wet years, the reservoir fills to capacity by late spring and is drawn down approximately 20 feet during the irrigation season, leaving a large carryover pool. In the recent multi-year drought, the reservoir had been drawn down much lower. In one year, the reservoir was completely evacuated to meet contractual and other operational requirements. Although the minimum discharge of 300 cfs has always been met, the minimum often could not be exceeded as normally occurs during good water years.

Seasonal drawdown has major effects on recreation and fish and wildlife resources. As the reservoir drops, sediment from soil erosion and agricultural run off is released and water temperature increases, reducing water quality. Temperature increases, in particular, limit fish habitat.

During the drawdown more of the shoreline becomes accessible to boaters, swimmers, sunbathers, and others participating in water activities. At the same time, boaters are constrained to a smaller water area.

Not all effects of reservoir drawdown are negative. Large expanses of mudflats are exposed, especially at the upper end of the reservoir. These mudflats and their associated wetlands serve as important habit for exceptional numbers of diverse migratory shorebirds and are used by nesting waterfowl. Because of their value to wildlife, and the importance of maintaining habitat along the Pacific flyway, these areas should be protected from activities that could harm wildlife values.

Reservoir operation and fluctuating water levels are a function of the project purpose for which the reservoir was constructed. In addition, water levels are significantly influenced by annual weather conditions which are unpredictable. Project reservoir operations, which are not a consideration in the AFRMP, constitute major constraints to enhancement of fish and wildlife and recreation.

VEGETATION

There are no known special status plant species on Reclamation lands in the study area. The cottonwood forest in and around McTucker Island (which could potentially support nesting for the endangered bald eagle), wetlands around various areas of the reservoir and along the river, and other riparian plant communities are considered important wildlife habitat.

Since tree cover is generally sparse, existing trees should be preserved and additional plantings could enhance wildlife habitat and scenic resources. Limited wetlands along small tributaries, irrigation return flows, and springs could be enhanced. Wetlands and riparian areas, which are important to many species and help to minimize streambank and shoreline erosion, should be protected from intensive livestock grazing, tillage, and other disturbances.

Due to the historic displacement of natural vegetation by agriculture, existing upland vegetation is important habitat for upland game birds and many mammals. Upland habitat is being damaged by loss of shrubs and ground cover due to motorized access. Motorized access needs to be carefully managed to avoid further loss of habitat and degradation of the scenic quality.

State-listed noxious weeds, invasive exotics, and other weedy species such as Canadian thistle, cocklebur, flowering rush, cheatgrass, and common reed are a problem in many areas around the reservoir where native vegetation has been removed or disturbed. Adjacent farmers are concerned about the spread of these plants and would like an inventory of ground cover, followed by actions to control undesirable species. Federal and State law require a management response to weeds on the State list. Reclamation currently targets weed control at those species assigned a priority by the State of Idaho.

Vegetation management should consider adjacent land use, wind direction, shoreline erosion control, wildlife habitat needs, and scenic value.

FISH AND WILDLIFE

Changes in water levels are not favorable to many fish species. However, there is little or no opportunity to regulate water levels in American Falls Reservoir to enhance fish populations. The upper Snake River system under current law is operated primarily for irrigation and flood control functions. Minor changes in reservoir regulation to enhance the fishery may be possible but would be unlikely to significantly affect fish populations.

Operations of the system must consider effects on species listed as endangered or threatened under the ESA. There are no natural populations of fish species in American Falls Reservoir that are listed under the ESA or are State-identified endangered or threatened species or species of concern. A limited number of white sturgeon have been introduced into the river below the dam but these are not natural populations.

Most game fish in the reservoir are hatchery rainbow trout which are stocked annually. At least 40 percent of these fish move downstream past American Falls Dam. Large numbers are killed or injured as they are drawn through the turbines of the power plant, especially when flows are low. The once world class fishery below the dam has been adversely affected in recent drought years. A series of wetter years may restore the fishery.

Resident and migratory wildlife in the area are highly valued resources. Bird species listed under the ESA include the bald eagle, which winters in the area, and the peregrine falcon which migrates through the area. Two listed snails may exist near springs in tributaries of the reservoir and in the river downstream from the dam. In addition to listed species, there are several species that are candidates for listing or are species of State concern.

The Idaho dunes tiger beetle, a Federal candidate species, may inhabit dune areas along the river. Other species of note include Townsend's big-eared bat (Federal and State candidate), ferruginous hawk, common loon, trumpeter swan, American white pelican, merlin, and Mohave black-collard lizard (State species of special concern). The yellow-billed cuckoo (a State-listed species of special concern) and the white-faced ibis and long-billed curlew (Federal candidate species) are found at or near the reservoir.

Portions of the cliffs around the reservoir, which provide ideal habitat for bank swallows, should also be protected.

There are opportunities to improve habitat for wildlife on farm and agriculture leases. Leases could be modified to increased food and winter cover for pheasants and other game birds and nesting habitat for ducks and some shorebirds. Planting in dispersed locations and along fences, stream corridors, and shorelines and enhancing wildlife habitat through share cropping may be opportunities.

Federal mandates require resource management agencies to direct special attention toward the preservation of habitat for species that are federally listed as endangered or threatened. In addition, Reclamation policy is to consider State-Listed Species of Special Concern and species which depend on relatively unique habitat.

It is Reclamation policy to protect and enhance fish and wildlife values to the extent compatible with other management objectives.

LAND USES

Agriculture is the predominant use of lands adjacent to Reclamation lands around the reservoir and most of the lands adjacent to Reclamation lands are privately owned. Lands along the river are mostly Federal and State lands.

Trespass is a major concern of private landowners. People who hunt, fish, and pursue other recreational activities often do not have a clear idea of the boundaries of Reclamation lands, private property, and other public lands. As a result, they may trespass on private lands. To reduce the potential for trespass, some land owners incorrectly post signs indicating that roads and lands under Reclamation jurisdiction are private. Lack of clearly defined boundaries also contributes to nonpermitted use and trespass on Reclamation lands.

Lands within the Fort Hall Indian Reservation located on the east side of the reservoir from just northeast of Seagull Bay to McTucker Island are managed by the Shoshone-Bannock Tribes. Although some of these lands are owned by Reclamation, they are not generally open to public use. Some of the Reclamation lands within the Reservation have permanent easements and all are managed primarily by the Shoshone-Bannock Tribes for tribal uses and fish and wildlife enhancement. Management objectives of these lands are unlikely to change. Conflicts between the Tribes and recreationists using the shoreline for other recreational pursuits could be reduced by implementing an educational program and more clearly defining boundaries.

Downstream from the dam, Reclamation lands on the north side of the river are closed to motor vehicles but most adjacent BLM and State lands are not. BLM maintains grazing allotments adjacent to these Reclamation lands, and there is grazing on adjacent State and private lands. Cattle graze on Reclamation lands and cross them on the way to water. The intermixture of lands and lack of boundary markers can lead to confrontation and trespass on Reclamation lands.

Downstream Reclamation lands will remain closed to vehicles to protect archeological, historic, and natural resources. Education and clarification of Reclamation policy and land boundaries are needed.

Many Reclamation lands are managed for wildlife habitat, livestock grazing, farming, recreation, and sand and gravel extraction. Some of the lands are leased by other agencies, organizations, or individuals under permits issued by Reclamation.

Leases for wildlife management do not appear to be of concern. However, leases for grazing and agriculture have been questioned. Implementing a grazing management plan will provide an opportunity to improve management on these lands to enhance habitat for wildlife.

Encroachments on Reclamation lands are a concern at various locations around the reservoir, and some encroachments have been in place for a long period.

Three sites around the reservoir are leased for recreation. The recreational facilities and opportunities provided at these sites by the lessees are valued in the region and are generally well maintained and well operated. No significant concern has been identified regarding continued operation of these recreation areas.

The sand and gravel operations near McTucker Island have created recreation opportunities. The area is extensively used for recreation despite the lack of facilities. Additional sites for extraction of sand and gravel are proposed, but would need to consider fish and wildlife, recreation, and cultural needs. Mining on Reclamation lands is not legal under current rules and regulations.

RECREATION

Outdoor recreation demand has increased over the past two decades throughout Idaho. In the American Falls area, resident recreationists are the major user group. While the overall demand for recreation at the reservoir and downstream areas is expected to increase, the increase is expected to be slow.

The highest non-urban priority needs for recreation include picnic areas, trail-based campsites, tent and RV camping in roaded campgrounds, swimming beaches, fishing access, floating access, launchsite camps, trails for hiking, equestrian use, and interpretive/educational purposes.

The four developed recreation areas around the reservoir currently offer adequate boating and water sport access until the water level declines during the summer. There is significant demand for a longer boating season which could be met in part by reducing sedimentation on the Visitors Center boat ramp and channel dredging from the Willow Bay and Seagull Bay launches to provide access when the reservoir level drops.

Day use and overnight facilities at the developed recreation areas are currently adequate on all but holiday weekends. The greatest recreation pressure occurs at Willow Bay Recreation Area due to its availability to the general public, proximity to Pocatello and American Falls, and the variety of facilities. At the Visitors Center, the only developed recreation area managed by Reclamation, improved restrooms and landscaping are needed.

Recreation use at McTucker Island appears to be increasing although there are no facilities. There may be some opportunities for increased recreation use, but potential conflict with wildlife values is a major consideration.

There appears to be considerable potential for enhancing bird watching activities through development of facilities and interpretive support.

Protection of archeological resources is a major limitation to recreation development on Reclamation lands downstream from the dam. These lands will remain closed to vehicle access.

There are opportunities to improve the scenic quality where unmanaged motor vehicle access has led to loss of vegetation and extensive erosion. Littering and occasional garbage dumping on Reclamation lands could be decreased through public education and information about Reclamation lands.

CULTURAL RESOURCES

Numerous laws and regulations require identification and management of cultural resources on Federal lands. Principal laws are the National Historic Preservation Act (NHPA); the Archeological Resources Protection Act (ARPA); the American Indian Religious Freedom Act (AIRFA); and the Native American Graves Protection and Repatriation Act (NAGPRA).

Sections 110 and 106 of the NHPA require a Federal agency to identify and manage properties eligible for the National Register on the public lands they administer. Section 110 states, ". . . each Federal agency shall exercise caution to assure that any such property that might qualify for inclusion (on the National Register) is not inadvertently ... substantially altered or allowed to deteriorate significantly." Section 106 requires that agencies ". . . take into account the effects . . ." of their activities on National Register eligible sites. The agency must make cultural resource management decisions in consultation with the appropriate SHPO and the Advisory Council on Historic Preservation (ACHP). Native Americans must be afforded an opportunity to participate in the consultation process when an action may affect properties of value to a tribe. AIRFA requires that Federal agencies take into account the effects of actions on traditional American Indian religious and cultural values and practices. NAGPRA provides for the protection of Native American graves, funerary objects, sacred objects, and items of cultural patrimony.

In 1972, Executive Order 11644 defined policies and procedures to ensure that use of OHV's on public lands would be controlled and directed to protect resources, specifically including cultural resources. In 1974, Reclamation followed with implementing regulations (43 CFR 420) that closed agency lands to OHV's unless specifically opened for that use. Part 420.22(b) states that OHV "areas and trails shall not be located in areas possessing unique natural, wildlife, historic, cultural, archeological, or recreational values unless the Commissioner (of Reclamation) determines that these unique values will not be adversely affected."

Class I and Class III inventories conducted in the American Falls area and consultation with the Shoshone-Bannock Tribes indicate that the area is rich in evidence of Native American occupation dating back as long as 14,500 years. Protection of sites and artifacts is a major concern. Reclamation is leading efforts to designate all or a portion of the lands along the river, where cultural resources are most concentrated and of highest significance, as a National Register District.

There are opportunities to coordinate with other agencies such as the IDPR and local historical societies in developing interpretive programs, materials, and facilities.

PUBLIC PLANNING ISSUES

Issues and opportunities were identified through the public involvement program. Priorities were identified on the basis of the number of individuals identifying an issue or opportunity.

Protection of water rights was identified as the number one concern. Protection and enhancement of wildlife habitat was identified as having second priority with general agreement that habitat for waterfowl, shorebirds, upland game birds (particularly pheasant), and Federal- or State-protected species is the most important. Third and fourth priorities were water quality improvement and control of erosion. Changes in water management including maintaining a minimum pool was rated fifth in priority.

Most of the other identified issues and opportunities relate to public access to land and water, clarification of land boundaries and Reclamation policies, and coordination of management with other agencies and entities.

It is important to note that the AFRMP is not the proper forum for addressing all public concerns. For example, protection of water rights (the number one priority identified in public meetings) and changes in flow and reservoir pool regulation are established through legal processes. The AFRMP cannot address these concerns. Water quality of the reservoir, another high priority issue to the public, is affected by reservoir pool volumes which cannot be addressed through the AFRMP. However, water quality affected by runoff from Reclamation is an issue that can be addressed by the AFRMP.

It is important to recognize that Reclamation cannot assert control beyond its lands but can work with other agencies and entities in a cooperative manner to address identified concerns.

Table 3-1 lists issues and opportunities identified in public meetings by priority from highest to lowest priority.

Table 3-1.—Issues and Opportunities Identified in Public Meetings
(Listed from highest to lowest priority)

Protect water rights
Protect/enhance wildlife habitat
Assess and protect/improve water quality
Control erosion/siltation
Regulate/manage water flow/minimum pool equitably
Clarify/ensure plan/management funding (e.g., cost sharing, direct/indirect costs)
Clarify/manage Reclamation/private land boundaries (including tribal lands)
Regulate/manage public access/use
Improve/increase public access
Improve/extend boat access
Regulate/restrict grazing
Consolidate Reclamation lands for more effective/balanced management
Develop recreational objectives/opportunities
Assess "best use" of Reclamation land for the public good (consider all uses to achieve balanced management)
Address public/private sector cooperation
Regulate/restrict off-road vehicle access/use
Address multiple agency coordination/management
Develop/improve comprehensive public education program (including water, land, wildlife, agricultural, and recreational resources)
Maintain existing public access (leave "as is")
Protect/improve fisheries
Maintain "fit"/clarify any changes related to city/county transportation plans and regulations
Address Reclamation mission/involvement
Retain/promote primitive campgrounds
Limit public access
Classify river as "recreational" (as allowed under Wild & Scenic Rivers Act); allow no new dams
Avoid over-reaction on environmental issues
Improve Native American relations
Control weeds/pests
Catalog native plants
Address any new land purchases
Improve road conditions
Protect and provide/maintain access to historic resources
Provide/manage navigational aids (i.e., lights)
Address agricultural lease renewals
Improve/enforce litter control
Protect/improve visual resources (e.g., powerlines)
Address public rights vs. Native American rights
Address mining interests
Address separation of water operations from land use

CHAPTER 4

RESOURCE MANAGEMENT PLAN FOR THE RESERVOIR

The AFRMP is composed of (1) actions that are general and apply to all Reclamation lands around the reservoir and (2) actions that are directed at specific purposes or specific areas. The arrangement of this chapter is from general to highly specific. All of the actions that apply generally to the management area are discussed in one section while actions that are specific to a management concept or management area are discussed under those sections.

The major portion of this chapter identifies general actions under three major categories of goals identified through the public involvement process--Natural and Cultural Resources, Public Access and Recreation Use, and Management and Implementation. Each goal is stated and the "Objectives" and "Actions" (to meet the objectives) are identified.

Actions that apply to specific functions were separated out of the discussion under the major goals and grouped into a Wildlife Management Plan (WMP), an Access Management Plan (AMP), and a Grazing Management Plan (GMP). Actions that apply to specific management areas are discussed in the sections on management areas.

Environmental commitments identified in the Final EA/FONSI (Reclamation 1994) are included as actions throughout the appropriate sections of this chapter.

This chapter is arranged in the following pattern:

- General rules and regulations that Reclamation follows in management and operation of facilities, along with agreements and specific policy developed for management of American Falls Reservoir.

- General actions items in three general goal categories—Natural and Cultural Resources, Public Access and Recreation Use, and Management and Implementation.

- Management plans—WMP, AMP, and GMP.

- Management actions by specific area.

- Implementation schedule.

GENERAL REQUIREMENTS AND POLICY

There are numerous Federal laws, rules, and regulations that govern management of Federal lands. It is not the intent of this AFRMP to list all of these. However, Reclamation is committed to following the laws, rules, and regulations that apply specifically to the operation of American Falls Dam and Reservoir and the Federal lands that are part of the project.

Some of the applicable rules, regulations, and specific agreements include:

- Protect habitat and avoid significant impact to listed, proposed for listing, and candidate threatened species and other species of special concern. Reclamation will comply with legal responsibilities for recovery and maintenance of federally-listed, threatened, and endangered species and protection of cultural resources.

- Protect and enhance wetlands in accordance with existing Federal regulations.

- Maintain a 300 cfs minimum flow at American Falls Dam.

- Completed cultural resource management actions in accordance with requirements in 36 CFR 800, AIRFA, and other appropriate laws and regulations.

- Include appropriate NEPA compliance/consultation in implementation actions.

- Obtain necessary water quality permits prior to construction.

- Coordinate with USFWS to ensure that any conditions or commitments made as the result of Section 7 consultation activities (ESA) are integrated into construction specifications, contracts, and operational agreements as appropriate to avoid violating provisions of the ESA or jeopardizing the continued existence of a species.

- Implement most actions depending on the availability of funds and identifying cost-share partners as required by current laws and regulations. Maintain basic facilities at designated recreation areas in accordance with current cost-share agreements and protect specific resources.

The following policies on motorized access, litter control, and encroachment on Reclamation lands will be implemented.

- Motorized Access. Areas around the American Falls Reservoir, including the exposed lakebed, that are currently open to motorized access will, with some exceptions, remain open to that activity in the future.

- Litter Control. Litter receptacles, including dumpsters, will not be provided at dispersed recreation areas. Recreationists will be expected to follow a "pack it in--pack it out" policy of carrying out all garbage and litter resulting from their activities. Policy statements on litter and garbage removal will be included in visitor information materials and programs on land management.

- Encroachment and Trespass. Encroachment and trespass on Reclamation lands will not be allowed. Yearly inspections will be conducted on an informal basis and a formal review will be conducted every 5 years. Agricultural and grazing use of Reclamation lands will be allowed only if authorized and if wildlife and cultural values are met. Equipment, pipes, haystacks, etc. will not be allowed on Reclamation lands. Any dumping problems will be followed up with local law enforcement officials if necessary. Boundary identification will be improved where feasible with installation of signs, monuments, and fences.

GOALS, OBJECTIVES, AND ACTIONS

Natural And Cultural Resources

Action items with general application are included in this section. The reader is directed to the sections on the WMP, GMP, AMP, and specific management areas for items specific to single areas.

Goal -- Promote Optimal Use Of Water Resources And Protect Water Rights

Objectives

- Ensure that management decisions for conservation, use, and enhancement of land resources do not conflict with established water rights, storage contracts, or irrigation operational needs.

Actions

- If feasible, implement with the consent of the spaceholders, reservoir operational adjustments which contribute to achieving fishery, endangered species, wildlife, and recreational objectives while protecting water rights, reservoir storage rights, and irrigation operational needs.

- Encourage measurement of all water diversions to ensure that all measuring devices are functioning accurately.

Goal -- Protect And Improve Water Quality

Objectives

- Ensure that any planned or proposed reservoir sub-impoundments or tributary impoundments are designed to avoid concentration of trace elements and will not cause other adverse water quality effects.

- Discourage use of chemical fertilizers, herbicides, and pesticides on Reclamation lands.

- Ensure that water quality monitoring programs target runoff/drainage inflow points where studies have indicated potential for water contaminants.

Actions

- If feasible, operate the system to help meet instream flow quantity and quality needs consistent with other project purposes and contractual requirements in the Snake River below the reservoir. Reclamation will determine (in cooperation with IPC, the Idaho Department of Health and Welfare, the EPA, spaceholders, and other agencies and interest groups) instream flow needs, identify flexibility in reservoir operations to help meet needs, and modify operations where feasible.

- Where feasible and appropriate, provide adequate sanitation and waste management facilities at existing developed recreation sites.

- Cooperate, within budget constraints, with other Federal agencies to investigate the quality and quantity of surface and subsurface return flows and the potential effects on human health, fish, and wildlife.

- Cooperate and assist in coordinating and integrating regional ongoing and planned water quality monitoring programs. Based on the results of water quality monitoring, evaluate and act on any defined need to establish a local/regional cooperative effort to address water quality concerns. Institute new programs only if concerns are identified which cannot be covered by existing efforts.

- Encourage the local Soil Conservation Districts to continue to work with area farmers to (1) reduce amounts of applied fertilizer, herbicides, and pesticides and (2) prevent overspray on Reclamation lands. Encourage farmers to voluntarily reduce application rates of chemical fertilizer and herbicides and include usage guidelines in lease agreements.

- Projects designed to accomplish identified goals of restoration and enhancement will include water quality monitoring in consultation with the Idaho Department of Environmental Quality (IDEQ).

Goal -- Control Erosion And Siltation

Objectives

- Reduce the rate of shoreline erosion and release of sediment downstream.

Actions

- Continue the ongoing shoreline erosion control program around the reservoir, including coordination with the Shoshone-Bannock Tribes regarding priorities within the Fort Hall Indian Reservation. The program will include engineered erosion mitigation and control features, such as willow planting and riprap placement, where such features appear effective and are less costly than land acquisition, and planting of vegetation on the shoreline and tributary riparian areas. Plans to slope the upper portion of cliffs to minimize erosion and establish upland wildlife habitat will be modified in areas where significant colonies of bank swallows reside. The method of accomplishing control work will be determined by Reclamation. Funds will be provided by Reclamation and the spaceholders.

- Continue to acquire sufficient lands to construct, operate, and maintain Federal project works, including a freeboard around the reservoir. Property will be acquired in accordance with current law at a width sufficient to accommodate up to 50 years of erosion or to prevent encroachment until the erosion control program has been fully implemented. Landowners will be fully compensated for lands taken for these purposes.

- Control erosion in all construction projects under Reclamation's jurisdiction.

- Reclamation will include erosion control measures (e.g., straw mulches, sediment traps, and filter fabric) in the design and construction specifications for any proposed development. Contract specifications will contain the best management practice designed to prevent erosion and sediment-laden runoff from leaving project sites during construction. All exposed areas will be immediately revegetated and stabilized.

- Explore means of reducing sediment contributions from the reservoir by adjustments to reservoir operations.

Goal -- Protect And Enhance Important Vegetation, Fish, And Wildlife Habitat Values

Objectives (Vegetation And Wildlife)

- Ensure that any permitted livestock grazing on Reclamation land does not result in a significant adverse effect on (1) existing valuable vegetation and wildlife habitat or (2) the rate of recovery of habitat previously damaged or targeted for enhancement.

- In all decisions for trade, purchase, and lease of Reclamation lands, promote implementation of a balanced habitat conservation and enhancement program.

- Protect existing trees and promote the establishment of cottonwood forest and shelter belt growth.

- Restore riparian vegetation along tributary streams wherever feasible.

- Continue program to control noxious weeds and promote the growth of native species.

Objectives (Fishery)

- Encourage IPC to consider additional research on fish passage options and improve fish survival rates.

- Encourage IDFG to research which species and stocks of fish can better survive fluctuating conditions in the reservoir and the river downstream from the dam.

- Encourage coordination of the IDFG stocking and other fishery management efforts with involved agencies, organizations, and the Shoshone-Bannock Tribes.

Actions

Vegetation and Wildlife

- A WMP will be prepared (see "Management Plans"); however, all of the general activities in this section will benefit wildlife.

- Continue to prohibit the burning of stubble, shrub, and other vegetative cover on Reclamation lands as a means of retaining and protecting wildlife values.

- Replant the graded slopes created at the tops of the cliffs as weather and hydrologic conditions permit; cooperative efforts with adjacent landowners may also be valuable tools in such efforts.

- Conduct a detailed vegetative cover inventory around the reservoir to (1) catalog native plant species and (2) identify locations where State-listed noxious weeds, invasive exotics, and other plants are a problem requiring action. Priorities will be to inventory Reclamation lands first and easements second.

- Develop viable vegetation management programs for small and narrow Reclamation ownerships adjacent to private farmland. Focus on cooperative efforts to achieve optimum wildlife habitat value on these lands while minimizing adverse effects on farming operations.

- Explore and, if feasible, implement reservoir operational adjustments which will enhance wildlife habitat values. Examples include reduction of water level fluctuations and a more constant rate of drawdown during the waterfowl and shorebird nesting season.

- As part of the AMP, identify methods to restore upland vegetation/habitat damaged by vehicular access, focusing on areas where access has been terminated. Restoration will depend on the ability to provide irrigation if necessary, to protect new plant growth, and Reclamation's ability to fund or cost share the project.

- Support an USFWS recommended program to plant vegetation shelter belts along the exposed shoreline areas of the reservoir on public and private lands. The program will encourage farmers to plant and maintain conifers, deciduous trees, and shrubs for habitat enhancement.

- Continue updating the Geographic Information Systems (GIS) inventory for all the mammalian and avian attributes that were digitized and mapped in 1992, including such categories as waterfowl, shorebirds, candidate, threatened, and endangered species. Focus on the land status GIS attributes and develop refinements to the important wetland category, particularly as it relates to private lands and any new areas following development of subimpoundments.

Birds

- Conduct a survey, in consultation with wildlife specialists at Idaho State University, to determine existing and potential swallow habitat focusing on the bluffs on the west and east sides.

- In cooperation with USFWS, IDFG, the Tribes, and Idaho State University, participate in a 5-year assessment of passerine and colonial nesting at the reservoir as part of the Neotropical Migratory Bird Program.

ESA Species

- Subject to available funds and partners, conduct annual winter bald eagle surveys during the months of January through April, and every 5 years use the onboard geo-position system or its equivalent to accumulate data into the GIS data system. Key use sites including perch trees will be noted and correlated with winter conditions such as ice flows in the Snake River, percentage of ice formation on the reservoir, temperature, water fowl numbers, and other variables.

- Protect bald eagle perch trees used during the day, especially those located where there tends to be a concentration of eagles, by prohibiting cutting of trees and signing areas accordingly. Identify and protect any bald eagle nest sites and potential nesting areas. If bald eagles begin nesting in the area, develop nest site management plans to establish protective dates and buffer zones that are consistent with those that have been developed for the upper Snake River.

- Every 3 years, in cooperation with the USFWS and in conjunction with the annual winter bald eagle census, conduct a comprehensive study to document the location of night roost sites, frequency of use, and density of bald eagles using the roots throughout the winter.

- Prior to constructing any improvements near a spring discharge area, conduct a survey in coordination with the USFWS for the presence of federally-listed snails.

- In consultation with USFWS, consider opportunities to introduce peregrine falcons in the Snake River plain. Recommendations are for two 40-foot nesting towers on the west side of the reservoir. Additional structures will be considered through cooperative agreements with the Shoshone-Bannock Tribes on the Fort Hall Indian Reservation.

Weeds

- Work cooperatively with Federal, State, and local entities to identify and prioritize areas where control of noxious weeds is necessary. Incorporate Integrated Pest Management concepts and practices into Reclamation programs. Where possible, these actions will be coordinated with the wetland/riparian development and shoreline erosion control programs.

Fish

- Participate with other regional managing agencies and the State to explore potentials for storing more water in the American Falls Reservoir (particularly at the end of irrigation season, to provide over-winter fish habitat). Opportunities may include IDFG purchasing water from the upper Snake River reservoirs.

Goal -- Protect And Enhance Visual Resources/Scenic Quality

Objectives

- Avoid damage to the landscape (caused by motor vehicles or other uses) in areas which are highly visible from scenic viewpoints or from recreational travel routes (including the interstate highway).

- Ensure that the siting and design of all new facilities on Reclamation lands blends into the rural landscape.

- Emphasize enjoyment of the scenic resources in planning land/water uses.

Actions

- Continue to remove trash and waste dumps and explore means of assuring litter removal and trash collection through lease terms, cooperative agreements, etc. Explore means to avoid trash and waste in highly visible areas around the reservoir.

- Implement the litter control policy of "pack it in--pack it out" and programs governing all Reclamation lands and include policy statements in all visitor information materials. Do not provide litter receptacles and dumpsters at dispersed recreation sites unless monitoring indicates a need.

- Consider restoration of existing degraded areas which are visible from key vantage points.

- Include visual quality as a concern in all management and development decisions.

- Develop siting, building design, and screening guidelines and criteria for the improved appearance of structures and preservation of the rural landscape. Apply to the planning, design, and construction of all new facilities and maintenance or modification of existing facilities.

Goal -- Protect Cultural Resources And Provide Educational/Interpretive Opportunities

Objectives

- Ensure protection of sensitive cultural and paleontological resources in accordance with existing Federal regulations and through consultation with the Shoshone-Bannock Tribes Cultural Committee.

Actions

- At the Visitors Center, consider interpretive signs and programs as part of protection of cultural and paleontological resources on Reclamation lands.

- Complete a cultural resource management plan (CRMP) for these lands which outlines actions and methods to protect the cultural resources. This will include definitions of the consultation processes and parties; enforcement strategies; resource protection actions, including vehicle access management, monitoring, site stabilization, and public education; and data recovery actions in the case of adverse effects to sites from agency actions or uncontrollable natural conditions. The CRMP will also identify procedures to address NAGPRA issues of burial protection and repatriation of cultural materials. The Shoshone-Bannock Tribes will provide input to and participate in CRMP preparation and implementation.

- Obtain location-specific cultural resource clearances when the agency acts to enhance recreation or wetlands. Avoid adverse effects to cultural resource sites by relocating or redesigning any proposed development.

- Stabilize or protect cultural sites when avoidance is not possible such as for reservoir bank stabilization projects. Test excavations will be conducted as necessary to determine if the sites are eligible for the National Register. Consultations, per 36 CFR 800, will also be conducted to determine site eligibility, project effect, and appropriate treatment of adversely affected Register-eligible sites.

- Cultural resources personnel, or other land management personnel sensitized to cultural resource management concerns, will participate in the annual monitoring of Reclamation lands to determine if operations, natural erosion, or land use is damaging cultural resources. If significant sites are being damaged, management actions will be implemented. If the site cannot be protected, mitigation may be considered.

- Determine if cultural resource sites are present on lands leased for agriculture, grazing, or recreation and if issuance or renewal of leases is under consideration. If National Register eligible or unevaluated sites are present, Reclamation will determine if the lessee's use will affect those sites. If damage could occur or is occurring, Reclamation will consider altering the lease to exclude use of the site area or include conditions that will avoid or reduce damage.

- Initiate actions to protect or remove human burials as soon as possible if they are reported to be exposed or endangered by reservoir operation, natural erosion, or land use. Unless the burials are clearly non-Indian, the Tribes will be informed prior to action and involved in selecting and implementing the management option.

- Install signs at key access points to indicate damage of cultural resources is punishable by law, citing ARPA and appropriate State codes.

- Curate archeological collections, in most cases, at the Southeastern Idaho Regional Archaeological Center. Exceptions will be human burials, grave goods associated with a burial, and items that are sacred to or of cultural patrimony to American Indian tribes (NAGPRA items). When NAGPRA items are recovered, they will be returned to the appropriate tribe.

- Continue to identify paleontological specimens exposed by erosion and collect for curation where archeological surveys are being completed or will be done by the archeological surveyor. The permit will continue to be issued for shoreline fossil collection by paleontologists from the Idaho Museum of Natural History.

Public Access And Recreation Use

Action items with general application are included in this section. The reader is directed to the sections on the AMP, WMP, GMP, or specific management areas for actions specific to those areas.

Goal -- Provide Adequate Safe And Suitable Road Access To Designated Recreation Areas

Objectives

- Increase public accessibility where appropriate and consistent with resource management goals.

- Ensure compliance with existing Federal legislation and regulations regarding access for the physically challenged to designated, developed sites and facilities.

- Provide adequate access management and parking within designated public use sites.

Actions

- An AMP will be developed to address hiking, climbing, bicycling, equestrian, and motor vehicle use (see "Management Plans").

- Continue to allow dispersed recreation activities in all areas which are not under an agricultural lease or easement and will not damage cultural or natural resources. Allow hunting on all Reclamation lands consistent with existing State and local regulations. Do not actively manage recreation sites unless monitoring indicates a need. Implement a policy of "pack it in/pack it out."

- Coordinate with adjacent landowners to minimize land use conflicts, when accommodating the access needs of recreationists and other users of Reclamation land.

- Consider land ownership changes or cooperative agreements as potential tools for consolidating and/or managing access or to increase public accessibility.

- Cooperate with involved counties, agencies, and landowners to achieve needed access, including improvements and maintenance, to designated recreation sites, sportsmen access points, etc. on Reclamation lands.

- If necessary, acquire access easements or rights-of-way into important, designated Reclamation public use areas which are currently inaccessible by public road.

- As part of monitoring and review of effects, Reclamation will inspect designated areas, roads, and trails for motorized use to determine conditions resulting from vehicular access and use. If substantial damage or disturbance of Reclamation lands, water wildlife, vegetative resources, or archeological and historic resources is found, areas, roads, and trails will be closed per 43 CFR 420 or appropriate controls established to prevent further deterioration of the environment.

- Restrict and actively manage vehicular access in areas where: there are potential conflicts with other existing land uses; soils, vegetation, and cultural resources are particularly sensitive to damage; water quality may be adversely affected; wildlife sensitive to human disturbance are concentrated; and the visual impacts can be readily seen.

Goal -- Accommodate Boating Access And Provide Appropriate Recreation Site Improvements, Consistent With Demand, Available Funding, And Carrying Capacity Of The Resource Base

Objectives (Boating Access)

- Improve boater safety and accessibility.

- Promote boater safety in general by developing public information brochures and installing highly visible signs which describe boater safety regulations, boater etiquette, and hazardous conditions. Coordinate with County Waterways and the Coast Guard Auxiliary.

Objectives (Land-Based Recreational Opportunities)

- Accommodate future increases in recreation demand at new sites as appropriate.

Actions

General Boating Access

- Promote night-time boater safety and convenience by encouraging and cooperating in maintaining appropriate navigational lights at various boat ramps and bays around the reservoir. Explore potential funding and implementation sources for promoting use of and maintaining navigational lights with County Waterways and/or Coast Guard Auxiliary.

- Install highly visible signs which describe boater safety regulations, boater etiquette, and hazardous conditions and coordinate with County Waterways and/or the Coast Guard Auxiliary. Provide public information brochures.

General Land Based Recreation

- Provide land-based trail opportunities for hiking, equestrian, and bicycle opportunities where appropriate and considering resource protection needs.

- Develop bird watching facilities consistent with wildlife management goals and objectives.

- **If feasible and with the cooperation of spaceholders**, maintain the water level of the reservoir at elevation 4335 so that developed boat launches are usable at least through the 4th of July holiday.

- Continue to allow non-motorized recreation activities on all Reclamation lands where such use does not conflict with other established land uses.

- Actively manage recreation, especially restroom and trash removal services, at sites which are heavily used by recreationists or where heavy use is more desirable and management efforts can be concentrated. Visitor health, safety, and welfare will be a focus.

- Work with local user groups to promote clean-up efforts.

Goal -- Achieve A Consistent Framework For Eliminating/Avoiding Encroachments On Reclamation Land And Managing Mining And Agricultural Lease Activities

Objectives

- Eliminate encroachments and trespass on Reclamation lands.

- In the continuing program of removing/resolving encroachments on Reclamation lands, promote objectives relating to wildlife habitat enhancement and controlling erosion in a consistent manner.

- Emphasize resource conservation and enhancement, avoidance of adverse environmental impact, and achievement of broad public use benefits in all land management decisions; permit single-purpose leasing/permitting only when compatible with this philosophy.

- Ensure that all agricultural leases are consistent with the goals and objectives of the AFRMP; if significant conflicts arise, modification or termination of leases may be required.

- Ensure that public agencies (Federal, State, or local) and Tribes operating under lease or permit for resource use or extraction on Reclamation lands fulfill their responsibility for site rehabilitation and/or reclamation.

Actions

Encroachments

- Develop specific procedures to eliminate encroachment in accordance with the policy on encroachment on Reclamation lands.

- Continue evaluating the numerous encroachments on Reclamation lands. Decisions will be made to allow or remove the encroachments on a case-by-case basis and based on ongoing discussions with affected parties. A majority of encroachments involve cropland but also include portions of roads, irrigation equipment, farm structures, and buildings.

- Conduct yearly inspections for encroachment and trespass on an informal basis, with a formal review conducted every 5 years. Unauthorized agricultural and grazing use on Reclamation lands will not be allowed. Equipment, pipes, haystacks, etc. will not be allowed on Reclamation land.

- Follow up any dumping problems with local law enforcement officials if necessary.

- Improve boundary identification, where feasible, with signs, monuments of boundary lines, and fences.

Agricultural and Grazing Leases

- A GMP will be developed (see "Management Plans").

- Renew all agricultural leases, but reevaluate fair market values to consider modified agricultural practices for increasing the availability of food and cover for upland game birds, especially pheasant. The new lease terms, to be cooperatively developed with each lessee, will require leaseholders to plant a negotiated percentage of the leased field with forage crops or provide other wildlife benefits. No new agricultural leases will be issued on land not leased at present.

- Require and enforce a condition in agricultural leases that land within 75 feet of the edge of the shoreline bluff is not irrigated.

- Modify, as necessary, agricultural leases to be consistent with other AFRMP goals and objectives.

Mining

- See section on McTucker Island.

- No mineral leasing will be permitted elsewhere around the reservoir.

- Continue to prohibit mining claims on all lands around the reservoir, consistent with Federal law.

Management And Implementation

Other goals and actions specific to management areas and to the Access Management Plan, Wildlife Management Plan, and Grazing Management Plan also include actions relevant to Management and Implementation.

Goal -- Clarify And More Actively/Efficiently Manage Reclamation/Private Land Boundaries Including Tribal Lands

Objectives

- Provide adequate buffer zones between public use areas and adjacent private land uses (including adequate signs and fencing as appropriate) to reduce/eliminate trespass and encroachment concerns.

- Provide adequate buffer zones between important wildlife habitat and high use recreation or other activity areas.

- Prevent livestock damage to public and private lands caused by inadequate livestock management on Reclamation land.

Actions

- Publish a map illustrating existing and planned Reclamation ownership and communicate management and use policies for all lands as part of AFRMP documentation and visitor information materials.

- Explore means to clarify and simplify Reclamation ownerships and management boundaries around the reservoir; achieve a more understandable boundary from a public use standpoint and a more efficient boundary from a resource management standpoint; and consider land tenure changes (relocations, disposal, purchase) as means to accomplish this objective.

Goal -- Promote Cooperative Management And Program Implementation Efforts With Other Agencies, the Shoshone-Bannock Tribes, And The Private Sector

Objectives

- Ensure that Shoshone-Bannock priority treaty rights on Reclamation land outside of the Fort Hall Indian Reservation are not significantly affected by AFRMP actions.

- Ensure that local, State, and other Federal agencies are aware of management activities and have an opportunity to participate in developing and implementing specific actions and general management plans directed toward wildlife management and grazing management.

Actions

- Explore and, if feasible, implement cooperative agreements, lease arrangements, or other relationships with private landowners, organizations, and the Tribes to achieve (1) mutually beneficial vegetation/habitat management on Reclamation land bordering private cropland and (2) retention and enhancement of wildlife habitat values within private agricultural lands.

- Cooperate with interested private organizations in developing and implementing vegetation and wildlife management programs including exploration of joint funding programs.

- Coordinate with USFWS, IDFG, other public agencies, and the Tribes in developing and implementing vegetation and wildlife management programs including exploration of joint funding programs.

- Explore the potential for cooperative agreements with private interest groups, the Tribes, and involved Federal, State, and local agencies to achieve rapid response to objectives of habitat conservation and enhancement; recreation; and other areas of mutual use. Agreements will focus on planning, funding, and implementing specific habitat programs consistent with AFRMP objectives.

- Maintain coordination and cooperative planning liaison with involved agencies and the Tribes, and to the extent possible, make all regulations and guidelines related to Reclamation lands consistent with those of other, adjacent, or involved jurisdictions. Where needed regulations and/or guidelines are not now in place, coordinate development of these management tools.

- Also see action items under other goals.

Goal -- Achieve Effective Implementation Of The AFRMP Through Appropriate Planning For Funding, Enforcement, And Public Information Programs

Objectives (Funding)

- Ensure that all permitees, leaseholders, and others using Reclamation land under special agreements assume their fair share of public service and management costs.

- Ensure that priority existing and currently funded programs (i.e., erosion control) are not jeopardized by diversion of funds to other programs.

Objectives (Enforcement)

- Ensure that Reclamation enforcement/management needs associated with AFRMP implementation are met by appropriate cooperative agreements or contracts with other agencies including local, State, and other Federal law enforcement assistance.

Objectives (Public Information/Education)

- Ensure dissemination of public information through (1) availability of materials and displays at the Visitors Center and other locations and (2) cooperative efforts with surrounding jurisdictions, school districts, businesses, and interest groups.

Actions

- Continue to explore existing and potential sources to adequately fund AFRMP programs. Direct funding by Reclamation and cooperative funding with other Federal, State, and local agencies and private interests will be explored.

- Continue to pursue Reclamation law enforcement authority.

- Seek funding for full-time resource managers to implement the resource management program and enforce management and trespass guidelines.

- Continue public education programs to reduce accidental damage to or vandalism of natural and cultural resources, and promote resource protection by the public.

- Construct observation blinds for bird and other wildlife viewing kiosks or blinds with complementary road access and interpretive signs.

- Seek funds for systematic monitoring and scientific collection of paleontological materials eroded from the reservoir shore. The monitoring and collection will be conducted by paleontologists, and the collected materials will be curated at Idaho State University.

- To the extent authorized by law, prescribe appropriate penalties for violation of regulations pertaining to areas closed to motorized access and establish procedures for the enforcement of these regulations. Reclamation will work with and enter into cooperative agreements with Federal, State, and/or county law enforcement officials to enforce these regulations. Self-regulation and voluntary compliance among recreational users will be encouraged.

- Develop and disseminate visitor information materials that clearly identify and explain Reclamation lands and facilities available for public use and policies and regulations on motorized access, recreation, and resource management. Explore cooperative efforts with private enterprise or other agencies to publish public information materials. Public informational materials will include:

    - An overall guide map to facilities and access points, Reclamation boundaries, public access roads, and specification of conservation and wildlife management areas where use is restricted.

    - Environmental interpretation and education of natural and cultural resources.

    - Facility and access characteristics, capacities, and limitations.

    - Facility and access regulations.

- Boating etiquette, safety regulations, and waste management.
- Dispersed use regulations.
- Other management regulations and guidelines, as appropriate.

MANAGEMENT PLANS

Wildlife Management Plan

A single American Falls Reservoir WMP, encompassing the entire area covered by the AFRMP, will be developed. Because of the unique values and physical separation of many lands, the WMP will be divided into the following management areas:

Narrow Bluffs
Seagull Bay to Everglades
Spring Hollow
West Bay
Big Hole
Smith Springs/Sterling Wasteway
Danielson Creek to Crystal Wasteway
McTucker Island
Drawdown Area
Sterling Wildlife Management Area

Existing wildlife values, objectives, and planned actions will be described for each management area. The plan will also include an implementation schedule and funding needs for each action. Planned actions will be prioritized, however, funding availability will likely affect implementation and implementation schedule. Implementation will be flexible in order to take advantage of funding opportunities. It is anticipated that this plan will be completed by the end of fiscal year 1996.

General action items that have been identified to date are summarized below. However, see the discussion under specific management areas for items that apply specifically to a management area.

- Identify and establish specific food and winter habitat plots for pheasant and other wildlife on agricultural leases of Reclamation lands.
- Identify, protect, and rehabilitate specific riparian and upland areas to improve habitat for pheasants, wintering big game, and other wildlife.

- Restore riparian vegetation/habitat, including areas adjacent to wetland development sites, presently degraded riparian areas, and locations where riparian vegetation was historically found, where feasible.

- Assure that vegetation/wildlife habitat management and enhancement equally considers and responds to all key habitat and wildlife values including wetland, riparian, mudflat, and upland habitats. Prioritize and coordinate wildlife management actions.

- Construct impoundments and subimpoundments at various tributaries/inflow sources around the reservoir and in the drawdown zone to improve wildlife habitat, enhance fisheries, promote wetlands and/or open water areas, increase biological diversity, and improve water quality in the reservoir area. Prepare site plans that address each project to determine topography, soil conditions, hydrology, and target species.

- Reclamation will evaluate any impoundments considered for reservoir tributaries and any subimpoundments planned for the drawdown area before implementation for their effects on the Western Hemisphere Shorebird Reserve. The evaluation will determine the appropriate impoundment size to enhance use by shorebirds that use the area on a seasonal basis.

- Explore the potential for using sediment cleared from boat ramps or dredged from the reservoir to benefit wetland re-creation and restoration efforts.

- Beginning in fiscal year 1997, secure partnerships to cost share the actions listed and to achieve the goals and objectives of the AFRMP.

- Explore the potential for adding 25-30 Canada goose nesting platforms. Long-term funding alternatives to maintain and monitor nest platforms using interested parties in the area (i.e., IDFG's 1990 agreement with the Blackfoot Ducks Unlimited chapter) to monitor and maintain 10 nest platforms around McTucker Island will be evaluated.

- Consider the potential for erecting 15-20 rock islands in the tailwaters of the drawdown area for waterfowl and other water-dependent birds as resting and nesting sites.

- Monitor the success of wetland development projects, riparian restoration/creation efforts, and upland rehabilitation along with changes to the cottonwood forest and understory in the McTucker Island area and riparian edge of the northeast end of the reservoir. Objectives include increasing waterfowl, shorebird, and upland game bird habitat, especially for nesting and brooding. Emphasize nesting and brooding waterflow in the management of McTucker Island.

- Maintain sage-shrub habitats, pursue upland seeding of native shrubs, forbs, and grasses in the weedy herbaceous areas, and plant shelterbelt vegetation along exposed shoreline areas.

- When possible avoid minimum pool water levels for American Falls Reservoir. Water management should include an analysis of strategies to maintain and enhance colonial and shore bird foraging habitat.

- Identify actions needed to protect habitats on Reclamation land from unauthorized uses (e.g., grazing, agriculture, occupancy trespass, and fire).

Access Management Plan

An AMP will be developed to address hiking, climbing, bicycling, equestrian activities, and motor vehicle use. A conceptual plan will be developed followed by specific changes in conjunction with the CRMP and the WMP. See "Management Actions by Area" for detailed recreation and access actions in the McTucker Island, Big Hole, Little Hole, and Willow Bay areas. Action items identified to date are summarized below.

- Improve and maintain roads on Reclamation lands which lead to developed recreation sites and areas designated for public use in the AFRMP.

- Prohibit vehicular access along the southeast shoreline bluff where public roads do not exist and there is potential for conflict with adjacent private landowners and Reclamation agricultural leaseholders.

- Prohibit vehicular access in portions of the land areas surrounding Big Hole, Little Hole, and Willow Bay, as well as on McTucker Island and in the Danielson Creek/Crystal Wasteway Area (the latter consistent with current policy).

- Areas where vehicular access is prohibited will be illustrated on public information brochures and indicated by signs.

- Physical barriers will not be used unless necessary. Active enforcement will be sought as a last measure in those areas where significant resources must be protected and vehicular access continues to occur despite closure.

- Seasonal restrictions on public use will be applied during the nesting season to the McTucker Island area except for the pond area.

- Identify water based access points where appropriate and illustrate on public information maps.

- Provide clear, consistent directional signs where needed and work with affected counties and Idaho Department of Transportation (IDOT) to make and install signs.

- Accommodate OHV, four-wheel drive, and general vehicular access in areas which are not subject to conflicts in use or particularly sensitive to environmental, cultural, or visual damage.

- Mark areas, roads, and trails with appropriate signs to permit public access (including motorized) on Reclamation lands. Signs will be posted beside county roads at access points to Reclamation lands.

- Monitor the effects of motorized access on Reclamation lands on an annual basis. On the basis of the information gathered, Reclamation will amend or rescind designated areas, roads, or trails, or take other actions necessary to further Reclamation policies, goals, and objectives.

- Publish new OHV closures in the Federal Register.

Grazing Management Plan

A GMP will be developed that includes the following actions:

- Protect riparian areas and nesting habitat for upland game and waterfowl and address water quality concerns. This will be a joint effort with the affected ranchers, and may include BLM, USFWS, IDFG, and the Tribes.

- Continue livestock grazing on Reclamation lands where there are no significant adverse effects on water quality and where consistent with other AFRMP objectives and goals.

- Determine where fencing may be needed to prevent cattle trespassing and who will be responsible for installing and maintaining the fencing.

- Modify livestock grazing leases and allotment terms to be consistent with other AFRMP goals and objectives.

MANAGEMENT ACTIONS BY AREA

Many of the actions of the AFRMP are specific to established recreation, wildlife, or other geographic areas and do not apply generally to all lands around the reservoir. The purpose of this section is to summarize actions in specific areas.

McTucker Island: The McTucker Island area, located at the northeast end of the reservoir adjacent to the Snake River, includes the island, a complex of gravel excavation ponds, and an expanse of wetlands/mudflats (see McTucker Island Area).

- Restrict public use of the McTucker Island area, except for the pond area, during nesting season.

- Continue to prohibit vehicular access onto McTucker Island.

- Explore and, if feasible, implement cooperative agreements with other agencies/jurisdictions to provide efficient and coordinated recreation management.

- Reclamation will determine if there are any archeological sites in the McTucker Island area that are eligible to the National Register, and if so, whether the sites will be endangered by sand and gravel extraction or intensified recreational. Reclamation will prohibit or relocate activities as appropriate to protect eligible sites.

- Focus new recreation development in the McTucker Island area, where no facilities currently exist. The type and scale of development will be consistent with the area's wildlife and cultural protection and enhancement goals. The area will be designated for dispersed/informal camping until need for a developed campground is indicated. Additional facilities will require a cost-share partner.

- Apply actions identified in the Interagency Snake River Study to determine to the extent of natural regeneration of cottonwood trees in the McTucker Island area and the effects of hydrology, windfall, and harvest of cottonwood forest.

- Issue a lease to Bingham County and IDOT to extract sand and gravel in the McTucker Island Ponds area. Prior to issuance of a lease for any further expansion of mining operations or initiation of mining on new sites, an approved extraction and rehabilitation plan including the following will be required:

    - Maps and sections illustrating existing conditions and proposed excavations, an EA, and a mitigation/rehabilitation plan.

    - A commitment to funding full implementation of the plan and subsequent monitoring will be a requirement.

- Take into consideration existing and potential wetland and wildlife concerns, water quality issues, any other known natural and cultural resource conflicts, and recreational opportunities.

Drawdown Area: Located at the upper end of the reservoir, this area is exposed annually during the irrigation season. The exposed mudflats are extensively used by shorebirds. A large portion of the drawdown area is leased for grazing.

- No recreation site improvements.
- Allow public use but discourage motorized access through public information materials and signs.
- A grazing management plan will be developed. (See "Grazing Management Plan")
- Priority area for subimpoundments and other wildlife enhancement projects will be identified (see "Wildlife Management Plan").

Danielson Creek/Crystal Wasteway: This area is at the north end of the reservoir and has abundant birds and other wildlife. It is comprised of a wetland/riparian complex.

- No recreation site improvements; however, there will be wildlife viewing opportunities and designated wildlife viewing marked on maps.
- Provide managed access (non-motorized) to the area through public information materials and signs (part of the Access Management Plan) but prohibit vehicular access into the Danielson Creek/Crystal Wasteway Area consistent with current policy.
- A grazing management plan will be developed. (See "Grazing Management Plan")
- Priority area for subimpoundments and other wildlife enhancement projects will be identified in the Wildlife Management Plan (see "Wildlife Management Plan").

Sterling Wasteway and Smith Springs: Both areas are located on the northwestern shore on tributaries to the reservoir. Sagebrush uplands surround small wetland areas. Wetland improvements have been constructed by Reclamation, and wildlife is abundant. Lands of the SWMA are located to the north, west, and south of Smith Springs.

- No recreation site improvements; however, provide managed pedestrian access and wildlife viewing opportunities in the Sterling Wasteway area. Cost-share partners will be needed.
- Designate as a wildlife viewing area on maps.

McTucker Island Area

Ponds (1)

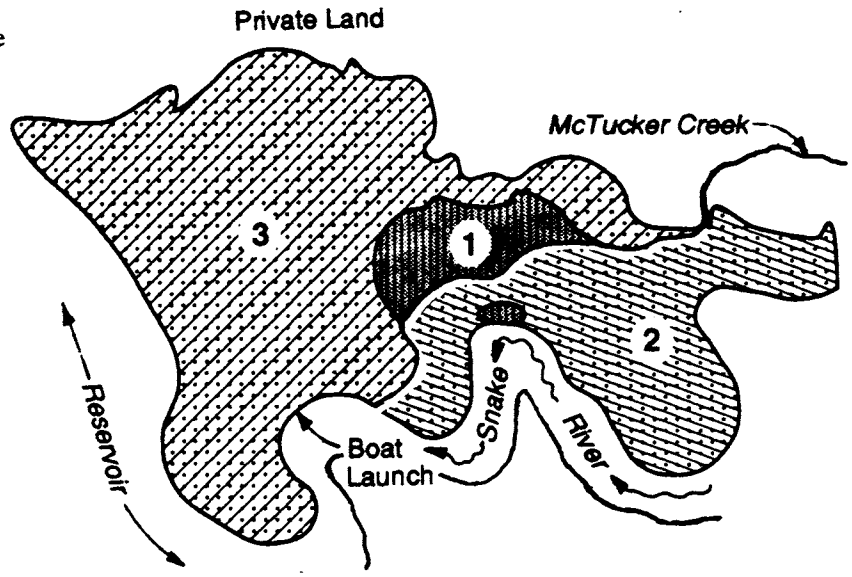
- Develop gravel extraction and reclamation plan to improve water quality, fishery, recreation opportunities, and wildlife habitat
- Install portable toilets
- Informal Recreation; No initial site development except for portable toilets
- "Pack it in-pack it out;" monitor use and provide trash collection services if it becomes necessary
- No livestock grazing

Island (2)

- Non-vehicular dispersed recreation use and seasonal restrictions
- Livestock grazing subject to Grazing Management Plan

Elsewhere (3)

- Seasonal restrictions on vehicular access
- Livestock grazing subject to Grazing Management Plan



Existing Conditions

Ponds (1): Heavily disturbed area containing a number of separate ponds where gravel has been removed; ponds are used for recreational purposes. Gravel operation continuing under short-term lease

Island (2): An area to the southeast of the ponds isolated by McTucker Creek and covered with riparian vegetation and an overstory of cottonwood trees; use is limited to non-vehicle access. Cattle trespass from adjacent lease occurs; Reclamation actively controls this condition

Elsewhere (3): Includes a small amount of upland but mostly wetland and drawdown areas, some of which are covered by willows. Access is limited to a few roads; the area has one semi-improved boat ramp

NORTH

No Scale

Access, Land Use & Development

- Informal Recreation Areas
- Motorized Vehicle Access Permitted
- No Motorized Access

Natural & Cultural Resource Management

- No Active Management
- Resource Protection & Enhancement
- Resource Enhancement Emphasis

McTucker Island Area

- Allow public use at Sterling Wasteway but discourage motorized access through public information materials and signs.

- Maintain agricultural lease but include enhanced provisions for wildlife benefits

- Prepare a WMP to enhance wetlands and restore sagebrush uplands in disturbed areas.

- Explore public access (non-vehicle or pedestrian) to Smith Springs.

- Evaluate the feasibility of constructing small subimpoundment areas around spring sources to maintain habitat for waterfowl during the drawdown period.

Sterling Wildlife Management Area: The SWMA consists of over 3,600 acres of scattered land parcels located on the northwest side of the reservoir. Some of the lands are located in the Big Hole and Little Hole areas. Managed by IDFG, primarily for waterfowl, these non-contiguous parcels contain both wetlands and uplands. Ownership of the lands includes Reclamation, IDFG, and private parties.

- Renew the existing IDFG wildlife leases in the Big Hole and Little Hole Areas (see Big Hole and Little Hole illustrations). Reclamation will be responsible for restoring wetland and upland wildlife habitat, but IDFG will assume long-term management of wildlife.

Big Hole: The Big Hole area (see Big Hole illustration) surrounds an inlet on the northwestern shoreline and is primarily sagebrush uplands. Bingham County manages Sportsman's Park which is located on the inlet.

- Continue recreation leases with Bingham County for Sportsman's Park (exclude other parts of the lease) and identify dispersed recreation sites. With review and approval, permit the County to make improvements in accordance with its master plans. Plans will be revised as needed to protect significant natural and cultural resources. Establish consistent general lease provisions that reflect all applicable Federal rules, regulations, and policies.

- Designate sites which can serve as informal picnic areas for boat-in day use.

- Prohibit vehicular access in portions of the land areas surrounding Big Hole.

Little Hole: The Little Hole area is located southwest of Big Hole. The area is characterized by a mix of uplands, wetlands, pasture, and cropland (see Little Hole illustration).

- Designate sites which can serve as informal picnic areas for boat-in day use.

- Acquire additional shoreline acreage for operational purposes and to ensure that access to a popular beach is maintained in public ownership.

- Evaluate a subimpoundment at Little Hole Bay to enhance waterfowl production and provide habitat for smallmouth bass.

- Prohibit vehicular access in portions of the land areas surrounding Little Hole.

West Bay: This inlet is on the west shore close to the southern end of the reservoir. It has no public road access, but is popular for boating. It includes wetland and upland habitat.

- Discourage motorized access on land and continue to allow boating in the southern half of the bay.

- Encourage boaters to "pack in/pack out" garbage; monitor use and provide facilities if warranted.

- Restrict boat access in the northern end of West Bay to minimize the disturbance of birds and to prevent damage to wetlands and riparian areas. Install signs and provide maps.

- Maintain agricultural leases but include enhanced provisions for wildlife benefits and cultural resource protection.

- A GMP will be developed (see "Grazing Management Plan").

Spring Hollow: This small inlet is just off Highway 39 and close to boat launches. For these reasons, and because it has a beach and is generally protected from wind, it is a popular place to boat and picnic. The road access is unimproved and no recreation facilities exist.

- When recreation demand at existing developed sites on the reservoir exceeds available capacity during periods of peak use, consider improving the road to the area currently receiving high use, developing a small gravel parking lot, and providing sanitary facilities, picnic facilities, and a dock.

- Rehabilitate all remaining disturbed upland areas.

- Explore and, if feasible, implement cooperative agreements with other agencies/jurisdictions to provide efficient and coordinated recreation management.

- Any further development will require a cost share partner.

Big Hole

Areas 1, 3 & 5

- No vehicle access (mapping, signs, and possibly fencing needed)
- Rehabilitate disturbed areas
- Livestock grazing subject to Grazing Management Plan

Area 1

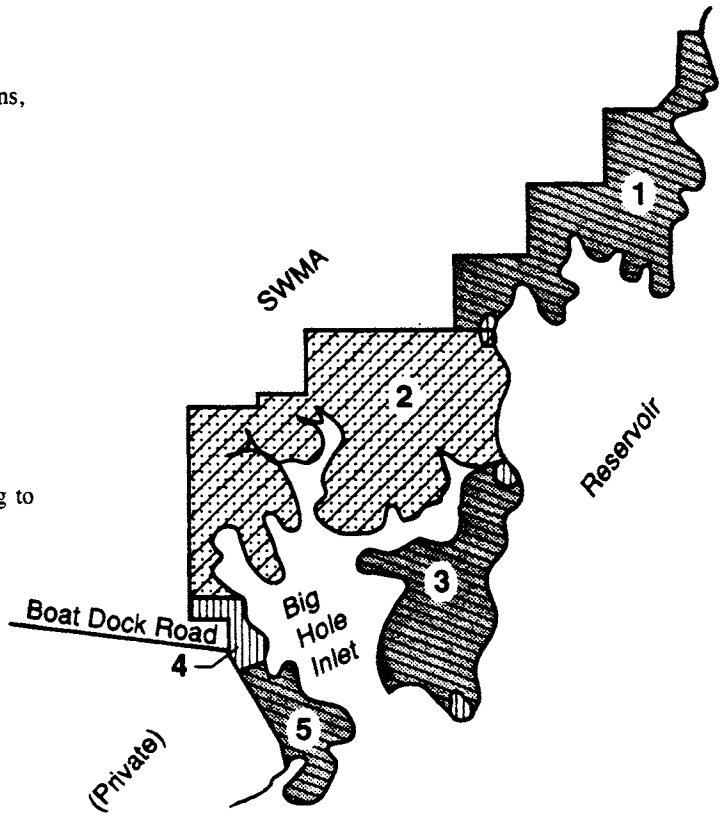
- Keep in Sterling Wildlife Management Area & maintain IDFG lease

Area 4

- Retain under Bingham County lease; use/management according to Bingham County Plan

Areas 2, 3 & 5

- Exclude from current Bingham County lease; identify dispersed informal boat-in picnic sites in Areas 2 & 3



Existing Conditions

Northern (1):	Sagebrush uplands under SWMA IDFG lease; contains popular beaches as well as fishing and waterfowl hunting opportunities; numerous roads and considerable resource damage
Central (2):	Sagebrush uplands under Bingham County recreation lease; numerous access roads to spring-fed tributaries; considerable resource damage
Peninsula (3):	Sagebrush uplands under Bingham County recreation lease; main loop road with shoreline access and OHV use; considerable resource damage
Sportsman's Park (4):	Developed park under Bingham County lease
Southwest (5):	Highly disturbed upland area under Bingham County lease; used by a variety of recreationists

NORTH

No Scale

Access, Land Use & Development

- Informal Picnic Areas
- Motorized Vehicle Access Permitted
- No Motorized Access

Natural & Cultural Resource Management

- No Active Management
- Resource Protection & Enhancement
- Resource Enhancement Emphasis

Big Hole

Little Hole

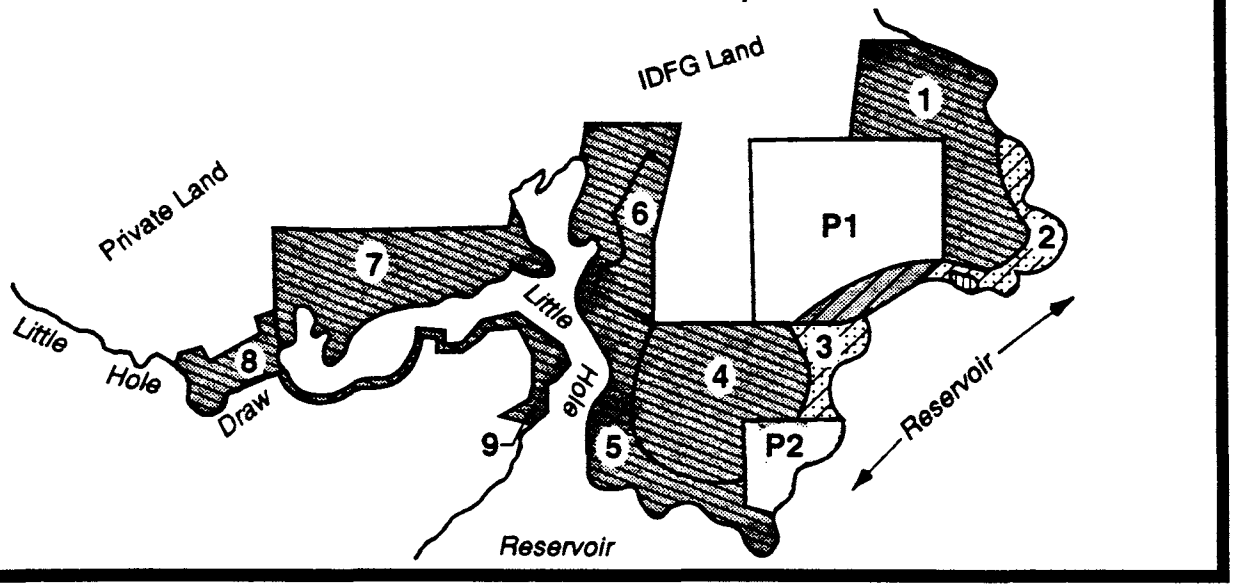
Area 1, 4-9
- No vehicle access

Areas 2 & 3
- Allow dispersed recreation use; restrict vehicles to designated roads

Areas 1, 4, 6 & 8
- Maintain agricultural leases with enhanced provisions for wildlife benefits

Areas 5, 7 & 9
- Enhance wetland & upland wildlife habitat, including consideration of subimpoundments

Areas P1 & P2
- Acquire part of P2 and the shoreline strip of P1; restore upland habitat & provide access to areas 2 & 3



Existing Conditions

Agricultural Leases (1&4): Under SWMA IDFG cooperative wildlife agreement; use is cropland with center pivot irrigation

Shoreline (2&3): Under SWMA IDFG cooperative wildlife agreement; limited recreation use; poor road conditions; primarily sagebrush uplands; some resource damage

Shoreline (5&7): Under SWMA IDFG cooperative wildlife agreement; recreation use for shoreline access; poor road conditions; primarily sagebrush uplands, cattle trespass from adjacent Idaho Department of Lands property; some resource damage

Agricultural Leases (6&8): Under SWMA IDFG cooperative wildlife agreement; use is cropland without center pivot irrigation

Shoreline (9): Under SWMA IDFG cooperative wildlife agreement; sagebrush uplands with limited recreation use and poor access roads; some resource damage

Parcel (P1): Private land with IDFG cooperative wildlife agreement; present use is cropland with center pivot irrigation

Parcel (P2): Private land with IDFG cooperative wildlife agreement; partly cropland and sagebrush uplands; ownership extends to shoreline with no Reclamation buffer lands; existing dirt roads with shoreline access

NORTH

No Scale

Access, Land Use & Development
- Informal Picnic Areas
- Motorized Vehicle Access Permitted
- No Motorized Access

Natural & Cultural Resource Management
- No Active Management
- Resource Protection & Enhancement
- Resource Enhancement Emphasis

Little Hole

Visitors Center (North Side): This area contains picnic and parking areas and a boat launch. The boat launch is heavily used, especially when the other boat launches become unusable in mid- to late summer. Sedimentation is a constant maintenance problem. Any further improvement will require a cost share partner.

- Implement a regular sediment removal program. Evaluate the feasibility of realigning the ramp so less sediment is deposited; constructing a breakwater to minimize sediment deposition; or implementing a combination of measures to improve boat accessibility at the ramp.

- Provide facilities such as additional picnic tables and barbecue grills.

- Upgrade the restroom facility.

- Pave and stripe the parking lot, entrance road, and boat launch.

- Landscape the parking lot and picnic area to reduce wind, provide shade, and minimize the visibility of vehicles from the Visitors Center and Highway 39.

- Install and maintain turf and an irrigation system in the picnic area.

- Place topsoil on the embankments on either side of the boat ramp and hydroseed with native plants/wildflowers.

Visitors Center (South Side): This area is used mostly by anglers late in summer when fish congregate near the dam.

- Develop a small gravel parking lot for 10 to 15 vehicles.

- Provide a one-unit restroom facility.

- Landscape the parking lot to visually screen it from the Visitors Center and Highway 39.

- Landscape the picnic area to provide more shade and wind protection.

Everglades: Located on the southeastern shore, this area is predominantly riparian vegetation. The old town site of American Falls is exposed when water levels are very low.

- Provide a gravel parking lot, portable toilets and, signs interpreting the old American Falls town site at the end of the existing access road. Reclamation will support current efforts of the local Historical Society in promoting self-guided tours.

- Work with the city and county to construct a bicycle path connecting Willow Bay Recreation Area with the city of American Falls through this area.

- Allow public use but manage vehicular access through public information materials and signs.

- Maintain agricultural lease but include enhanced provisions for wildlife benefits.

Willow Bay: Willow Bay is located at the southeast end of the reservoir. The area includes a portion of the Willow Bay Recreation Area but most Reclamation land is undeveloped (see Willow Bay illustration).

- Support efforts, exclusive of funding, of the city of American Falls in studying the feasibility of dredging the channel from the boat launch to the reservoir.

- Continue recreation leases to the city of American Falls for Willow Bay Recreation Area. With review and approval, permit the lessees to make improvements in accordance with their master plans. Plans will be revised as needed to protect significant natural and cultural resources. Establish consistent general lease provisions that reflect all applicable Federal rules, regulations, and policies.

- Seek funding to test recorded archeological sites at Willow Bay recreation area and review plans for facilities improvements for effect on archeological sites. Seek funding to protect or mitigate sites.

- Declare as surplus two small parcels in Area 6 in the Willow Bay area which are currently being farmed; these are no longer necessary for project operations or maintenance.

- Prohibit vehicular access in portions of the land areas surrounding Willow Bay.

Seagull Bay: This is the most northern inlet on the eastern shore outside of the Fort Hall Indian Reservation. Seagull Bay Yacht Club maintains a marina and RV park under lease from Reclamation.

- Continue recreation leases with the Seagull Bay Yacht Club for the Seagull Bay Recreation Area. With review and approval, permit the lessee to make improvements in accordance with their master plans. Plans will be revised as needed to protect significant natural and cultural resources. Establish consistent general lease provisions that reflect all applicable Federal rules, regulations, and policies.

- Allow public use but manage vehicular access through public information materials and signs.

Willow Bay

Areas 2 & 3

- Allow implementation of city of American Falls Master Plan with modifications to protect significant natural and cultural resources
- Consider/study feasibility of dredging channel from boat launch

Areas 1-8

- No recreation site improvements funded by Reclamation

Areas 1, 5 & 8

- No vehicle access

Areas 1-3, 7 & 8

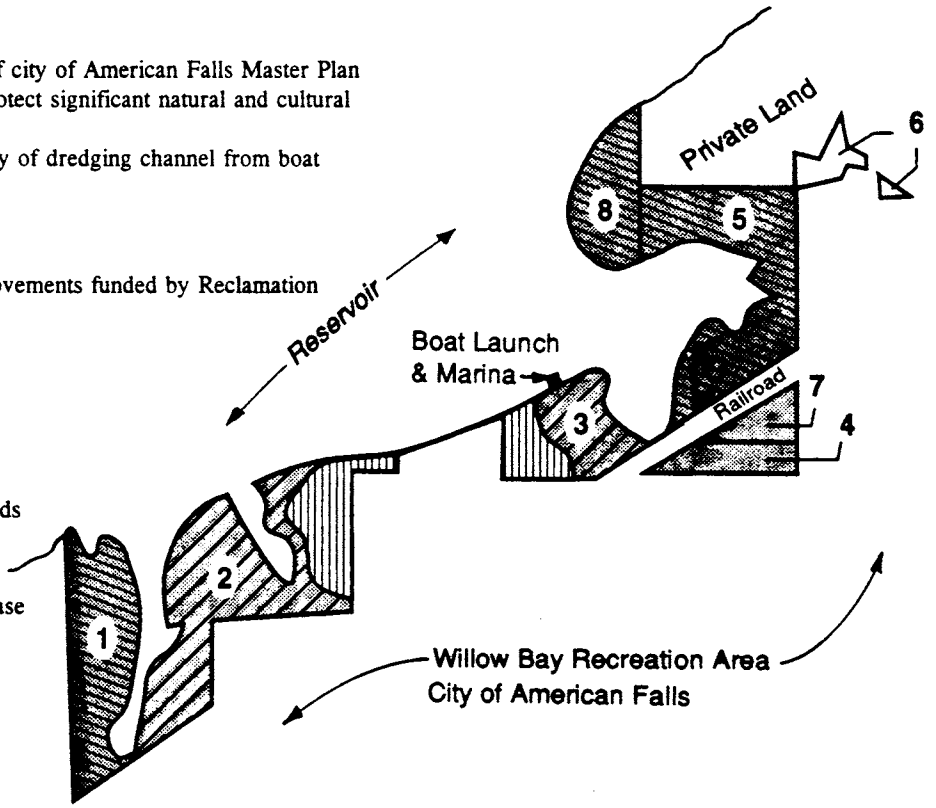
- Rehabilitate disturbed upland areas and wetlands

Areas 4 & 5

- Continue agricultural lease but include enhanced provisions for wildlife benefits

Area 6

- Declare as surplus



Existing Conditions

Western Shoreline (1):	Relatively undisturbed upland area
Willow Bay Recreation Area (2 & 3):	Located adjacent to city of American Falls property containing park facilities; Area 2 is mostly undeveloped; in Area 3, boat launch parking lot is somewhat limited by proximity to tributary
Agricultural Leases (4, 5 & 6):	Small areas leased for farming; Area 4 isolated by railroad track
Upland Area (7):	Undeveloped parcel isolated by railroad track
Point (8):	Upland area subject to extensive erosion; isolated from Willow Bay Recreation Area by agricultural lands

NORTH

No Scale

Access, Land Use & Development

- Informal Picnic Areas
- Motorized Vehicle Access Permitted
- No Motorized Access

Natural & Cultural Resource Management

- No Active Management
- Resource Protection & Enhancement
- Resource Enhancement Emphasis

Willow Bay

- Support efforts, exclusive of funding, of the Seagull Bay Yacht Club in studying the feasibility of dredging the channel from the boat launch,.

- Through relocation, acquire additional wetland habitat to the east, if feasible.

- Obtain and enhance wetland habitats located between Interstate 86 and the existing railroad right-of-way.

- Seek funding to test recorded archeological sites at Seagull Bay recreation area and review plans for facilities improvements for effect on archeological sites. Seek funding to protect or mitigate sites.

Narrow Bluffs: These bluffs stretch for long distances along northwestern and southeastern shores of the reservoir and are 60 feet in height in some areas. Some lands are leased for agriculture, but other areas are undisturbed grassland and/or sagebrush uplands. Road access is generally limited to private roads.

- No recreation site improvements.

- No vehicular access below the bluff tops.

- Allow public use along the bluff tops but discourage vehicle access through public information materials and installation of signs.

- Maintain existing agricultural leases, but include enhanced provisions for wildlife benefits.

IMPLEMENTATION SCHEDULE

This implementation schedule is directed at short-term action items that will be accomplished in the near future. General policy considerations, action items already in progress, and actions that could be considered continuous management are not included.

Table 4-1.—Implementation Schedule for Short Term Activities

Item	Fiscal Year					
	1995	1996	1997	1998	1999	2000
Renew recreation leases for Sportsman's Park (Big Hole)						
Protect bald eagle perch trees						
Restrict boating in north portion of West Bay						
Publish changes in OHV closure in the Federal Register						
Review all agricultural leases						
Develop an Access Management Plan						
Concept						
Complete						
Conduct a survey of existing and potential swallow habitat						
Publish a map of Reclamation ownership						
Develop a Grazing Management Plan						
Concept						
Modify livestock grazing leases						
Develop a Wildlife Management Plan						
Conduct a detailed vegetative inventory (reservoir area)						
Declare as surplus two small parcels in Area 6 in Willow Bay						
Complete a Cultural Resource Management Plan						
Complete Visitors Center improvements						
Completed Everglades improvements						
Provide managed access and viewing in Sterling Wasteway						
Acquire additional wetland habitat at Seagull Bay						
Explore simplification of Reclamation ownerships						
Acquire additional shoreline acreage (Little Hole)						

CHAPTER 5

RESOURCE MANAGEMENT PLAN FOR THE RIVER

As indicated in Chapter 4, there are a large number of rules, regulations, and laws that govern the administration of Federal lands associated with water projects and some that are specific to the operation of American Falls Dam and Reservoir. Reclamation is committed to the management goals of these rules and regulations. The general rules and regulations itemized at the beginning of chapter 4 also apply to management of the downstream River area.

GENERAL POLICY

The management philosophy for the area downstream from American Falls Dam focuses on protection of natural and cultural resources. Reclamation lands will generally remain closed to OHV's.

Reclamation will continue to pursue efforts to have Reclamation owned lands downstream of the dam placed on the National Register of Historic Places as a National Historic District.

Encroachment and trespass on Reclamation lands will not be allowed. Yearly inspections will be conducted on an informal basis, and a formal review will be conducted every 5 years. Agricultural and livestock grazing use of Reclamation lands will be allowed only if authorized and if wildlife and cultural values are protected. Equipment, pipes, haystacks, etc. will not be allowed on Reclamation lands. Any dumping problems will be followed up with local law enforcement officials if necessary. Boundary identification will be improved where feasible with installation of signs, monuments, and fences.

Litter receptacles, including dumpsters, will not be provided at dispersed recreation areas. Recreationists will be expected to follow a "pack it in--pack it out" policy of carrying out all garbage and litter resulting from their activities. Policy statements on litter and garbage removal will be included in visitor information materials and programs on land management.

GOALS, OBJECTIVES, AND ACTIONS

Natural And Cultural Resources

Goal -- Protect And Improve Water Quality

Objectives

- Discourage use of chemical fertilizers, herbicides, and pesticides on leased Reclamation lands. Encourage farmers to reduce their rates of application and include usage guidelines in lease agreements.

- Encourage the local Soil Conservation Districts to continue to work with area farmers to (1) reduce amounts of applied fertilizer, herbicides, and pesticides and (2) prevent overspray on Reclamation lands.

Actions

- Cooperate, within budget constraints, with other Federal agencies to investigate the quality and quantity of surface and subsurface return flows and the potential effects on human health, fish, and wildlife.

- Cooperate and assist in coordinating and integrating regional ongoing and planned water quality monitoring programs to ensure that programs target runoff/drainage inflow points where studies have indicated potential for water contaminants. Institute new programs only if concerns are identified which cannot be covered by existing efforts.

- Based on the results of water quality monitoring, evaluate and act on any defined need to establish a local/regional cooperative effort to address water quality concerns.

- If feasible, operate the system to help meet instream flow quantity and quality needs consistent with other project purposes and contractual requirements in the Snake River below the reservoir. Reclamation will determine (in cooperation with IPC, the Idaho Department of Health and Welfare, the EPA, spaceholders, and other agencies and interest groups) instream flow needs, identify flexibility in reservoir operations to help meet needs, and modify operations where feasible.

Goal -- Control Erosion And Siltation

Objectives

- Reduce the rate of erosion on Reclamation lands.
- Control erosion in all construction projects under Reclamation's jurisdiction.

Actions

- Reclamation will include erosion control measures (e.g., straw mulches, sediment traps, and filter fabric) in the design and construction specifications for any proposed development. Contract specifications will contain the best management practice designed to prevent erosion and sediment-laden runoff from leaving project sites during construction. All exposed areas will be immediately revegetated and stabilized.
- Develop a soil stabilization program to identify and prioritize eroded features and areas, unstable landforms, and areas susceptible to soil erosion and compaction. Reclamation will also identify corrective and mitigative measures, prioritize areas to be rehabilitated, and develop a monitoring program to assess results of the program.
- Protect and establish riparian vegetation to help control erosion.

Goal -- Protect And Enhance Important Vegetation, Fish, And Wildlife Habitat Values

Objectives (Vegetation And Wildlife)

- In all decisions for trade, purchase, and lease of Reclamation lands, promote implementation of a balanced habitat conservation and enhancement program.
- Develop a program to control noxious weeds and promote the growth of native species.

Objectives (Fishery)

- Encourage IPC to consider additional research on fish passage options and improve fish survival rates.
- Encourage IDFG to research which species and strains of fish can better survive fluctuating conditions in the river down stream from the dam.
- Encourage coordination of the IDFG stocking and other fishery management efforts with involved agencies, organizations, and the Shoshone-Bannock Tribes.

Actions

Vegetation And Wildlife

- Develop a WMP to prioritize and coordinate wildlife management actions (see under "Wildlife Management Plan").

- Renegotiate the existing IDFG wildlife management lease in Area 6 only (see exhibit 12), with provisions that IDFG assist in improving the road to Monument Sportsman's Access.

ESA Species

- Comply with legal responsibilities for recovery and maintenance of federally-listed threatened or endangered species. This will include protecting bald eagle perch trees used during the day, especially those located where there tends to be a concentration of eagles.

- In consultation with USFWS, Reclamation will conduct surveys for the presence of federally-listed snails before constructing any improvements within spring discharge areas.

Weeds

- Work cooperatively with Federal, State, and local entities to identify and prioritize areas where control of noxious weeds is necessary. Any program on Reclamation lands, waters, and facilities will incorporate Integrated Pest Management concepts and practices. Where possible, these actions will be coordinated with the wetland/riparian development and shoreline erosion control programs.

Goal -- Protect And Enhance Visual Resources/Scenic Quality

Objectives

- Avoid damage to the landscape (caused by motor vehicles or other uses) in areas which are highly visible from scenic viewpoints or from recreational travel routes (including the Interstate highway). Rehabilitate those areas with existing damage.

- Emphasize enjoyment of the scenic resources in planning land/water uses.

Actions

- Continue to remove trash and waste dumps and avoid future repetition in highly visible areas along the river.
- Implement the "pack it in--pack it out" policy and programs governing all Reclamation lands and include policy statements in all visitor information materials.
- Explore means of assuring litter removal and trash collection through lease terms, cooperative agreements, etc.
- Include visual quality as a concern in all management and development decisions.
- Consider restoration of existing degraded areas which are visible from key vantage points.

Goal -- Protect Cultural Resources And Provide Educational/Interpretive Opportunities

Objectives

- Ensure protection of sensitive cultural and paleontological resources in accordance with existing Federal regulations and through consultation with the Shoshone-Bannock Tribes Cultural Committee.
- Management will focus on protecting and preserving resources of traditional value to the Native Americans. Management actions should respect the concept that the lands are sacred.

Actions

- Prepare a programmatic memorandum of agreement with the Idaho SHPO and the Advisory Council, outlining actions to manage resources within the downstream historic district. Formulate in accordance with requirements of 36 CFR 800 and in consultation with the agreement entities and with input from the Tribes.
- Forward to the Keeper of the National Register a nomination to list Reclamation lands below American Falls Dam as an Historic District or Historic Multiple Resource Area on the National Register of Historic Places.
- Complete a CRMP which outlines actions and methods to protect the cultural resources and defines the consultation processes and parties; enforcement strategies; resource protection actions, including access management, monitoring, site stabilization, and public education; data recovery actions in the case of adverse effects to sites; and

procedures to address NAGPRA issues of burial protection and repatriation of cultural materials. The Shoshone-Bannock Tribes will provide input to and participate in CRMP preparation and implementation. Contingent upon funding by the Congress, the CRMP will be completed within 2 years of signature of the Programmatic memorandum of agreement.

- Clearly mark Reclamation boundaries on existing roads and trails and seek funding and assistance to enforce vehicle closure.

- Install signs at principal points of access points of public lands and water that state that damage of cultural resources is punishable by law; cite the Archaeological Resource Protection Act and appropriate State codes.

- To promote resource protection, implement public education programs that include interpretive facilities, signs, and programs about cultural resources on Reclamation lands and the value of the resources as appropriate and depending on funding.

- Cultural resources personnel, or other land management personnel sensitized to cultural resource management concerns, will participate in the annual monitoring of Reclamation lands to determine if operations, natural erosion, or land use is damaging cultural resources. Management actions to be considered in order of priority are: (1) relocate the damaging activity, (2) prohibit the damaging activity in part or in total, (3) protect the site by stabilization, revegetation, or other action, and (4) mitigate damage through excavation.

    - Location-specific cultural resource clearances will be obtained for agency actions.

    - In accordance with 36 CFR 800, conduct consultations to determine site eligibility, project effect, and appropriate treatment of adversely affected sites.

- Reclamation will conduct periodic, systematic collection of surface artifacts from selected sites in areas most commonly used by recreationists. Reclamation will excavate small, intact features that are exposed and vulnerable to user damage if the sites are likely to contain datable charcoal or uncontaminated plant samples.

- Reclamation will close selected areas to all access or grazing to protect archeological sites from ongoing or accelerating damage as determined necessary on a site by site basis.

- Require recreation equestrian users to stay on existing trails to avoid churning soils.

- Initiate actions to protect or remove human burials as soon as possible if they are reported to be exposed or endangered by reservoir operation, natural erosion, or land use. Unless the burials are clearly non-Indian, the Tribes will be informed prior to action and be involved in selecting and implementing the management option.

- If archeological sites are present on lands leased for agriculture, recreation, or other actions, Reclamation will determine if lessee use could further damage those sites. If additional damage could occur, Reclamation will consider altering the lease to exclude use of the site area or include conditions that will avoid or reduce additional damage.

- A paleontologist will periodically review the paleontological localities in the downstream area to collect exposed diagnostic fossils and assess conditions.

- Curate archeological collections, mostly at the Southeastern Idaho Regional Archaeological Center. Exceptions are human burials, grave goods associated with a burial, and items that are sacred to or of cultural patrimony to American Indian tribes. Recovered NAGPRA items will be returned to the appropriate tribe.

Public Access And Recreation Use

Goal -- Provide Adequate Safe And Suitable Road Access To Designated Recreation Areas

Objectives

- Increase public accessibility where appropriate and consistent with resource management goals.

- Provide adequate access management and parking within designated public use sites.

- Management emphasis is to protect natural and cultural resources.

Actions

- A designated road will be opened to motorized vehicle use to Monument Sportsman's Access on the southeast side of the river near Eagle Rock. In cooperation with the IDFG, improve and maintain the road. Road improvements and/or fencing may be required. The road that winds around the agricultural lease and extends to the beach at Eagle Rock may remain open dependent on the results of specific cultural surveys.

- Develop an AMP to address hiking, climbing, bicycling, and equestrian uses. The AMP will be developed after the CRMP is completed.

- Continue to allow dispersed non-motorized recreation activities in all areas which are not under an agricultural lease or easement and will not damage cultural or natural resources.

- Allow hunting on all Reclamation lands consistent with existing State and local regulations.

- Continue closure of all areas on both sides of the river to vehicular access and use except for purposes defined in 43 CFR 420 (primarily official and emergency uses) and as authorized under rights granted by the AIRFA. Closure to vehicles will be clarified on signs at existing access points and illustrated in a public information brochure. Physical barriers will be used.

- To the extent authorized by law, Reclamation will prescribe appropriate penalties for violation of motorized access regulations and will establish procedures for the enforcement of these regulations. Reclamation will work with and enter into cooperative agreements with Federal, State, county, and/or local law enforcement officials to enforce the regulations relating to vehicle access and motorized vehicle use. Self-regulation and voluntary compliance among motorized vehicle users will be encouraged.

- To the extent administratively feasible, ensure coordination and cooperation among Reclamation, BLM, and Idaho Department of Lands to promote compatibility of management on adjacent public lands.

- Reclamation will work with OHV user groups, BLM, IDPR, and others to locate another OHV recreation area in southeastern Idaho.

Goal -- Accommodate Boating Access And Provide Appropriate Recreation Site Improvements, Consistent With Demand, Available Funding, And Carrying Capacity Of The Resource Base

Objectives (Boating Access)

- Promote boater safety in general by developing public information brochures and installing highly visible signs which describe boater safety regulations, boater etiquette, and hazardous conditions. Coordinate with County Waterways, the Coast Guard Auxiliary, and Massacre Rocks State Park.

Objectives (Land-Based Recreational Opportunities)

- Continue to allow non-motorized recreation activities on all Reclamation lands where such use does not conflict with other established land uses and resource management goals.

Actions

- Provide non-motorized land-based trail opportunities where appropriate and considering resource protection needs.

- Develop bird watching facilities consistent with wildlife management goals and objectives.

- Explore and, if feasible, implement cooperative agreements with other agencies/jurisdictions to provide efficient and coordinated recreation management.

Goal -- Achieve A Consistent Framework For Eliminating/Avoiding Encroachments On Reclamation Land And Managing Mining And Agricultural Lease Activities

Objectives

- In the continuing program of removing/resolving encroachments on Reclamation lands, promote wildlife habitat enhancement and control erosion in a consistent manner.

- Emphasize resource conservation and enhancement, avoidance of adverse environmental impact, and achievement of broad public use benefits in all land management decisions; permit single purpose leasing/permitting only when compatible with this philosophy.

- Ensure that all agricultural leases are consistent with the goals and objectives of the AFRMP; if significant conflicts arise, modification or termination of leases may be required.

Actions

Encroachments

- Implement the no encroachment policy. Identify specific procedures to follow.

- Continue to evaluate and resolve all existing encroachments on Reclamation land.

- Determine where fencing may be needed to prevent cattle trespass and who will be responsible for installing and maintaining the fencing.

Livestock/Agricultural Leases

- Modify, as necessary, agricultural leases and allotment terms to be consistent with other AFRMP goals and objectives.

- Renew the agricultural leases in the Eagle Rock area (Area 8) (see exhibit 12) and on other isolated parcels west of Register Rock day-use area. Reevaluate fair market values to consider modified agricultural practices for increasing the availability of food and cover for upland game birds, especially pheasant. The new lease terms, to be cooperatively developed with each lessee, will require leaseholders to plant a negotiated percentage of the leased field with forage crops or provide other wildlife benefits and minimize damage to cultural resources. No new agricultural leases will be issued for lands not currently leased.

- Exclude Reclamation lands from BLM grazing allotments (Areas 3 and 4 on exhibit 12). Reclamation will work with BLM and affected ranchers along the river to examine other methods of obtaining livestock water.

Mining

- Continue to prohibit mining, consistent with Federal law, on both sides of the river.

Management And Implementation

Goal -- Clarify And More Actively/Efficiently Manage Reclamation/Private Land Boundaries Including Tribal Lands

Objectives

- Provide adequate buffer zones between public use areas and adjacent private land uses (including adequate signs and fencing as appropriate) to reduce/eliminate trespass and encroachment concerns.

- Provide adequate buffer zones between important wildlife habitat and high use recreation or other activity areas.

Actions

- Publish a map illustrating existing and planned Reclamation ownership and communicate management and use policies for all lands as part of AFRMP documentation and visitor information materials.

- Explore means to clarify and simplify Reclamation ownerships and management boundaries. Achieve a more understandable boundary from a public use standpoint and a more efficient boundary from a resource management standpoint.

- Also see action items under other goals.

Goal -- Promote Cooperative Management And Program Implementation Efforts With Other Agencies, The Private Sector, And The Tribes

Objective

- Ensure that private interest groups, the Tribes, State and local agencies, and other Federal agencies are aware of management actions and are offered an opportunity to participate through cooperative and cost-share agreements.

Actions

- Explore the potential for cooperative agreements, lease arrangements, or other relationships with private landowners to achieve (1) mutually beneficial vegetation/habitat management on Reclamation land bordering private cropland and (2) retention and enhancement of wildlife habitat values within private agricultural lands. Implement if feasible.

- Explore the potential for cooperative agreements with private interest groups, the Tribes, and involved Federal, State, and local agencies to achieve rapid response to objectives of habitat conservation and enhancement; recreation; and other areas of mutual use. Agreements should focus on planning, funding, and implementing specific habitat programs consistent with AFRMP objectives.

- Maintain coordination and cooperative planning liaison with involved agencies throughout implementation of the AFRMP. To the extent possible, make all regulations and guidelines related to Reclamation lands consistent with those of other, adjacent or involved jurisdictions. Where needed regulations and/or guidelines are not now in place, coordinate development of these management tools.

- Ensure that Shoshone-Bannock Tribes' priority treaty rights on Reclamation land outside of the Fort Hall Indian Reservation are not significantly affected by AFRMP actions.

- Explore cooperative management of a National Historic District with the BLM.

- Also see action items under other goals

Goal -- Achieve Effective Implementation Of The AFRMP Through Appropriate Planning For Funding, Enforcement, And Public Information Programs

Objectives (Funding)

- Ensure that all permitees, leaseholders and others using Reclamation land under special agreements assume their fair share of public service and management costs.

- To the extent possible, safeguard priority existing and currently funded programs to avoid jeopardy from diversion of funds to other programs.

Objectives (Enforcement)

- Ensure that Reclamation enforcement/management needs associated with AFRMP implementation are met by appropriate cooperative agreements or contracts with local, State, other Federal agency law enforcement assistance.

Objectives (Public Information/Education)

- Ensure dissemination of public information through (1) availability of materials and displays at the Reclamation Visitors Center, Massacre Rocks State Park, and Interstate rest area and (2) cooperative efforts with surrounding jurisdictions, school districts, businesses, and interest groups.

Actions

- Seek funding for full-time resource managers to implement the resource management program and enforce management and trespass policies.

- If necessary, seek funds for programmatic cultural resource site management which includes test excavation of sites being damaged by ongoing land use or operations, and stabilization or other protection of sites suffering from erosion or other threatening disturbances.

- Continue to explore existing and potential sources to adequately fund AFRMP programs. Direct funding by Reclamation and cooperative funding with other Federal, State, and local agencies and private interests will be explored.

- Continue to pursue Reclamation law enforcement authority through Congress.

- Prepare concise public information materials including:

    - Clear, consistent signs to guide public access and use of Reclamation lands.

    - An overall guide map to facilities and access points, Reclamation boundaries, public access roads, and specification of conservation and wildlife management areas where use is restricted.

    - Environmental interpretation and education discussions.

    - Boating etiquette, safety regulations, and waste management.

    - Dispersed use regulations.

    - Other management regulations and guidelines, as appropriate.

    - Explore cooperative efforts with private enterprise or other agencies to publish public information materials.

- Also see action items under other goals.

WILDLIFE MANAGEMENT PLAN

The area downstream from the dam is a management area of the WMP. The following actions have been identified for this area:

- Restore riparian vegetation along the Snake River, wherever feasible.

- Coordinate with the Tribes, USFWS, IDFG, BLM, and other public agencies in developing and implementing vegetation and wildlife management programs including exploration of joint funding programs.

- Cooperate with interested private organizations in developing and implementing vegetation and wildlife management programs including exploration of joint funding programs.

- Develop and implement a balanced vegetation/wildlife habitat management and enhancement program that equally considers and responds to all key habitat and wildlife values including wetland, riparian, mudflat, and upland habitats.

IMPLEMENTATION SCHEDULE

An implementation schedule has been developed for near term actions that have a short timeframe for completion. Ongoing management actions and actions that can be considered continuous or long-term are not included.

Table 5-1.—Implementation Schedule

Item	Fiscal Years				
	1995	1996	1997	1998	1999
Forward a nomination to the National Park Service to list Reclamation land on the National Historic District					
Prepare a programmatic memorandum of agreement with the Idaho SHPO and the Advisory Council					
Complete a cultural resource management plan (CRMP)					
Develop a soil stabilization program					
Develop a wildlife management plan (WMP)					
Develop an access management plan (AMP)					

APPENDIXES

INTRODUCTION

This Problem Statement discusses the primary issues and opportunities associated with management of American Falls Reservoir. Each key issue or opportunity identified by the public and involved agencies is discussed. The purpose of this Problem Statement is to provide a background to understanding the public and agency concerns. It also served as the primary foundation for development of the Resource Management Plan (RMP) Goals and Objectives.

The Problem Statement was developed from (1) input received at public meetings held in October 1991, (2) public responses to a newsletter questionnaire, (3) discussions with State and Federal agencies, and (4) workshops of the Citizen/Agency Forum (Forum). Most of the information came from the Forum, which is the "hands-on" mechanism for public involvement for this study. The Forum includes 21 people representing a broad range of public and agency interests in the American Falls area.

Throughout this Problem Statement, the discussions reflect the views and concerns of the public and agencies, as represented by the Forum. In some cases, perspectives of the planning team and/or Reclamation are provided for additional information under "Notes."

NATURAL AND CULTURAL RESOURCES

Water Resources

Protect Existing Water Rights

The most significant concern initially expressed was that the planning process would adversely affect irrigation water rights, reservoir storage rights, and/or reservoir operations.

Note: The focus of the RMP is Reclamation lands and associated land-based resources around the reservoir and in the downstream study area. It is not within the scope of this Resource Management Plan (RMP) to study or change water rights or to significantly alter reservoir operations.

Regulate/Manage Water Flow/Minimum Pool Equitably

There are several interest groups that believe the reservoir could be better managed by making small operational adjustments to serve other needs without adversely affecting the contractual rights of the spaceholders. For example, (1) a more gradual and constant drawdown rate could contribute to nesting waterfowl and shorebird values, (2) maintaining a reservoir elevation of 4335 feet or higher through the July 4 holiday for recreation, and (3) maintaining a minimum amount of water at the end of the irrigation season to over-winter the reservoir fishery.

Note: It is not known if such adjustments in reservoir operations are feasible given the contractual commitments and operational requirements of the integrated system of reservoirs. It is not within the scope of this RMP study to analyze in detail or to significantly alter reservoir operations. However, the prospect of minor, beneficial adjustments to American Falls operations will be explored further. There is no authorized minimum pool at American Falls.

Address Separation of Water Operations From Land Use

Considerable concern has been expressed by some that land resource management cannot be totally separated from water resource management. They point out that water availability and use (other than for irrigation) are directly related to the extent of our ability to achieve objectives regarding water quality, wildlife habitat, fisheries, and recreation. However, contractual commitments and operational requirements (as discussed above) limit what can be recommended in the RMP.

Assess and Protect/Improve Water Quality

Water quality in the reservoir and the river, particularly when water levels and flows are low, is perceived to be poor. The main concerns is the effect of water quality on fish and recreation activities.

Suspended sediment and reduced clarity from soil erosion are the most obvious water quality problem. Eutrophication, oxygen depletion, weed growth, high water temperatures, and toxic and bacterial contamination are additional concerns. It is suspected that phosphorus and other nutrients are being washed off surrounding cultivated fields and possibly off lands grazed by livestock. Trace elements including mercury and selenium have been documented in biota (living organisms) at the reservoir. Concentrations of these substances are highest in several of the main tributaries which contain inflows from upstream chemical and sewage treatment plants.

Note: The RMP must address water quality implications of any management action or alternative considered for Reclamation lands. However, other lands are beyond the authority of Reclamation and the scope of the RMP. Other sources can be recognized, and further

water quality monitoring and cooperation in developing water quality improvement programs can be recommended.

Soil Resources

Control of erosion and sedimentation is a concern. Shoreline erosion is a long-standing problem at American Falls Reservoir and has resulted in high, eroded cliffs along a significant portion of the southeast and southwest shores. Erosion contributes massive amounts of sediment to the reservoir and results in the loss of adjacent land. Sediment deposited near boating facilities makes launching difficult when reservoir water levels are low. Much of the sediment passes through the outlet works during the irrigation season and is deposited in the river corridor downstream. This is particularly true in years when the reservoir is nearly or completely emptied during the irrigation season. Reclamation has acquired additional lands in some areas to retain access, conduct erosion control work, and protect public safety.

Reclamation is currently engaged in a program of sloping the upper one third of the cliffs and installing rip-rap at the base to stabilize the cliffs and reduce erosion. This program is funded as a cooperative effort by Reclamation and the spaceholders. The RMP will review and update priorities for carrying this program to completion.

Sediment contribution from tributary drainages entering the reservoir from the surrounding region and erosion caused by unmanaged/uncontrolled access and use of public lands around the reservoir and along the downstream study area are a concern. Historic and current activities which reduce riparian vegetation in stream channels or otherwise remove vegetative cover on erodible soils is also a concern. These problems are reviewed as part of the RMP.

Vegetation, Fish and Wildlife

Protect/Enhance Wildlife Habitat

Wildlife habitat on Reclamation lands is an important and highly valued resource. It is important to protect and, where possible, enhance habitat. This concern was rated second in priority during the issues and opportunities workshops at the first round of public meetings.

Wetlands, mudflats, upland areas which are not farmed, and woodlands (riparian and juniper) are critical habitat for waterfowl, shorebirds, upland game birds, raptors (including the bald eagle), deer, coyote, and other mammals. Even where habitat is extensive, but wildlife populations are high, improvements could be made. Where habitat and wildlife populations have declined, there is considerable interest in restoration of habitat.

Opinions differ regarding how best to achieve results and where the emphasis should be

placed.

- Livestock grazing, especially in riparian areas, reduces habitat value and reduces the habitat recovery. Some believe that grazing should be reduced, while others believe that grazing and wildlife habitat can coexist if managed appropriately and that grazing can reduce the fire hazard.

- Annual reservoir fluctuations that expose large areas of wetlands and mudflats create habitat that otherwise might not exist for shorebirds. A more gradual and constant rate of drawdown during the nesting season could substantially enhance this habitat.

  Note: a gradual drawdown may not be feasible due to operational requirements.

- There is a significant opportunity for habitat restoration/creation by development of sub-impoundments in key tributaries. Some species would probably benefit while others might be adversely affected.

- Reclamation ownership should be consolidated into fewer, larger parcels of land to provide enhanced wildlife habitat value. There is support and opposition for this concept.

  - Consolidation of habitat into a few areas, such as Sterling Wildlife Management Area, could attract and concentrate predators. Retaining many, dispersed areas of habitat may be more beneficial for some species.

  - The potential for land trades with adjacent farmers to enhance habitat values should be explored (e.g. possible acquisition of the two private land holdings within the existing Sterling Wildlife Management Area).

  - Farmers perceive the narrow, edge, and small, dispersed parcels of Reclamation as sources for weed dispersal.

  - Cooperative agreements with adjacent landowners can be part of the solution in meeting dispersed habitat and weed control objectives on Reclamation lands. Such agreements may also be arranged with adjacent farmers so that food crops for wildlife are planted or fall stubble is left standing during winter as wildlife cover.

- The need and potential for establishing wildlife food sources along the river may warrant study.

- Willow planting for erosion control should be continued for wildlife benefits. Expanded/augmented planting of the regraded tops of cliffs should also be explored as a means of creating additional habitat.

- In view of the erosion control which slopes cliffs, some means of protecting prime

swallow habitat should be explored.

Note: Reclamation's responsibility for operation and maintenance of the reservoir requires access along the entire shoreline. Consolidation of Reclamation lands is not entirely compatible with this requirement. Because actions that may benefit one species may harm another, objectives for all desirable species should be established. Instead of intense management intervention, differing management emphasis in different areas may be desirable.

Protect/Improve Fisheries

Poor water quality and low flow releases in recent drought years are believed to have caused a deterioration in what was once considered a world class fishery below the dam. Idaho Power Company turbines cause high fish mortality when water flows are low.

Low reservoir levels and high water temperatures in the summer adversely affect the fish (particularly trout). IDFG annually stocks the reservoir. In years when there is a carry-over pool, fish remain in the pool and are available the following year. In recent drought years, the reservoir has been totally or nearly totally evacuated, leaving few fish. Some members of the Forum think there are potential opportunities to enhance the fishery at American Falls through purchase of water from the State water bank to achieve additional fishery pool and/or higher downstream releases. However, in 1992, when water levels were at their lowest, the State opposed the sale of water from the water bank for uses other than irrigation.

Note: As part of environmental planning for dam replacement in the late 1970's, a minimum release of 300 cfs from American Falls Dam was established. This minimum has been met since that time. Study of minimum flows for fish is beyond the scope of the RMP.

Catalog Native Plants

The inventory prepared for the RMP documents special status plants which may occur in the study area. Surveys for native plants, including development of measures to avoid significant impact to candidate, proposed or listed threatened or endangered (or other special status) species, may be a future action.

Control Weeds

Invasive weeds should be controlled to improve vegetative cover for wildlife, minimize adverse effects on adjacent farmlands and improve the scenic quality of shoreline areas. Problem species include cocklebur, flowering rush, and Canadian thistle.

Some feel that a comprehensive, large-scale inventory of vegetative cover should be conducted not only to identify weed invasion but also to expand previous cataloging of native and exotic species in riparian and upland areas.

Note: A large scale inventory of weeds is not within the current scope of the RMP; if need for such a study is confirmed, it will be included as a recommended implementation program to be carried out after RMP adoption.

A "noxious weed" control program currently exists. The State publishes a list of noxious weeds which are targeted for control; Federal and State law require response to weeds on this list (Canadian thistle is currently on the list but cocklebur and flowering rush are not). While Reclamation can work cooperatively with local agencies, organizations and/or individuals to control other, agreed-upon problem "weeds", such efforts can only benefit from Reclamation funds if resources remain after appropriate response to State-listed target species.

Visual Resources

Protection and improvement of visual resources is a concern. With the exception of a few areas where vehicles have damaged the land, the landscape in the study area generally exhibits good visual quality. However, littering is a concern at many of the informal recreation areas, and occasional garbage dumping occurs on other Reclamation lands.

Cultural Resources

Protection of cultural resources with access to some sites is desired. The American Falls study area is rich with Native American and European cultural heritage and cultural resources. There are also significant paleontological resources within the study area; several locations contain significant fossil deposits. While the location of many archaeological, Native American, and paleontological resource sites should not be made public to protect them from damage or vandalism, others could be included in interpretive programs and public information materials.

Note: Detailed inventory and mapping of cultural and paleontological resources is part of the RMP. The RMP will incorporate protection of these resources and, where appropriate, encourage interpretive programs. Due to the potential for damage and vandalism, details regarding the location and extent of the most sensitive resources will not be revealed for wide distribution.

PUBLIC ACCESS AND USE

Access Management (General)

Improve/Increase Public Access

Three general concerns are: (1) the absence of public access to several areas around the reservoir and along the river, (2) inadequate improvement and maintenance of some existing public roads leading to and across Reclamation land, and (3) uncertainty regarding the location of public access. Access on some public roads has been obstructed by adjacent property owners who have signed the roads as private, erected fences, or actually converted road rights-of-way into agricultural production.

The most popular areas where public access does not exist include (1) beaches on each side of Seagull Bay, (2) several locations on the north shore of the reservoir, (3) portions of the mudflats at the upper end of the reservoir, and (4) points along the river where the greatest constraint to access is steep terrain. Access to beaches is important for picnickers, sunbathers, and swimmers; to the mudflats for waterfowl hunters; and to the river for anglers and picnickers. Camping is a popular activity at reservoir beaches and along the river.

Where there is poor access, recreationists frequently become stranded in the predominantly sandy soils. On the south side of the river near Eagle Rock, irrigation seepage causes muddy roads, making it difficult and sometimes impossible for vehicles to get out of the area. Dust is regarded as a concern particularly at the more highly used areas such as Seagull Bay.

The lack of appropriately identified public access causes conflicts with other lands uses and is a concern to adjacent property owners. Property improvements such as irrigation equipment, fences, crops, and private roads are occasionally damaged when trespass occurs. Private property is used for sanitation purposes, trash is left scattered, and unattended campfires have the potential for fire damage. Cattlemen complain that gates are left open and that dust and noise are problems. These problems are exacerbated during holidays when large numbers of recreationists are present. Adjacent landowners sometimes post public access ways and public lands as private to discourage use.

Note: Although some new roads may be desirable, the major access need is improvement of existing roads and proper identification of public access routes.

In many cases, Reclamation has an access easement along roads under other jurisdictions (counties, BLM, State) and across private property to retain needed access to public land. However, the development and maintenance of such roads is beyond Reclamation's jurisdiction and authority. Bingham and Power County road departments will be consulted regarding possible cooperative agreements for maintenance, improvement and signing of

county roads leading to Reclamation lands. Access needs across private property may result in the identification of and recommendation for the acquisition of road rights-of-way and road development. Another aspect of public access to be addressed by the RMP is access for the physically challenged to designated, developed recreation sites/facilities.

Regulate And Manage Public Access And Use

Although the need for access improvement is widely recognized, access must be controlled to minimize impacts on adjacent private property and natural resources on and near Reclamation lands. Where public access has not been carefully directed or managed, damage to ground cover vegetation and erosion have occurred. Numerous access roads and large areas used for random vehicle movement and parking have marred the landscape, especially around Big Hole on the reservoir and within several miles of Eagle Rock on both sides of the river. Damage is greatest in periods of wet weather.

Wildlife habitat and animal species sensitive to human disturbance are adversely affected by uncontrolled access. Some areas are more important or more sensitive than others, and public access can have a greater impact at certain times of the year. During the fire season, there is a heightened concern that campfires may start wildfires.

At least three sites on the north side of the river across from Massacre Rocks State Park evidence archeological and vegetation damage and erosion on sand dune slopes. Much of these impacts have been caused by all terrain vehicles, motorcycles, and other off highway vehicles (OHV). The public has differing perceptions whether OHV use is permitted in these areas and the extent of OHV damage and noise conflicts with other recreationists.

Note: It is generally agreed that public access should be directed away from or restricted altogether in more sensitive areas or for specified periods of time. It is also recognized that enforcement is essential for controlling access and that such enforcement is not currently available. The RMP will have to determine if and how enforcement can be provided, who will be responsible for this activity and where enforcement efforts should be concentrated. Educating the public about the impacts of vehicular access in order to solicit their cooperation is an important objective of the RMP.

Recreational Access and Use

Improve And Extend Boat Access

During periods of drought, reservoir water levels are drawn down earlier in the year. In 1990, the reservoir storage was completely released; by late summer, only the natural river channel held water. Under such conditions, motor boats and other large boats cannot be launched from the existing four hard-surfaced ramps after mid-summer. The ramp at Seagull

Bay is the first to become inoperable, followed by the ramp at Willow Bay, and then the ramps at Sportsman's Park.

The ramp at the American Falls Visitors Center is the last to be affected because it is located near the dam and the natural river channel. Deep water access remains possible throughout the recreation season, but sediment is continuously deposited on the ramp, requiring removal to keep the ramp usable. When reservoir access becomes limited, some boaters move downstream to Massacre Rocks State Park while others go to lakes and reservoirs in nearby mountains.

Although the recreating public prefers the reservoir to remain accessible throughout the peak-use season, it also recognized that due to irrigation commitments that is not normally possible. There remains a perception that the reservoir could be managed to meet both irrigation obligations and recreation needs by delaying releases. The public prefers that water levels be kept as high as possible as late as possible during the summer, and at a minimum, there should be boat access from the four ramps through the July 4 weekend.

Dredging deeper channels from the boat launches to the main body of water has been suggested. This would be possible only at Seagull and Willow Bays; the bedrock is too close to the surface at Sportsman's Park and the more reasonable solution at the Visitors Center is to construct a breakwater. Beyond the obvious question of funding (amount and source), it is not clear how effective dredging would be. Due to high levels of localized siltation near some ramps/channels, dredging would probably have to be done on a regular basis, and probably with floating, portable equipment. In addition, it is believed that dredging at Willow Bay would be futile without also installing an additional breakwater. The cost of equipment and maintenance effort must be offset by the benefit it would provide. In 1991, it is estimated that dredging would have extended boat access until the end of the season; but in 1990, the benefit would only have been a few weeks. Other concerns include environmental compliance with Section 404 of the Clean Water Act and the strength of boating demand at that time of year when water quality and fishing tend to be poor.

Note: Minor adjustments to reservoir operation to benefit other uses will be explored, but major changes in reservoir operation are not within the scope of the RMP. Dredging will be explored but cannot be funded by Reclamation. Realignment and relocation of the Visitors Center ramp, as well as the ramps at Seagull and Willow Bays and construction of breakwaters will be considered. Another consideration may be identifying a new site for boat access which would not have the problems of the existing ramps.

Develop Recreation Opportunities

Existing recreation demand is essentially being met with a few exceptions. One of these exceptions is trail use. Outside of Massacre Rocks State Park, there are no existing trails for hiking, horseback riding, and mountain biking. A mountain bike trail from American Falls to Register Rock has been suggested. There are also no water based trails for floating

despite the presence of ideal corridors, especially in the northern part of the reservoir and on the river downstream.

The State Park and the American Falls Visitors Center offer interpretive information, but there are no bird watching facilities or related interpretive materials. Since as many as 50,000 birds migrate through the area every year, there is considerable potential for this kind of use.

The City of American Falls and Bingham County are in the process of implementing long-term master plans to expand existing facilities. At the American Falls Visitors Center, a number of site improvements would greatly improve the attractiveness and usability of the sites on either side of the main facility.

A minimal amount of development for camping is also needed at a few locations around the reservoir and along the river for the health and convenience of users and to minimize the impacts of use on natural resources.

Note: One purpose of the RMP is to identify specific recreation facility needs. Once identified, the plan will explore costs, funding, and construction and maintenance. Federal funding for recreation development may not be readily available and would require a non-Federal cost-share partner.

Other public/private cooperative efforts that may warrant consideration are winter recreation facilities; marina facilities including seasonal docks; new day-use areas and/or campgrounds at Spring Hollow, near McTucker Island, on the north side of the river, and at other desirable locations; and miscellaneous facilities such as fish cleaning stations.

Regulate/Restrict Off-Highway Vehicle Use

OHV use typically occurs on terrain too steep for normal vehicle maneuverability. OHV hill climbing occurs primarily on the north side of the river for several miles along the weathered edges of the plateau and where sand has accumulated into dune formations. OHV's are generally blamed for much of the vegetation damage and erosion across from Massacre Rocks State Park.

The following points have been made:

- Recreational OHV use of the area has occurred for over 30 years and OHV users highly prize the area, in part due to the lack of other regional opportunities during the late winter.

- Most OHV use in the area is between November and April, a time of year when little (if any) camping activity occurs at the State Park.

- Recreational OHV use should not be singled out regarding noise impacts, considering other uses such as motorized boating, general motorized access, and the adjacent interstate highway.

- Some of the land damage is due to livestock that make trails to the river and motorcycle use by ranchers.

- OHV user groups have expended considerable effort to manage their use in a responsible manner and to cooperate with involved Federal managing agencies (e.g. installation of cattle guards).

Managing agencies have indicated the following:

- Reclamation lands along the river have been formally closed (through Federal Register notification) since 1974. A primary factor in the decision to close this area was the probability of significant cultural resources which could be damaged by extensive vehicular use.

- BLM's Resource Management Plan for the area states that BLM will manage OHV use on adjacent lands in a manner consistent with Reclamation policy.

Retain/Promote Primitive Campgrounds

The public is interested in having some informal recreation sites minimally developed for camping, while leaving others undeveloped to minimize their use, particularly by RV's.

Classify River as "Recreational" under the Wild and Scenic Rivers Act

Some would like the Snake River in this reach classified as a Recreational River under the Wild and Scenic Rivers Act. The potential for construction of additional dams on the river is a concern to some.

Note: Under the Wild and Scenic Rivers Act, a river must be free-flowing and must have scenic, recreation, geologic, fish and wildlife, historic, and cultural outstandingly remarkable values. While the portion of the Snake River bordered by Reclamation lands has many of these values, the free-flowing reach downstream from the American Falls Dam is very short. BLM is studying the river reach upstream of Lake Walcott for status as a Recreational river.

Provide/Manage Navigational Aids

With the exception of a group of submerged dead trees along the old river channel, the reservoir is essentially free of boating hazardous. However, navigation after sunset can be quite difficult. Flashing beacons exist at Seagull Bay and Sportsman's Park. Lights have been installed near the other two launch sites but do not flash and are easily confused with

other lights. No other navigational lights exist elsewhere on the reservoir. Large basalt blocks located in the harbor at Sportsman's Park cannot be seen at night and are a particularly hazard.

Another concern is the difficulty of locating the river channel at the northern end of the reservoir where water depth is very shallow outside of the channel.

Note: Reclamation's policy is to not mark hazards such as submerged trees and exposed rocks with signs or buoys because of the potential for liability claims against Reclamation. The boating public can be made aware of hazards by indicating general locations on an informational brochure or signs at the boat ramps. Marking the river channel in shallow water would be for convenience rather than safety. Due to continual changes in the channel alignments, overall length of channel, and maintenance and vandalism considerations, the cost of marking the river channel may be prohibitive.

Provide Sanitation Facilities

There are numerous areas around the reservoir and along the river which are heavily used for recreation but have no facilities. Increasing use of these essentially undeveloped sites is creating a need for some types of development. Most users do not want these areas to be greatly improved but a few basic facilities such as restrooms are desired. Others believe such facilities should be provided only in certain areas where it is desirable to direct and encourage use and where management can be concentrated.

Note: The scope of the RMP is limited to Reclamation lands. This does not exclude the possibility of working cooperatively to develop facilities where needed.

Other Resource Use

Restrict/Regulate Livestock Grazing and Farming Encroachments

The effect of unauthorized livestock grazing and farming (trespass and encroachment) which occurs on Reclamation lands is a concern.

Cattle have access to Reclamation lands along the river through a BLM livestock grazing allotment. The greatest concern is the degradation of wetlands along the shoreline. Wetlands along the river are particularly important because there is so little wetland vegetation there. Another concern is the impact of unauthorized livestock grazing on lands which may not be able to support the amount of use being received.

Around the reservoir, some Reclamation lands are being farmed and irrigation or other farming equipment or structures have been installed.

The farming encroachments have had two large effects: (1) the public perceives an overall reduction in the amount of accessible public land around the reservoir and (2) the amount of wildlife habitat is reduced, especially for pheasants. Reclamation has issued leases for farming and livestock grazing where suitable. However, unauthorized use of Federal lands is not acceptable. Some encroachments have been allowed to continue while attempts have been made to terminate others or bring them under permit or license.

Note: Although the impacts of agricultural encroachments are not pervasive or widespread and may not be perceived as significant, trespass is an important issue requiring attention in the RMP. Because encroachments are limited in number, it may be possible to resolve them on a case-by-case basis.

Leasable Minerals and Other Mining Interests

The McTucker Island area and nearly all of the lands along the river under Reclamation withdrawal are closed to mineral entry; a process exist for permit on an individual basis. Sale of sand and gravel is permitted. Mineral/material mining (leasable, locatable and saleable) is prohibited on all Reclamation owned lands. Bingham County extracts sand and gravel from a site north of McTucker Island through a permit. Wetlands surrounding the extraction site will eventually limit lateral expansion of the operation, and other alternatives such as digging deeper or finding new sources will have to be pursued.

A 1980 filing was made to extract flour gold from a site on McTucker Island, but the permit expired in mid-1992.

Note: Unless a compelling reason is found to do otherwise, extraction of sand and gravel near McTucker Island will be allowed to continue. It is the planning team's understanding that Reclamation does not intend to renew the contract for testing on McTucker Island due to fish and wildlife management concerns. Any future sand and gravel operations along the river will require an environmental assessment under existing laws.

Improve/Enforce Litter Control and Recreation Management

There are numerous areas around the reservoir and along the river both on and off Reclamation lands which are heavily used for recreation but which are not actively managed. Increasing use is creating a need for some level of accommodation and management, particularly for trash pick-up and road maintenance.

Note: The scope of the RMP is limited to Reclamation lands. However, working cooperatively with other involved agencies in managing recreation sites is possible. Such an arrangement might be possible along the river where Reclamation, BLM, and State lands are intermingled.

Reclamation Agricultural Lease Renewals

The viability of Reclamation agricultural leases has been raised as an issue primarily in the context of the need for more upland game bird habitat. In some cases, leases exist in areas that are also popular to recreationists.

Reclamation leases 358 acres of land for farming in less than a dozen separate lease areas and all but two are at the reservoir. Most of these leases are narrow and may become impractical to farm in the future if the reservoir shoreline continues to erode. Reclamation leases do not allow irrigation within 75 feet of the shoreline edge as saturated soils tend to slump into the reservoir. This provision has been difficult to enforce.

MANAGEMENT AND IMPLEMENTATION

General Land Management

Clarify/Manage Reclamation-Private Land Boundaries (including Tribal Lands)

A fundamental concern is a clear definition of Reclamation ownership and the rules for use of these lands. Many, if not most, people who use the reservoir for recreation, do not have a clear idea of the boundaries of public land under Reclamation (or other agency) jurisdiction. Problems have arisen due to trespass on private land for hunting and other activities. Conversely, private land owners have posted signs indicating private roads and/or private ownership on lands under Reclamation jurisdiction. Policy on access and use of Reclamation land is unclear to the public.

The public wants ownership boundaries clearly shown and information on management, access, and use of Reclamation lands. This concern involves not only general public access to and use of Reclamation lands but also the maintenance, enhancement and creation of wildlife habitat.

The public has requested clarification of Reclamation ownership, boundary, and public use rights within the Fort Hall Indian Reservation, specifically flooded lands in the Bottoms. Historically, uncertainty (even conflict) has surrounded public versus tribal uses in this area.

Note: Mapping of Reclamation lands is part of the planning program and will be available to help clarify locations of lands. The RMP will address specify policy for access to and use of these lands. Reclamation land boundaries are irregular and complex in some areas.

All lands within the reservoir pool are owned by Reclamation. Reclamation also owns a strip of land above the high waterline on the Fort Hall Indian Reservation. The Reclamation-owned lands are a part of the Minidoka Project. The boundary of the Reclamation-owned lands on the Reservation was surveyed and monuments placed by Reclamation in the 1920's; the boundary was re-surveyed about 5 years ago.

The boundaries of the Fort Hall Reservation have not been changed with land purchases and construction of the American Falls Dam and Reservoir. The reservoir overlaps the Fort Hall Indian Reservation, generally south of the historic channel of the Snake River. This overlap has resulted in differing perspectives regarding jurisdiction and use rights especially for public access and activities such as hunting, fishing and recreational use of the shoreline, the reservoir surface, and the annual drawdown area. (See discussion under "Address General Public Rights as Related to Native American Rights.)

Consolidate Reclamation Lands

Some of the public would like to see Reclamation lands consolidated into fewer packages for a variety of reasons.

Note: The strip of Reclamation lands around the reservoir and other lands are located as they are for project operation purposes. Some adjustments to meet the needs of project operation and maintenance such as the erosion control program may be possible or required.

Assess "Best Use" of All Reclamation Land for Public Good

There is a perspective that Reclamation land is public and use should not be restricted to the benefit of a private, profit-making enterprise. Grazing is cited as a concern. Several areas around the reservoir and along the river have been overgrazed, adversely affecting wildlife habitat values and contributing to a weed problem.

The RMP should study the capability and suitability of Reclamation land for a full spectrum of potential uses. Reclamation has the responsibility to set policy for land use and management which conserves and sustains the resource base.

Address Any New Land Purchases

New land purchase has been mentioned from time to time but is not a significant issue or concern.

Note: New land purchase is generally beyond of the scope of the RMP. Some adjustments through exchanges, disposal, or purchase may be necessary or desirable for erosion control and to maintain project functions.

Public/Agency Coordination and Cooperation

Address Public/Private Sector Cooperation

Opportunities exist and should be pursued to achieve more cooperative relationships among Reclamation, private landowners, and other organizations. The primary concern is creation and enhancement of wildlife habitat. Opportunities that should be explored include:

- Agricultural leases that specify retention and enhancement of standing crops for wildlife benefits in lieu of lease fees/payments.

- Agreements with adjacent landowners for retention and enhancement of habitat "patches" within agricultural areas through land lease/trade arrangements.

- Cooperative agreements with Pheasants Forever, Ducks Unlimited, and other entities to plan habitat conservation and enhancement and to share financial and management resources.

Address Multiple Agency Coordination/Management

Opportunities exist for better coordination and cooperative management among the various Federal and State agencies. The primary concern is wildlife habitat protection and enhancement. Opportunities that could be explored include:

- Use of State HIP (Habitat Improvement Program) funds on Federal/Reclamation lands.

- Coordinate Reclamation operations and maintenance with the IDFG/IPC resident fish stocking program.

- Habitat and interpretive development of the "accidental" excavation below reservoir high waterline left by the State Department of Transportation (IDOT). This excavation on a 20-acre Reclamation parcel near American Falls forms a pond when the reservoir level drops. It appears to offer a good opportunity for a demonstration project including wetland enhancement, fishery, interpretive trail, and other features. Such an project could be accomplished through a multi-agency effort, involving USFWS (wetlands funds), IDFG (HIP funds), IDOT (funds which would be uses for site mitigation), Reclamation, and private organizations and volunteers. After further review, this potential project was determined to be unfeasible.

Note: Other potentials include (1) improved cooperative livestock grazing and recreation management between Reclamation, the State, and BLM-managed lands in the downstream study area, (2) cooperative development and restoration of the Bingham County sand and

gravel excavation near McTucker Island, and (3) cooperative planning with the counties to use State RV or waterways funds to improve recreational access.

Maintain Compatibility City/County/Transportation Plans and Regulations

The RMP process should be coordinated and be compatible with existing and proposed plans, policies and regulations of involved local, State and Federal agencies.

Improve Native American Relations

The primary concern is that there be continued and improved coordination of Reclamation and other agency programs with counterparts at the Fort Hall Indian Reservation. Specific programs cited include (1) erosion control, (2) fish stocking and habitat enhancement, and (3) wildlife and hunting management.

Note: Direct communication is being established on erosion control priorities and fish and wildlife management programs. An RMP objective is to achieve compatibility with management programs of the Shoshone-Bannock Tribe.

Address General Public Rights as Related to Native American Rights

There appear to be two major concerns: (1) conflicts between public use rights and Tribal use rights of the reservoir shoreline and the water surface within the Fort Hall Indian Reservation and (2) potential access and use by Native Americans of Federal lands outside of the Reservation.

The Federal perspective is that the general public has the right to use (under Reclamation management) the water surface of the entire reservoir. Under cooperative agreements Reclamation-owned land above high water within the Reservation and land exposed by drawdown within the reservation is managed primarily by the Tribe.

The Tribe's perspective is that it has jurisdiction and management authority over all land and water within the Reservation boundary (i.e. south of the historic Snake River channel). Consequently, the Tribe asserts that it has the right to regulate public use in this area. This "conflict" has been discussed for a number of years and creates uncertainty for the general public regarding the right to hunt, fish and otherwise use the area in question for recreational purposes. Reclamation-owned lands above the high waterline on the Reservation are not part of the RMP.

The Shoshone-Bannock Tribes (through the Fort Bridger Treaty) have the right to use unoccupied land (Federal lands) for traditional purposes such as ceremony and resource harvest. Traditional tribal uses of lands within the RMP study are being researched.

Implementation

Clarify and Ensure Funding for Management Plan

Considerable concern exists regarding the sources of funds to implement the RMP as some measures may be costly.

Sources of funding could include:

- Cooperative programs
- A change in the Reclamation budget and/or funding authorization (e.g. current legislation before Congress)
- Partnerships with non-Federal entities.
- Congressional funding of the plan as a line item
- Grants

Other related concerns are: (1) the current funding earmarked for erosion control should not be diverted to other purposes and (2) mitigation measures should have clear funding sources.

Note: Reclamation has stressed from the outset that funding is a valid concern. Program funding availability will be a prime consideration in all decision-making for the RMP.

Address Reclamation Mission/Involvement

There is concern that Reclamation may not implement the RMP in a timely manner. Another concern is that resource use and management decisions should be consistent with the goals, objectives, and policies and that all implementation programs developed subsequently include appropriate consultation and coordination through the NEPA process.

Another concern is that Reclamation, unlike other agencies, does not have Congressional authority to issue citations or otherwise enforce management policies/regulations.

Note: Reclamation is actively pursuing enforcement authority. Until this is accomplished, cooperative agreements/contracts will continue to be the mechanism for enforcing RMP management policies and regulations. NEPA compliance is an essential part of the RMP process. Reclamation policy is to meet all NEPA requirements including scoping, preparation of required documents, review, and public involvement.

Develop and Improve Comprehensive Public Education Program

Several issues raised by the public are in part due to a failure to communicate Reclamation ownership, responsibilities, requirements, and management policy. The RMP should provide clear and concise public information on these topics. Public information materials should be prepared to facilitate access, use, and appreciation of the resources in the study area.

Common Name	Scientific Name	Habitat
Fish		
White sturgeon	(Acipenser transmontanus)	Rivers (not native)
Carp	(Cyprinus carpio)	Lakes or slow-moving rivers
Northern squawfish	(Ptychocheilus oregonensis)	Lakes or slow-moving streams
Redside shiner	(Richardsonius balteatus)	Slow-moving water in streams or lakes
Mottled sculpin	(Cottus bairdi)	Rivers and streams
Utah sucker	(Catostomus ardens)	Cold, fast streams
Brown bullhead	(Ictalurus nebulosus)	Shallow lakes or slackwater of streams
Utah Chub	(Gila atraria)	Lakes and rivers
Channel catfish	(Ictalurus punctatus)	Large rivers, shallow reservoirs
Smallmouth bass	(Micropterus dolomieui)	Cool streams with riffles
Largemouth Bass	(Micropterus salmonoides)	Cool streams with riffles
Black crapple	(Pomoxis nigromaculatus)	Warm water with vegetation
Yellow perch	(Perca flavescens)	Cold, clear lakes with vegetation
Coho salmon	(Oncorhyncus kisutch)	Large, cool rivers
Kokanee salmon	(Oncorhyncus nerka)	Large, rivers and lakes
Mountain whitefish	(Prosopium williamsoni)	Mountain streams
Rainbow trout	(Oncorhyncus mykiss)	Lakes, reservoirs, streams
Brown trout	(Salmo trutta)	Large rivers and streams
Cutthroat trout	(Oncorhyncus clarki)	Rivers and streams
Waterfowl		
Canada goose	(Branta canadensis)	Riparian, lake, meadow
Snow goose	(Chen caerulescens)	Marshes
Ross' goose	(Chen rossii)	Marshes, pastures
Brant goose	(Branta bernicla)	Marshes
Green-winged teal	(Anas crecca)	River, pond, lake
Mallard	(Anas platyrhynchos)	River, pond, lake
Blue-winged teal	(Anas discors)	River, pond, lake
Cinnamon teal	(Anas cyanoptera)	River, pond, lake
Northern shoveler	(Anas clypeata)	River, pond, lake
American widgeon	(Anas americana)	River, meadow, pond
Wood duck	(Aix sponsa)	Lake, pond, river
Greater scaup	(Aythya marila)	Large lakes, rivers
Lesser scaup	(Aythya affinis)	River, pond, lake
Ring-necked duck	(Aythya collaris)	Lake, pond, river
Barrow's goldeneye	(Bucephala islandica)	River, pond, lake
Common goldeneye	(Bucephala elangula)	River, pond, lake
Bufflehead	(Bucephala albeola)	Lake, pond
Harlequin duck	(Histrionicus histrionicus)	Mountain streams in forests
Oldsquaw	(Clangula hyemalis)	Shallow lakes
Surf scoter	(Melanitta perspicillata)	Ponds, lakes, rivers
White-winged scoter	(Melanitta deglandi)	Ponds, lakes, rivers
Northern Pintail	(Anas acuta)	Lake, pond

Common Name	Scientific Name	Habitat
Gadwall	(Anas strepera)	Lake, pond
Canvasback	(Aythya valisineria)	Marshes, ponds, lakes
Redhead	(Aytha americana)	Marshes, lakes, rivers
Trumpter swan	(Cygnus buccinator)	Lakes, ponds
Tundra swan	(Cygnus columbianus)	Lakes, marshes, slow streams
Rudy duck	(Oxyura jamaicensis)	Marshes, lakes
Common merganser	(Mergus merganser)	River, pond, lake
Red-breasted merganser	(Mergus merganser)	River, pond, lake
Hooded merganser	(Lophodytes cucullatus)	Pond, lake
Grebes		
Western grebe	(Aechmophorus occidentalis)	Lake, pond
Clark's grebe	(Aechmophorus clarkii)	Lakes, marshes
Pied-billed grebe	(Podilymbus podiceps)	Lake, pond
Eared grebe	(Podiceps nigricollis)	Lake, pond
Horned grebe	(Podiceps auritus)	Lakes, marshes, slow rivers
Red-necked grebe	(Podicepts grisegena)	Lakes, rivers
Pelicans and Cormorants		
American white pelican	(Pelecanus erythrorhynchos)	Lakes, large rivers
Double-crested cormorant	(Phalacrocorax auritus)	Lakes, rivers
White-faced ibis	(Plegadis chihi)	Marshes, ponds, lakes
Loons		
Pacific loon	(Gavia pacifica)	Lakes, rivers
Common loon	(Gavia immer)	Lakes
Red-throated loon	(Gavia stellata)	Lakes, rivers
Yellow-throated loon	(Gavia adamsii)	Lakes, rivers
Gulls		
Franklin's gull	(Larus pipixcan)	Range, lake
Ring-billed gull	(Larus delawarensis)	Pool, range
California gull	(Larus californicus)	Pool, range
Herring gull	(Larus argentatus)	Large lakes and rivers
Western gull	(Larus occidentalis)	Large lakes
Thayer's gull	(Larus thayeri)	Large lakes and rivers
Sabine's gull	(Xema sabina)	Lakes, rivers
Glaucous gull	(Larus hyperboreus)	Large lakes and rivers
Parasitic jaeger	(Stercorarius parasiticus)	Lakes
Pomarine jaeger	(Stercoraius pomarinus)	Lakes

Common Name	Scientific Name	Habitat
Long-tailed jaeger	(Stercorarius longicaudus)	Lakes
Bonaparte's gull	(Larus philadelphia)	Mudflats, marshes, rivers
Caspian tern	(Sterna caspia)	Lakes, rivers
Common tern	(Sterna hirundo)	Lakes, rivers
Forester's tern	(Sterna forsteri)	Marshes, rivers
Black tern	(Childonias niger)	Marshes, wet meadows, rivers
Herons, Bitterns and Egrets		
Great blue heron	(Ardea herodias)	Riparian, meadow, river, pond
Little blue heron	(Florida caerulea)	Riparian, meadow river, pond
American Bittern	(Botaurus lentiginosus)	Marshes
Snowy Egret	(Egretta thula)	Marshes, lakes
Great Egret	(Casmerodius albus)	Marshes
Cattle Egret	(Bubulcus ibis)	marshes, lakes
Black-crowned Night-Heron	(Nycticorax nycticorax)	Marshes, lakes
Green-backed heron	(Butorides striatus)	Marshes, lakes
Shorebirds		
Lesser yellowlegs	(Tringa flavipes)	Ponds, marshes, mudflats
Greater yellowlegs	(Tringa melanoleuca)	Marshes, ponds, mudflats
Willet	(Catoptrophorus semipalmatus)	Marshes
Long-billed curlew	(Numenius americanus)	Pastures and grasslands
Whimbrel	(Numenius phaeopus)	Marshes, mudflats, pastures
Marbled Godwit	(Limosa fedoa)	Marshes
Hudsonian Godwit	(Limosa haemastica)	Marshes, flooded fields, mudflats
Western Sandpiper	(Calidris mauri)	Mudflats and lake shores
Least Sandpiper	(Calidris minutilla)	Mudflats and lake shores
Baird's Sandpiper	(Calidris bairdii)	Grassy marshes and mudflats
Pectoral Sandpiper	(Calidris melanotos)	Wet meadow, mudflats, and lakeshores
White-rumped Sandpiper	(Erolia fuscicollis)	Grassy marshes, mudflats, pond and lakeshores
Solitary Sandpiper	(Tringa solitaria)	Ponds, streams, and marshes
Spotted sandpiper	(Actitis macularia)	River, lakes
Semipalmated Sandpiper	(Calidris pusilla)	Mudflats, lake and pond shores
Stilt Sandpiper	(Calidris himantopus)	Mudflats, lake shores
Ruddy Turnstone	(Arenaria interpres)	Mudflats, lake shores
Red knot	(Calidris canutus)	Mudflats, lake shores
Sanderling	(Calidris alba)	Mudflats, lake and river shores
Dunlin	(Calidris alpina)	Mudflats, marshes, pond and lake shores

Common Name	Scientific Name	Habitat
Stilts and Avocets		
Blacknecked stilt	(Himantopus mexicanus)	Lakes, ponds
American avocet	(Recurvirostra)	Ponds, lakes and mudflats
Snipe and Dowitchers		
Common snipe	(Gallinago Gallinago americana)	Riparian areas and meadows
Long-billed dowitcher	(Limnodromus scolopaceus)	Marshes, lake and pond shores
Short-billed dowitcher	(Limnodromus griseus)	Mudflats, lake and pond shores
Plovers		
Black-bellied plover	(Pluvialis squatarola)	Pond and lake shores
Lesser golden-plover	(Pluvialis dominica)	Grasslands, pastures, mudflats
Semipalmated plover	(Charadrius semipalmatus)	Mudflats, marsh, lake and pond shores
Snowy plover	(Charadrius semipalmatus)	Mudflats, marsh, lake and pond shores
Killdeer	(Charadrius vociferus)	River, pond and lake shorelines, wetland agriculture areas
Mountain plover	(Charadrius montanus)	Grasslands, plowed fields, sandy deserts
Raptors		
Turkey vulture	(Cathartes aura)	Cliff
Bald eagle	(Haliaeetus leucocephalus)	Rivers, riparian, lake
Osprey	(Pandion haliaetus)	Rivers, riparian, lake
Northern harrier	(Circus cyaneus)	Range, mountain brush, riparian, pond
Sharp-shinned hawk	(Accipiter striatus)	Riparian, fields, forests
Cooper's hawk	(Accipiter cooperii)	Riparian, fields, forests
Northern Goshawk	(Accipiter gentilis)	Riparian, fields, forests
Swainson's hawk	(Buteo swainsoni)	Range, agriculture
Red-tailed hawk	(Buteo jamaicensis)	Range, agriculture
Rough-legged hawk	(Buteo lagopus)	Range, agriculture
Ferruginous hawk	(Buteo regalis)	Range
Golden eagle	(Aquila chrysaetos)	Range, cliff
American kestrel	(Falco sparverius)	Range, meadow, agriculture
Merlin	(Falco sparverius)	Range, meadow, agriculture
Prairie falcon	(Falco mexicanus)	Range, agriculture
Peregrine falcon	(Falco peregrinus)	Range, riparian, meadow
Gyrfalcon	(Falco rusticolus)	Range, lakes, agriculture
Western Screech-owl	(Otus kennecottii)	Canyon
Great horned owl	(Bubo virginanus)	Cottonwood, agriculture, range
Long-eared owl	(Asio otus)	Riparian trees and brush
Northern saw-whet owl	(Aegolius acadicus)	Trees
Barn owl	(Tyto alba)	Shrub steppe, meadows

Common Name	Scientific Name	Habitat
Burrowing owl	(Athene cunicularia)	Shrub steppe, grasslands
Short-eared owl	(Asio flammeus)	Grasslands, meadows, marches
Doves		
Rock dove	(Columba livia)	River, cliff
Mourning dove	(Zenaida macroura)	Range, meadow
Goatsuckers		
Common nighthawk	(Chordeiles minor)	Range, ponds, meadow
Common poorwill	(Phalaenoptilus nuttallii)	Shrub steppe, rocky canyons, open woodlands
Hummingbirds		
Black-chinned hummingbird	(Archilochus alexandri)	Meadow, brush
Calliope hummingbird	(Stellula calliope)	Open montane forests and meadows, willow/alder thickets
Broad-tailed hummingbird	(Selasphorus platycercus)	Open woodlands, hillsides, montane thickets
Rufous hummingbird	(Selasphorus rufus)	Meadow, range
Kingfisher		
Belted kingfisher	(Ceryle alcyon)	River, lake, riparian
Woodpeckers		
Lewis's woodpecker	(Melanerpes lewis)	Cottonwoods, riparian
Downy woodpecker	(Dendrocopus pubescens)	Cottonwoods, riparian
Hairy woodpecker	(Picoides villosus)	Cottonwoods, riparian
Northern flicker	(Colaptes auratus)	Cottonwoods, riparian
Williamson's sapsucker	(Sphyrapicus thyroideus)	Cottonwoods, riparian
Jays, Magpies and Crows		
Steller's jay	(Cyanocitta stelleri)	Cottonwood, juniper
Blue jay	(Cyanocitta cristata)	Forests, open woodlands, residential areas
Black-billed magpie	(Pica pica)	Agriculture, range
American crow	(Corvus brachyrhynchos)	Cottonwood, agriculture
Common raven	(Corvus corvax)	Juniper, cliff, agriculture

Appendix B—Species Found in the American Falls Area

Common Name	Scientific Name	Habitat
Shrikes		
Loggerhead shrike	(Lanius ludovicianus)	Shrub steppe
Northern shrike	(Lanius excubitor)	Shrub steppe and farm lands
Flycatchers		
Olive-sided flycatcher	(Contopus borealis)	Woodlands
Western wood-pewee	(Contopus sordidulus)	Riparian woodlands
Cordilleran flycatcher	(Empidonax diffcilis)	Forests
Ash-throated flycatcher	(Myiarchus cinerascens)	Shrub steppe, juniper
Willow flycatcher	(Empidonax trailii)	Riparian willow, meadow
Gray flycatcher	(Empidonax wrightii)	Arid woodlands and shrub steppe
Dusky flycatcher	(Empidonax oberbolseri)	Aspen groves, willow thickets, open coniferous forests
Eastern kingbird	(Tyrannus tyrannus)	Range, riparian, meadow
Western kingbird	(Tyrannus verticalis)	Shrub steppe, agriculture
Larks		
Horned lark	(Eremophila alpestris)	Range
Swallows		
Tree swallow	(Tachycineta bicolor)	Aspen, riparian, meadow, cliff
Violet-green swallow	(Tachycineta thalassina)	Cliff, river, riparian
Northern rough-winged swallow	(Stelgidoptervx serripennis)	Cliff, riparian
Bank swallow	(Riparia riparia)	Riparia, meadow
Cliff swallow	(Hirunda pyrrhonota)	Cliff, riparian
Barn swallow	(Hirnudo rustica)	Range
Chickadees and Titmice		
Black-capped chickadee	(Parus atricapillus)	Aspen, riparian, meadow
Mountain chickadee	(Parus gambeli)	Douglas Fir
Plain Titmouse	(Parus inornatus)	Juniper woodlands
Bushtit	(Psaltriparus minimus)	Pinyon/Juniper woodlands, shrub steepe
Creepers		
Brown creeper	(Certha familiaris)	Deciduous forest

Common Name	Scientific Name	Habitat
Nuthatches		
Red-breasted nuthatch	(Sitta candensis)	Deciduous forest
White-breasted nuthatch	(Sitta carolinensis)	Deciduous forest, brush
Wrens		
House wren	(Troglodytes aedon)	Brush
Rock wren	(Salpinctes obsoletus)	Rocky slopes
Canyon wren	(Catherpes mexicanus)	Cliffs, rocky canyons
Marsh wren	(Cistothorus palustris)	Marshes
Winter wren	(Troglodytes troglodytes)	Dense coniferous forest near water
Dippers		
American dipper	(Cinclus mexicanus)	Riparian, meadow, river
Kinglets, Bluebirds and Thrushes		
Ruby-crowned kinglet	(Regulus calendula)	Riparian meadow
Golden-crowned kinglet	(Regulus satrapa)	Riparian bushy areas
Mountain bluebird	(Sialia currucoides)	Range, Aspen, agriculture
Western bluebird	(Sialia mexicana)	Range, meadow
Veery	(Catharus fuscescens)	Riparian, meadow
Swainson's thrush	(Catharus ustulatus)	Riparian forest
Hermit thrush	(Hylocichlod guttata)	Riparian forest
American robin	(Turdus migratorius)	Deciduous forest, riparian and meadow
Townsends solitaire	(Mydestes townsendi)	Riparian forest
Varied thrush	(Ixoreus naevius)	Montane coniferous forest
Vireos		
Solitary vireo	(Vireo solitarius)	Deciduous forest
Warbling vireo	(Vireo gilvas)	Aspen
Red-eyed vireo	(Vireo olivaceus)	Woodlands
Waxwings		
Cedar waxwing	(Bombcyllia cedrorum)	Open woodlands
Bohemian waxwing	(Bombycilla garrulus)	Open woodlands
Warblers		
Orange-crowned warbler	(Vermivora celata)	Mountain brush, Aspen
Yellow warbler	(Dendroica petechia)	Aspen, Douglas Fir
Yellow-rumped warbler	(Dendroica coronata)	Douglas Fir

Common Name	Scientific Name	Habitat
Wilson's warbler	(Wilsonia pusilla)	Willow
Lucy's warbler	(Vermivora luciae)	Riparian brush and woodlands in desert areas
Townsend's warbler	(Dendroica townsendi)	Douglas Fir
MacGillivray's warbler	(Oporonis tolmiei)	Douglas Fir, riparian, meadow
Yellow-breasted chat	(Icteria virens)	Riparian, meadow
Ovenbird	(Seiurus aurocapillus)	Deciduous forests mixed woodlands
Virgina's warbler	(Vermivora virginiae)	Juniper
Nashville warbler	(Vermivora ruficapilla)	Open deciduous woodlands
Black and white warbler	(Mniotilta varia)	Mixed forests
American Redstart	(Setophaga ruticlla)	Mixed forests
Common Yellowthroat	(Geothlypis trichas)	Marshes
Buntings and Grosbeaks		
Lazuli bunting	(Passerina amoena)	Mountain brush, Douglas Fir
Indigo bunting	(Passerina cyanea)	Open woodlands, weedy fields
Black-headed grosbeak	(Pheucticus melanocephalus)	Aspen, Douglas Fir, riparian, meadow
Evening grosbeak	(Hesperiphona vespertina)	Forests
Crossbills		
Red crossbill	(Lavia curvirastra)	Forest riparian, meadow
Sparrows and Towhees		
Rufous-sided towhee	(Pipilo erythrophthalmus)	Brush
Green-tailed towhee	(Chlorura chlorura)	Thickets, shrub steppe, montane riparian areas
Chipping sparrow	(Spizella passerina)	Aspen, riparian, meadow
Song sparrow	(Melospiza melodia)	Riparian, meadow
White-crowned sparrow	(Zonotrichia leucophryus)	Shrub steppe, willow
Harris' sparrow	(Zonotrichia querula)	Thickets, open woodlands
White-throated sparrow	(Zonotrichia leucophrys)	Forest edge, thickets, bogs
Brewer's sparrow	(Spizella breweri)	Range
Savannah sparrow	(Passerculus sandwichensis)	Range
Fox sparrow	(Passerell iliaca)	Riparian woodlands
Vesper sparrow	(Pooecetes gramineus)	Meadow, range
Lincoln's sparrow	(Melospiza georgiana)	Bogs, wet meadows, riparian thickets
Dark-eyed junco	(Junco hyemalis)	Coniferous forest
Lark sparrow	(Chondestes grammacus)	Shrub steppe
Sage sparrow	(Amphispiza belli)	Sagebrush steppe
American tree sparrow	(Spizella arborea)	Fence rows, weedy fields
Grasshopper sparrow	(Ammodramus savannarum)	Open grasslands, farmlands
Lark bunting	(Calamospiza melanocorys)	Sagebrush steppe

Common Name	Scientific Name	Habitat
Snow bunting	(Plectrophenax nivalis)	Grasslands, stubble fields
Bobolink	(Dolichonyx oryzivorus)	Flooded meadows, alfalfa fields
Lapland longspur	(Calcarius lapponicus)	Grasslands, plowed and stubbled fields
Weaver finch		
House sparrow	(Passer domesticus)	Farm lands, fields, woodlands
Blackbirds, Meadowlarks and Orioles		
Red-winged blackbird	(Euphagus cynocephalus)	Agriculture
Brown-headed cowbird	(Molothrus ater)	Aspen, agriculture
Yellow-headed blackbird	(Xanthocephalus xanthocephalus)	Lake, meadow
Brewer's blackbird	(Euphagus cyanocephalus)	Agriculture
European Starling	(Sturnus vulgaris)	Agriculture, open woodlands
Western meadowlark	(Sturnella neglecta)	Range, meadow
Northern oriole	(Icterus galbula)	Riparian, meadow
Finches		
Pine siskin	(Carduelis pinus)	Coniferous forest
American goldfinch	(Carduelis tristis)	Aspen, riparian, meadow
Cassin's finch	(Carpodacus cassinii)	Coniferous forest
Purple finch	(Carpodacus purpureus)	Tall shrubs
House finch	(Carpodacus mexicanus)	Shrub steppe
Common redpoll	(Carduelis flammea)	Woodlands, fence rows
Rosy finch	(Leucosticte tephrocotis)	Barren, rocky, grassy areas, fields, farm lands
Tanagers		
Western tanager	(Piranga ludoviciana)	Mixed woodlands
Mockingbirds and Thrashers		
Gray Catbird	(Dumetella carolinenis)	Dense shrub
Northern mockingbird	(Mimus polyglottos)	Shrub steppe, farm lands
Sage thrasher	(Oreoscoptes montanus)	Sagebrush steppe
Brown thrasher	(Toxostoma rufum)	Deciduous forests edge and clearings
Wagtails and Pipits		
American pipit	(Anthus spinoletta)	Lake and river shorelines

Appendix B—Species Found in the American Falls Area

Common Name	Scientific Name	Habitat
Phalaropes		
Wilson's phalarope	(Phalaropus tricolor)	Pond, river and lake shorelines
Red-necked phalarope	(Phalaropus lobatus)	Mudflats, lakes
Rails		
Sora	(Porzana carolina)	Marshes
Virginia rail	(Rallus limicola)	Marshes
American coot	(Fulica americana)	Lakes, ponds, marshes
Cranes		
Sandhill crane	(Grus canadensis)	Riparian, meadow
Gallinaceous Birds		
Gray Partridge	(Perdix perdix)	Farm lands with shrubs
Ring-necked pheasant	(Phasianus colchicus)	Shrub steppe, grasslands, agriculture with cover
Sage grouse	(Centrocercus urophasianus)	Sagebrush steppe
Wild turkey	(Meleagris gallapavo)	Open Woodlands
Ruffled grouse	(Bonasa umbellus)	Riparian areas
Mammals		
Vagrant shrew	(Sorex vagrans)	Moist areas at lower elevations
Masked shrew	(Sorex cinereus)	Riparian area
Merriam's shrew	(Sorex merriami)	Sagebrush steppe
Little brown myotis	(Myotis lucifugus)	Open forests, rocky areas
Long eared myotis	(Myotis evotis)	Caves and forests
Big brown bat woodland	(Eptesicus fuscus)	Caves, crevices, buildings
Townsend's big-eared bat	(Plecotus townsendii)	Caves, crevices, buildings
Nutall's cottontail	(Sylvilagus nuttallii)	Shrub steppe, rocky & riparian areas
Pigmy cottontail	(Brachylagus idahoensis)	Sagebrush steppe
Black-tailed jackrabbit	(Lepus californicus)	Shrub steppe
White-tailed jackrabbit	(Lepus townsendii)	Grasslands and shrub steppe
Yellow-bellied marmot	(Marmota flaviventris)	Rocky areas
Least chipmunk	(Tamias minimus)	Sagebrush steppe
Townsend's ground squirrel	(Spermophilus townsendii)	Shrub steppe
Northern pocket gopher	(Thomomys talpoides)	Sagebrush steppe and meadows
Beaver	(Castor canadensis)	Streams, ponds, riparian areas

Common Name	Scientific Name	Habitat
Kangaroo rat	(Dipodomys ordi)	Sagebrish steppe
meadow vole	(Microtus pennsylvanicus)	Moist grasslands
Montane vole	(Microtus montanus)	Grasslands
Longtail vole	(Microtus longicaudus)	Shrub grasslands
Sagebrush vole	(Lemmiscus curtatus)	Sagebrush steppe
Muskrat	(Ondatra zibethica)	Marshes, ponds, streams, lakes
House mouse	(Mus musculus)	Urban areas, farm lands
Western jumping mouse	(Zapus princeps)	Wet meadows, riparian areas
Western harvest mouse	(Reithrodontomys megalotis)	Grasslands
Northern grasshopper mouse	(Onychomys leucogaster)	Sagebrush steppe
Deer mouse	(Peroomyscus maniculatus)	All habitats
Great Basin pocket mouse	(Perognathus parvus)	Sagebrush steppe
Porcupine	(Erethizon dorsatum)	Cottonwood forests, riparian areas
Raccoon	(Procyon lotor)	Sagebrush steppe near water
Coyote	(Canis latrans)	Farm lands, range
Red fox	(Vulpes vulpes)	Farm land
Ermine	(Mustela erminea)	Farm lands, riparian areas
Long-tailed weasel	(Mustela frenata)	Shrub steppe and farm lands
Mink	(Mustela vison)	Near streams, rivers, and lakes
Badger	(Taxidea taxus)	Farm lands, forests
Striped skunk	(Mephitis mephitis)	Riparian areas, marshes
Western spotted skunk	(Spilogale gracilis)	Farm lands near streams
River otter	(Lutra canadensis)	Streams & lakes
Bobcat	(Felis rufus)	Rocky canyons
Mule deer	(Odocoileus hemonius)	All habitats
White-tailed deer	(Odocoilus virginianus)	All habitats
Moose	(Alces alces)	Mixed forests, marshes, bogs
Amphibians		
Western toad	(Bufo boreas)	All habitats
Great Basin spadefoot toad	(Scaphiopus intermontanus)	Sagebrush steppe near water
Striped chorus frog	(Pseudacris triseriata)	Marshes, wooded areas, grasslands
Leopard frog	(Rana pipiens)	Aquatic habitats
Tiger salamander	(Ambystoma tigrinum)	Sagebrush stepe
Long-toed salamander	(Ambystoma macrodactylum)	Aquatic habitats
Reptiles		
Rubber boa	(Charina bottae)	Woodlands, forests
Western terrestrial garter snake	(Thamnophis elegans)	Near water

Common Name	Scientific Name	Habitat
Common garter snake	(Thamnophis sirtalis)	Near water
Great Basin gopher snake	(Pituophis melanoleucus)	Dryland habitats
Striped whipsnake	(Masticophis taeniatus)	Shrub steppe
Night snake	(Hypsiglena torguata)	Rocky slopes and outcrops
Racer	(Coluber constrictor)	Meadows, sage steppe
Western whiptail	(Cnemidophorus tigrus)	Shrub steppe
Western rattlesnake	(Crotalus viridus)	Shrub-grasslands and rock outcrops
Mojave black-collared lizard	(Crotaphytus bicinctores)	Rocky dry areas
Longnose leopard lizard	(Gambelia wislizenii)	Sandy shrub steppe
Short-horned lizard	(Phrynosoma douglassii)	Sagebrush nd juniper
Desert horned lizard	(Phrynosoma platyrhinos)	Shrub steppe
Sagebrush lizard	(Sceloperous graciosus)	Sagebrush and juniper
Western fence lizard	(Sceloperous occidentalis)	Rocky canyons and talus slopes
Side-blotched lizard	(Uta stansburiana)	Sage steppe and juniper
Western skink	(Eumeces skiltonianus)	Moist, rocky areas
Plants		
Juniper	(Juniperus scapulorum)	Juniper-pinon zone
Rabbitbrush	(Chrysothamnus spp.)	Wheatgrass-bluegrass (Bunchgrass prairie)
Green rabbitbrush	(C. viscidiflorus)	Wheatgrass-bluegrass (Bunchgrass prairie)
Gray rabbitbrush	(C. nauseousus)	Wheatgrass-bluegrass (Bunchgrass prairie)
Sagebrush	(Artemisia tridentata)	Sagebrush-grass zone
Snakeweed	(Gutierrezia satothrae)	Ruderal
Sea Blite	(Suaeda spp.)	Riparian/wetland
Bluegrass	(Poa spp.)	Wheatgrass-bluegrass (Bunchgrass prairie)
Wheatgrass	(Agropyron spp.)	Wheatgrass-bluegrass (Bunchgrass prairie)
Muhly	(Muhlenbergia)	Wheatgrass-bluegrass (Bunchgrass prairie)
Fescue	(Festuca spp.)	Wheatgrass-bluegrass (Bunchgrass prairie)
Basin wildrye	(Elymus condensatus)	Sagebrush-grass zone
Cheatgrass	(Bromus tectorum)	Sagebrush-grass zone
Mustard	(Brassica spp.)	Ruderal
Narrow-leaved cottonwood	(Populus angustifolia)	Riparian
Common cottonwood	(P. deltoides)	Riparian
Black cottonwood	(P. trichocarpa)	Riparian
Coyote willow	(Salix exigua)	Riparian
Brittle willow	(S. fragilis)	Riparian
Alder	(Alnus spp.)	Riparian
Cockleburs	(Xanthium spp.)	Ruderal
Goosegrass	(Potentilla spp.)	Riparian/wetland
Beggar's ticks	(Bidens cernua)	Riparian/wetland
Knotweed	(Polygonum spp.)	Riparian/wetland
No common name	(Heleochloa alopecuroides)	Riparian/wetland
Water cress	(Rorippa obtusa)	Riparian/wetland
Marsh cudweed	(Gnaphalium palustre)	Riparian/wetland

Common Name	Scientific Name	Habitat
Russian olive	(Elaeagnus angustifolia)	Ruderal
Water birch	(Betula occidentalis)	Riparian/wetland
Squawbush	(Rhus rilobata)	Riparian/wetland
Current	(Ribes spp.)	Riparian/wetland
Wood's rose	(Rosa woodsii)	Riparian/wetland
Rushes	(Juncus spp.)	Riparian/wetland
Cattails	(Typha latifolia)	Riparian/wetland
Sedges	(Carex spp.)	Riparian/wetland
Common reed	(Phragmites communis)	Riparian/wetland
Thistle	(Sonchus spp.)	Waste areas
Milkweed	(Asclepias spp.)	Wheatgrass-bluegrass (Bunchgrass prairie)
Flowering rush	(Butomus umbellatus [Butomaceae])	Riparian
Canadian thistle	(Cirsium arvense)	Waste areas

Primary sources: Fish and Wildlife-U.S. Fish and Wildlife Service and Idaho Department of Fish and Game; Plants-CH2M Hill (1982) and R.E. Holte

Regional Related Studies/Plans

Dialog Information Services, 1990, Donnelly Demographics.

Idaho Department of Fish and Game, 1992, *Pacific Flyway Management Plan for the Rocky Mountain Population of Trumpeter Swans.*

_____, May 1990, *Species Management Plan 1991-1995, Upland Game.*

_____, December, 1990, *Species Management Plan 1991-1995, Waterfowl.*

_____, 1995, *Management Plan: Sterling Wildlife Area, Pocatello*, 16 pp.

James, D., Regional Environmental Officer, Bureau of Reclamation, May 12, 1992, Memorandum to Max Van Den Berg (Reclamation) re: related actions and activities.

Riley, R., Regional Planning Supervisor, Bureau of Reclamation, May 12, 1992, Memorandum to Max Van Den Berg (Reclamation) re: related actions and activities.

Western Hemisphere Shorebird Reserve Network, November, 1990, *Network News, the WHRSN Newsletter, Special Edition*, Vol. #1, No. 2-3, Manomet, MA.

United States, Bureau of Land Management, 1986, *Monument Resource Management Plan*, BLM, Shoshone District, Idaho.

United States, Bureau of Reclamation, 1993, *American Falls Resource Management Plan, Draft Environmental Assessment*, Boise, Idaho, October 1993.

_____, 1994, *American Falls Resource Management Plan, Finding of No Significant Impact and Final Environmental Assessment*, Boise, Idaho, September 1994.

United States, Environmental Protection Agency, 1991, *Superfund Fact Sheet, Eastern Michaud Superfund Site, Power County, Idaho*, Region 10, Seattle, WA, September 1991.

Shoreline Erosion

Hammon, Mike, Bureau of Reclamation, Special Correspondence (400 LND-8.00).

United States, Bureau of Reclamation, The Committee of Nine, January 31, 1983, M.O.U. for Erosion Control Measures at American Falls Reservoir.

United States, Bureau of Reclamation and Bureau of Indian Affairs, July 28, 1987, Interagency Agreement (Number 7-07-10-L0860) for Erosion Control Cost-Sharing at American Falls Reservoir.

Hydrology

United States, Bureau of Reclamation, 1970, *American Falls Dam Replacement, Feasibility Report*, Boise, Idaho, May 1970.

_____, 1991, Minidoka Project Office, *American Falls Reservoir Operations Data - 1951-1991 (Special Correspondence)*, Burley, Idaho, September 1991.

United States, Bureau of Reclamation and Idaho Department of Water Resources, 1991, *Upper Snake River Basin Storage Optimization Study, Information Update*, Boise, Idaho, December 1990.

United States, Geological Survey, 1988, *Water Resources Investigations Report 87-4063 -- Estimates of gains and losses for Reservoirs on the Snake River from Blackfoot to Milner, Idaho, for selected periods, 1942-1983,* Boise, Idaho.

_____, 1990, *Water-Resources Investigations Report 90-4120 -- Reconnaissance Investigation of Water Quality, Bottom Sediment, and Biota Associated with Irrigation Drawing in the American Falls Reservoir Area, Idaho*, Boise, Idaho.

Water Quality

Adams, W., Environmental Protection Agency, Personal communication on Dec. 2, 1991.

Eisler, 1986, *Polychlorinated biphenyl hazards to fish, wildlife, and invertebrates - A synoptic review: U.S. Fish and Wildlife Service Biological Report* 85 (1.7), 72 p.

_____, 1987, *Mercury hazards to fish, wildlife, and invertebrates - A synoptic review: U.S. Fish and Wildlife Service Biological Report* 85 (1.10), 90 p.

Heimer, J. T., and S. T. Howser, 1990, *Job Performance Report, Project F-71-R-12, Lake and Reservoir Studies, Study III, Job Nos. 1 and 2, Idaho Fish and Game, Sport Fish Restoration, Fishery Research Report*, 42 pp.

Heimer, J., Idaho Department of Fish and Game, Personal communication on Dec. 2, 1991. (Interview).

Heinz, G. H., D. J. Hoffman, A. J. Drynitsky, and D. M. G. Weller, 1987, "Reproduction in mallards fed selenium," *Environmental Toxicology and Chemistry*, v. 6, p. 423-433.

Howard, R., U.S. Fish and Wildlife Service, Personal communication on Dec. 2, 1991 (Interview).

Johnson, D. W., J. C. Kent, and D. K. Campbell, 1977, *Availability and concentration of pollutants from American Falls Reservoir sediments to forage and predaceous fishes: Moscow, Idaho Water Resources Research Institute, Technical Completion Report, Project A-043-IDA,* 95 p.

Kaufman, S., Operations Supervisor, American Falls Power Plant, Personal communications during March, 1992.

Khera, K, S., 1979, "Teratogenic and genetic effects of mercury toxicity," *The Biogeochemistry of Mercury in the Environment*, ed. J.O. Nriagu, New York, Elsevier/North Holland Biomedical press, p. 501-518.

Low, W. H., and W. H. Mullins, 1990, *Reconnaissance Investigation of Water Quality, Bottom Sediment, and Biota Associated with Irrigation Drainage in the American Falls Reservoir Area, Idaho, 1988-89, U.S.G.S. Water-Resources Investigations Report 90-4120*, 78 pp.

Lowe, W., Project Manager for the National Water-Quality Assessment Program, Personal communications during March, 1992.

Mullins, W., U.S. Fish and Wildlife Service, Personal communication on Dec. 2, 1991 (Interview).

National Academy of Sciences, 1978, *An assessment of mercury in the environment*: Washington, D.C., National Academy of Sciences, 185 p.

National Academy of Sciences, National Academy of Engineering, 1973, *Water quality criteria, 1972*, Washington, D. C., U.S. Government Printing Office, 594 p.

Ohlendorf, H. M., D. J. Hoffman, M. K. Saiki, and T. W. Aldrich, 1986, "Embryonic mortality and abnormalities of aquatic birds - Apparent impacts of selenium from drainwater," *The Science of the Total Environment*, v. 52, p. 49-63.

United States, Environmental Protection Agency, 1980a, *Ambient water quality criteria for mercury: U.S. Environmental Protection Agency Report 440/5-80-058.*

_____, 1980b, *Ambient water quality criteria for polychlorinated biphenyls: U.S. Environmental protection Agency Report 440/5-80-068*, 211 p.

_____, 1985, *Ambient water quality criteria for mercury-1984: U.S. Environmental Protection Agency Report 440/5-84-026.*

_____, 1991, *Eastern Michaud Superfund Site Power County, Idaho, Superfund Fact Sheet*, EPA Region 10, Seattle, WA.

United States, U.S. Fish and Wildlife Service, 1988, *Upper Snake River storage and optimization study, fish and wildlife problems and needs*, Unpublished paper.

Zimmer, D., Bureau of Reclamation, Personal communication on Nov. 25, 1991. (Interview).

Fisheries

Bushnell, Vernon C., 1969, *Eutrophication of American Falls Reservoir, Minidoka Project, Idaho, Interim Report*, Bureau of Reclamation, Boise, 35 pp.

Groves, Craig., 1991, White Pelican, Departmental Memorandum, 2 pp.

Heimer, John T., 1983, *American Falls - Snake River Fisheries investigations, IDFG Final Report to Idaho Power Co*, 31 pp.

_____, 1984, *American Fall - Snake River fisheries investigations, Final Report to Idaho Power Company from Idaho Department of Fish and Game*, 31 pp.

_____, 1989, *American Falls Reservoir Studies*, Idaho Dept. of Fish and Game, 29 pp.

Heimer, John T. and S.T. Howser., 1990, *Job performance report, project F71-R-12 lake and reservoir investigations, American Falls Reservoir studies, study III, Jobs Nos 1 and 2.*

Howard, R., Biologist, U.S. Fish and Wildlife Service, Personal communications during March, 1992.

Idaho Department of Fish and Game, 1991, *Fisheries management plan 1991-1995*, 290 pp.

Johnson, Donald W., James C. Kent and Donald K. Campbell., 1976, *Availability and concentration of pollutants from American Falls Reservoir sediments to forage and predaceous fishes*, Id., Water. Resources Res. Inst., Univ. Idaho, 41 pp.

Low, Walton H. and W. H. Mullins, 1990, *Reconnaissance investigation of water quality, bottom sediment and biota associate with irrigation drainage in the American Falls reservoir area, Idaho, 1988-1989, US Geological survey water resources Investigations Report 90-4120*, 78 pp.

Leopold, Aldo., 1991, *Conservation is a state of harmony between men and land, Wyoming Wildlife*, July 1991 1 pp.

Smith, Ronald W,, 1991, *American Falls Reservoir Studies Draft Report*, 41 pp.

Taki, D., Fisheries Biologist for the Shoshone-Bannock Tribe, Personal communication during March, 1992.

United States, Bureau of Reclamation, 1974, *American Falls Dam replacement and powerplants, final environmental statement, INT FES 74-60*, 58 pp.

United States, U.S. Fish and Wildlife Service, 1992, *Assessment of fish and wildlife resources in the American Falls Project Area*, Prepared by S.D. Duke and R. Howard, Boise Field Office.

Vegetation and Wildlife

Bauer, K.L., 1989, *Observations on the developmental biology of Cicindela arenicola Rumpp*, M.S. Thesis, Idaho State Univ., Pocatello, 33 pp.

Boccard, B., 1980, *Important fish and wildlife habitats of Idaho:an inventory*, U.S. Fish and Wildlife Service.

Brady, W., D.R. Patton, and J. Paxson, 1985, "The development of southwestern riparian gallery forests," *Riparian ecosystems and their management: reconciling conflicting uses, Gen. Tech. Rep. RM-120*, eds. Johnson et al., USDA Forest Service, Rocky Mountain Forest and Range Exp. Sta. 325 pp.

Brinson, M.M., 1981, *Riparian ecosystems: their ecology and status*, US Fish and Wildlife Service, Washington, D.C.

Broncho, P., Biologist, Fort Hall Indian Reservation, Personal communication on 3/27/92 (telephone).

Carpenter, L.B., 1990, *Idaho wildlife viewing guide*, Falcon Press, Billings, MT, 104 pp.

CH2M Hill, 1982, *Application for license: Eagle Rock Hydroelectric Project, Four volumes prepared for the Raft River Rural Electric Cooperative, Inc. in support of an application for license for major unconstructed project FERC No. 2789*, filed on February 25, 1982.

Daubenmire, R., 1968, *Plant communities, a textbook of plant synecology*, Harper & Row, New York, 300 pp.

Everitt, B.L., 1968, "Use of the cottonwood in an investigation of the recent history of a flood plain," *American Journal of Science* 266:417-439.

Groves, C. and W. Melquist, 1990, *Nongame and endangered wildlife management plan, 1991-1995*, Idaho Department of Fish and Game, Boise, 161 pp.

Holte, K.E., Professor of Botany, Department of Biological Sciences, Idaho State University, Personal communication on 10/1/91 (interview).

Holte, K,E, and P, Mourtsen, 1974, "Germination of Heleochloa alopecuroides (Poaceae) in various concentrations of helium, nitrogen, and carbon dioxide," *American Journal of Botany* 61(10):1091-1094.

Howard, R., 1987, *Assessment of bald eagle use in the American Falls Project Area, 1987, U.S. Fish and Wildlife Service Endangered Species Report*, Boise Field Office, Boise ID. 8 pp.

Howard, R., Biologist, U.S. Fish and Wildlife Service, Personal communication on 3/18/92 (telephone).

Idaho Department of Fish and Game, 1985, *Management plan: Sterling Wildlife Area, Pocatello*, 16 pp.

_____, 1988, *Progress report, surveys and inventory, waterfowl production, Proj, W-170-R-12.*

Lindholm, G.F., 1988, *Snake River Plain regional aquifer system, phase II study*, Geological Survey, Boise, ID.

Melquist, W.E., 1987, Letter to Paul D. McLain, Nominating Springfield Bottoms as a Regional Site in the Western Hemisphere Shorebird Reserve Network, Dated 14 July, 1987.

Moseley, R. and C. Groves, 1990, *Rare, threatened and endangered plants and animals of Idaho, Natural Heritage Section, Nongame and Endangered Wildlife Program*, Idaho Department of Fish and Game, 33 pp.

Palmer, T., 1991, *The Snake River: Window to the West, Island Press*, Washington D.C. 322 pp.

Robertson, S., Biologist, Fort Hall Indian Reservation, Personal communication on 12/3/91 (letter).

Stephens, D.A., and S.H. Sturts, 1991, *Idaho Bird Distribution, Special Publication No. 11, Idaho Museum of Natural History*, Pocatello, 76 pp.

Taylor, D.M. and C.H. Trost, 1987, "The status of rare birds in Idaho," *Murrelet* 68: 69-93.

Taylor, D.M., C.H. Trost and B. Jamison, In press, *The abundance and phenology of migrating shorebirds in Idaho.*

Thomas, J.W., Technical Editor, 1979, *Wildlife habitats in managed forests, Agriculture Handbook No. 553.* USDA Forest Service, Washington, DC, 512 pp.

Trent, T., Biologist, Idaho Department of Fish and Game, Pocatello, Personal communication on 10/3/91 (interview).

Trost, C., Professor of Biology, Department of Biological Sciences, Idaho State University, Personal communication on 10/1/91 (interview).

United States, Bureau of Land Management, 1984, *Final Environmental Impact Statement: Monument Resource Management Plan*, USDA-BLM, Shoshone District, Idaho.

United States, Federal Energy Regulatory Commission, 1984, *Office of Electric Power Regulation, Final Environmental Impact Statement: Eagle Rock Hydroelectric Project*, FERC, Washington, D.C.

_____, 1988, Joint agreement regarding fish and wildlife studies, Unpublished paper, FERC, Washington, D.C.

United States, Soil Conservation Service, 1986, *Potential natural vegetation map, 4-R-39, 838.*

United States, U.S. Fish and Wildlife Service, 1985, *North American Waterfowl Management Plan*, Contact USFWS, Room 612, Federal Building, Fort Snelling, Twin Cities, MN 55111.

_____, 1988, *Upper Snake River storage and optimization study, fish and wildlife problems and needs*, Unpublished paper.

_____, September 1991, Letter to Reclamation regarding list of threatened and endangered species.

_____, 1992, *Assessment of fish and wildlife resources and bald eagle use in the American Falls Project Area*, Reports prepared by S.D. Duke and R. Howard, Boise Field Office.

_____, 1993, *American Falls Reservoir Resource Management Plan Alternatives Coordination Act Report*, Report prepared by R. Howard, Boise Field Office.

Winward, A.H., and E.W. Tisdale, 1977, *Taxonomy of the Artemisia tridentata complex in Idaho, For. Wildl. and Range Exp. Stn. Bull. 19*, Univ. of Idaho, Moscow, 15 pp.

Reclamation Ownership and Land Status

Benedict, L.D., Idaho Department of Lands, Personal communication, 1991/92.

Houghland, J., Grazing Lease Holder, Personal Communication. Nov. 11, 1992.

New, T., Power County Public Works, Personal communication, Dec. 13, 1991.

Quinn, G, Burley District Manager, Bureau of Land Management. January 15, 1993, Letter to John Dooley (Reclamation) re: BLM grazing allotments.

Surrounding Land Status

Edmo, G., Shoshone-Bannock Tribes, Fort Hall Indian Reservation, Personal communication, Dec. 3, 1991.

Hall. M., Senior Resource Manager, Idaho Department of Lands, January 22, 1992, Letter to EDWA re: Idaho Department of Lands grazing leases in the project area.

Pavlat, K., Bureau of Land Management, Personal Communication, Feb. 16, 1993.

Van Whye, P., Bureau of Land Management, Personal Communication, Feb., 1993.

United States, Bureau of Land Management, 1986, *Monument Resource Management Plan*, BLM, Shoshone District, Idaho, January 1986.

Wackenhut, P., Idaho Department of Fish and Game, Personal communication, Dec. 4, 1991.

Demographic Profile

Dialog Information Services, 1990, Donnelly Demographics.

United States, Bureau of Reclamation, 1983, *Idaho*.

Economic Profile

Dialog Information Services, 1990, Donnelly Demographics.

Idaho Department of Commerce, 1989, Division of Economic Development, *Idaho Facts* .

_____, 1989, Division of Economic Development, *County Profiles of Idaho*.

Idaho Department of Employment, 1991, "Pocatello Employment," News sheet (July 1991, Vol.3 No. 7)

United States, Bureau of Economic Analysis, 1989, *Regional Economic Information System, Bearfacts*.

United States, Bureau of Reclamation, 1983, *Idaho*.

Public Facilities, Utilities, and Services

Anderson, R., Power County Waterways, Personal communication, Nov. 25, 1991.

Bottles, B., Bingham County Public Works, Personal communication, Dec. 1991.

Cowley, J., Bingham County Waterways, Personal communication, Nov. 25, 1991.

Giesbreck, G., City of American Falls, Public Works Department, Personal communication, Dec. 1991.

Hubbs, J., City of American Falls, Police Department, Personal communication, Dec. 1991.

Moran. H., Environmental Protection Agency, Idaho State, Personal communication, Dec. 1991.

Morgan, N., Bingham County Public Works, Personal communication, Dec. 9, 1991.

Myer, R., City of Aberdeen, Public Works Department, Personal communication, Dec. 1991.

Roe, R and Blomstrom, T. Idaho Power, Personal communication, Dec. 1991.

Roland, J., Power County Public Works, Personal communication, Dec. 1991,

Sprague, H., Power County Sheriff's Department, Personal communication, Dec. 1991.

Recreation Use

Anderson, C., Idaho Department of Fish and Game, Personal communication on 8/15/91 and 8/23/91.

Anderson, P., Power County Waterways Commission, Personal communication on 8/12/91.

Bingham, K., Bingham County Waterways Commission, Personal communication.

Boggs, B., Bureau of Land Management, Personal communication on 8/9/91.

Brunelle, M., American Falls Parks and Recreation Department, Personal communication on 8/16/91 and 9/27/91.

Budolfson, J., Bureau of Reclamation, Personal communication.

Bybee, T. and J.I. Kotowski, 1989, *American Falls Marina Research Report, Small Business Institutes Group, prepared for city of American Falls/American Falls Parks and Recreation Department.*

Collins, M., U.S. Fish and Wildlife Service, Personal communication on 8/6/91 and 8/15/91.

Heimer, J.T., Idaho Department of Fish and Game, Personal communication on 8/9/91.

Heimer, J.T., 1984, *American Falls - Snake River Fisheries Investigations*, Idaho Department of Fish and Game, Boise, ID, 35 pp.

_____, 1989, *Job Performance Report, Project F-71-R-11, Lake and Reservoir Investigations, Study III, Jobs Nos 1 and 2*, Idaho Department of Fish and Game, Boise, ID. 31 pp.

_____, 1990, *Job Performance Report, Project F-71-R-12, Lake and Reservoir Studies, Study III, Jobs Nos. 1 and 2.* Idaho Department of Fish and Game, Boise, ID, 42 pp.

Idaho Department of Commerce, Economic Development Division, 1989, *County Profiles of Idaho.*

Idaho Department of Commerce, Division of Travel Promotion, 1991, *Official Idaho State Travel Guide*, 97 pp.

Idaho Department of Commerce, 1991, *State of Idaho, 1991-1995 Agenda: Tourism Development*, 24 pp.

Idaho Department of Fish and Game, 1990, *Idaho Sportsman's Access Guide: A Guide to Idaho Department of Fish and Game Managed Access Areas*, 20 pp.

Idaho Department of Parks and Recreation, 1989, *1990 Centennial Edition Idaho Outdoor Recreation Plan*, 88 pp.

_____, 1990, *Boating Program, 1990, A Guide to Idaho Boating Facilities*, 23 pp.

Ketchum, C., Bureau of Land Management, Personal communication.

Lucachick, M., Idaho Department of Parks and Recreation, Personal communication on 8/16/91.

Mende, J., Idaho Department of Fish and Game, Personal communication on 3/19/92.

Morgan, N., Bingham County Public Works Department, Personal communication.

New, T., Power County Highways Department, Personal communication on 11/7/91.

Newlin, M., Idaho Department of Parks and Recreation, Personal communication on 8/16/91.

Perletti, P., Bureau of Land Management, Personal communication on 9/17/91.

Rounds, R., Seagull Bay Yacht Club, Personal communication on 8/19/91.

Shackelford, C., Bingham County Public Works Department, Personal communication on 11/6/91.

Templeton, A., Bureau of Reclamation, Personal communication.

Trent, T., Idaho Department of Fish and Game, Personal communication on 8/9/91.

Trumann, R., Bingham County Parks and Recreation Department, Personal communication.

Wackenhut, P., Idaho Department of Fish and Game, Personal communication on 8/14/91.

Will, G.C., 1991. *Five-Year Job Completion Report, Project W-170-R-15, Waterfowl Fall and Winter Surveys, Harvest and Banding, Study II, Job 3*, Idaho Department of Fish and Game, Boise, ID, pp. 15-24.

Cultural Resources

Barnosky, Cathy W., Patricia M. Anderson and Patrick J. Bartlein, 1987, "The Northwestern U.S. during deglaciation; vegetational history and paleo climatic implications," *North America and Adjacent Oceans During the Last Deglaciation,* W. F. Ruddirman and H.E. Wright Jr., The Geological Society of America, Boulder, Colorado, pp. 289-322.

Barton, J.B., 1975, "A preliminary report of the American Falls Dam local fauna, Idaho" (abstract), *Utah Academy Proceedings* 52:76.

Barton, J.B., 1976, *A late Pleistocene local fauna from American Falls, southeastern Idaho,* M.S. thesis, Brigham Young University, Provo, 72 pp.

Bonnichsen, Robson, Dennis Stanford and James L. Fastook, 1988, "Environmental change: developmental history of human adaptive patterns; The Paleoindian cage," *North America and Adjacent Oceans During the Last Declaciation*, W.F. Ruddiman and H.E. Wright, Jr., The Geological Society of America, Boulder, Colorado, pp. 403-424.

Bright, R.C., 1982, "Paleontology of the lacustrine member of the American Falls Lake Beds, southeastern Idaho" eds. B. Bonnichsen and R.M. Breckenridge, *Cenozoic Geology of Idaho, Idaho Bureau of Mines and Geology Bulletin* 26, pp. 597-614.

Bruder, J. Simon, Diane L. Douglas, Serelle E. Burke and Gregory R. Woodall (editors), 1993, *American Falls: Cultural and Paleontological Resource Inventory on the Snake River Plain. Dames & Moore Intermountain Cultural Resource Services Research Paper* No. 1, Phoenix (draft).

Bucy, Douglas R., 1971, *A Technological Analysis of a Basalt Quarry in Western Idaho*, Unpublished Masters Thesis, Department of Anthropology, Idaho State University. Pocatello.

_____, 1974, "Technological Analysis of a Basalt Quarry in Western Idaho," *Tebiwa* 16(s): 1-45.

Butler, Robert B., 1965, "A Report on Investigations at an Early Man Site Near Lake Channel, Southeastern Idaho," *Tebiwa* 8(2):1-20.

_____, 1978, *A Guide to Understanding Idaho Archaeology: The Upper Snake and Salmon River Country*, Idaho State Historic Preservation Office, Boise,

Butler, Douglas R., 1986, *Report on an Archaeological Clearance Survey of a Proposed Rendezvous Area at Massacre Rocks State Park*, Department of Anthropology, Idaho State University, Pocatello, Idaho, Report on file Idaho State Historic Preservation Office, No. 2P-48.

Campbell, John Martin, 1956, "A Folsom Site in Idaho," *Plains Anthropologist* No. 6:1-2. Lincoln.

Carrey, J. and C. Conley, 1977, *The Middle Fork and the Sheepeater War*, Backeddy Books, Cambridge, Idaho.

Clements, L.J. and H.S. Forbush, eds., 1970, *History of Teton Valley Idaho*, B.W. Driggs (1926), Eastern Idaho Publishing Company, Rexburg, Idaho.

Conley, Cort, 1982, *Idaho for the Curious: A Guide*, Cambridge, Idaho: Backeddy Books.

Davis, Owen K., 1984, "Multiple thermal maxima during the Holocene," *Science* 225 (4662):617-19.

Davis, Owen, John C. Sheppard and Susan Robertson, 1986, "Contrasting Climatic Histories for the Snake River Plain, Idaho, Resulting from Multiple Thermal Maxima," *Quaternary Research* 26:321:339.

Deaver, S., 1990, *Initial Indian Consultation on the Proposed Cody to Cooke City Transmission Line*, Report prepared by Ethnoscience for Ecological Consultants, Helena, Montana.

Desborough, G.A., W.H. Raymond, R.F. Marvin and K.S. Kellogg, 1989, *Pleistocene sediments and basalts along the Snake River in the area between Blackfoot and Eagle Rock, southeastern Snake River Plain, southeastern Idaho, United States Geological Survey Open-File Report* 89-0436:1-18.

Dort, Wakefield, Jr., 1968, *Indian Life on the Upper Missouri,* University of Oklahoma Press, Norman, Oklahoma.

Fiori, Frank A., 1981, "Historic Themes," *Southeastern Idaho Cultural Resources Overview, Burley and Idaho Falls Districts: Final Report R-2196*, John G. Franzen, Jackson, Mississippi: Commonwealth Associates, pp. 115-191.

Franzen, John G., 1981, *Southeastern Idaho Cultural Resources Overview, Burley and Idaho Falls Districts: Final Report R-2196.* Jackson, Mississippi: Commonwealth Associates.

Gidley, J.W., 1930, "Hunting fossils on the Old Oregon Trail," *Explorations and fieldwork of the Smithsonian Institution in 1929*, Publication 3060:31-36.

Gruhn, Ruth, 1961a, "The Archaeology of Wilson Butte Cave, south-central Idaho," *Occasional Papers of Idaho State College Museum* 6:1-202.

_____, 1965, "Two early radiocarbon dates from the lower levels of Wilson Butte Cave, south-central Idaho," *Tebiwa* 12(1):47-57.

Hearst, J.M., 1990, *Paleontology and depositional setting of the Duck Point local fauna (late Pleistocene: Rancholabrean) Power County, southeastern Idaho*, M.S. Thesis, Idaho State University, Pocatello, 275 pp.

Holmer, Richard N., ed., 1986. *Shoshone-Bannock Culture History, Report of Investigation 85-16 for Swanson/Crabtree Anthropological Research Laboratory*, Idaho State University, Pocatello, Idaho.

Hopkins, M.L., 1951, "Bison (Gigantobison) latifrons and Bison (Simobison) alleni in southeastern Idaho," *Journal of Mammalogy* 32:192-197.

Hopkins, M.L., R. Bonnichsen and D. Fortsch, 1969, "The strategraphic position and faunal associates of Bison (Gigantobison) latifrons in southeastern Idaho, a progress report," *Tebiwa* 12:1-8.

Hopkins, M.L. and B.R. Butler, 1961, "Remarks on a notchbed fossil *Bison* ischium," *Tebiwa* 4:10-18.

Horr, D.A., ed., 1974, *Shoshone Indians*, Garland Publishing, New York.

Hughes, Terry, 1987, "Ice dynamics and deglaciation models when ice sheets collapsed," *North America and Adjacent Oceans During the Last Deglaciation*, W.F. Ruddiman and H.E. Wright, Jr., The Geological Society of America, Boulder, Colorado, pp. 183-220.

Jacobsen, George L., Jr., Thompson Webb, III and Eric C. Grimm, 1987, "Patterns: rates of vegetation change during the deglaciation of eastern North America," *North America and Adjacent Oceans During the Last Deglaciation*, W.F. Ruddiman and H.E. Wright, Jr., The Geological Society of America, Boulder, Colorado, pp. 227-288.

Jimenez, Joseph A., 1986, "The Ahvish Phase," *Shoshone-Bannock Culture History,* ed. Richard N. Holmer, Swanson/Crabtree Anthropological Research Laboratory, Reports of Investigations 85-16, Pocatello, pp. 205-244.

Kehoe, A.B., 1981, *North American Indians: A Comprehensive Account,* Prentice-Hall, Inc., Englewood Cliffs.

McDonald, H.G. and E. Anderson, 1975, "A late Pleistocene vertebrate fauna from southeastern Idaho," *Tebiwa* 18:19-37.

Mack, Richard, N., N.W. Rutter, Hughes M. Bryant, Jr. and S. Valastro, 1978, "Reexamination of Post-Glacial Vegetation History in Northern Idaho: Hager Pond, Bonner Co," *Quaternary Research* 10:241-255.

Madsen, B., 1958, *The Bannock of Idaho*, Caxton Printers, Ltd., Caldwell, Idaho,

Malde, H.E., 1960, "Evidence in the Snake River Plain, Idaho, of a catastrophic flood from Pleistocene Lake Bonneville," *United States Geological Survey Professional Paper* 400-B:B295-B297.

_____, 1968, "The catastrophic late Pleistocene Bonneville flood in the Snake River Plain, Idaho," *United States Geological Survey Professional Paper* 596:1-52.

Malouf, C., 1974, "The Gosiute Indians," *Shoshone Indians*, ed. Davis A. Horr, Garland Publishing, pp. 25-172.

Meatte, Daniel S., 1990, "Prehistory of the Western Snake River Basin," *Occasional Papers of the Idaho Museum of Natural History* Number 35, Pocatello, Idaho.

Miller, S.J. and W.A. Akersten, 1986, "Results of paleontological monitoring at a Bureau of Reclamation/Bureau of Indian Affairs erosion stabilization project: Bronco Point, American Falls Reservoir, southeastern Idaho," *Idaho Museum of Natural History Paleontology Reports* 1:1-13.

Murphy, R.F. and Yolanda Murphy, 1986, "Northern Shoshone and Bannock," *Handbook of North American Indians* Volume 11: Great Basin, ed. Warren L. D'Azevedo, Smithsonian Institution, Washington, D.C., pp. 284-307.

Pavesic, Max G., 1985, "Cache Blades and Turkey Tails: Piecing Together the Western Idaho Archaeoic Burial Complex," *Stone Tool Analysis, Essays in Honor of Don E. Crabtree.* eds. Mark G, Plew, James C. Woods, and Max G. Pavesic, University of New Mexico Press, Albuquerque, pp. 55-89,

Pinsof, J.D., 1991, "A cranium of *Bison alaskensis* (Mammalia: Artiodactyla: Bovidae) and comments on fossil *Bison* diversity in the American Falls area, southeastern Idaho," *Journal of Vertebrate Paleontology* 11:509-514.

_____, 1992, *The late Pleistocene vertebrate fauna from the American Falls Reservoir, southeastern Idaho*, PhD dissertation, Idaho State University, Pocatello, 390 pp.

Ranere, Anthony James, 1971. "Stratigraphy and Stone Tools from Meadow Canyon, Eastern Idaho." *Occasional Papers of the Idaho State University Museum* No. 27.

Ridenour, J., 1969, *Depositional environments of the late Pleistocene American Falls Formation, southeastern Idaho*, M.S. thesis, Idaho State University, Pocatello, 82 pp.

Ringe, Brenda L., Richard N. Holmer and William G. Reed, 1987, *Current Perspectives on the Prehistory of the Eastern Snake River Plain*, Paper presented at the 41st Annual Northwest Anthropological Conference, Tacoma Washington.

Robertson, S. (Biologist, Fort Hall Indian Reservation), Letter dated June 25, 1993.

Schwantes, Carlos A., 1989, *The Pacific Northwest: An Interpretive History,* Lincoln: University of Nebraska Press.

Scott, W.E., K.L. Pierce, J.P. Bradbury and R.M. Forester, 1982, "Revised Quaternary stratigraphy and chronology in the American Falls area, southeastern Idaho," B. Bonnichsen and R.M. Breckenridge (eds.), *Cenozoic Geology of Idaho, Idaho Bureau of Mines and Geology Bulletin* 26, pp. 581-595.

Shimkin, D.B., 1947, "Wind River Shoshone Ethnogeography," *University of California Publications in Anthropological Records* 5(4):245-280.

Stearns, H.T., L. Crandall and W.G. Steward, 1938, "Geology and groundwater resources of the Snake River Plain in southeastern Idaho," *United States Geological Survey Water-Supply Paper* 774-:1-268.

Swanson, Earl H., Jr., 1963, *The American Falls Reservoir: A Report to the National Park Service Concerning Archaeological and Other Scientific Resources Within and About the American Falls Reservoir.* N.p:n.p.

_____, 1972, *Birch Creek: Human Ecology in the Cool Desert of the Northern Rocky Mountains, 9,000 BC-AC 1850,* Idaho State University Press, Pocatello.

_____, 1974, "The Snake River Plain," *Idaho Yesterdays* 18(2):2-14, Boise.

Swanson, Earl H., Jr., Robert Butler and Robson Bonnichsen, 1964, "Birch Creek Papers No. 2, Natural and Cultural Stratigraphy in the Birch Creek Valley of Eastern Idaho," *Occasional Papers of the Idaho State University Museum* No. 14.

Titmus, Gene L. and James L. Woods, 1988, *The Evidence of Paleo-Indian Occupatio in Southern Idaho*, Paper presented at the Northwest Anthropological Conference, Tacoma, Washington.

Trenholm, V.C. and M. Carley, 1964, *The Shoshonis: Sentinels of the Rockies*, University of Oklahoma Press, Norman, Oklahoma.

Trimble, D.E. and W.J. Carr, 1961a, "The Michaud Delta and Bonneville River Near Pocatello, Idaho," *United States Geological Society of America Bulletin* 72:1739-1748.

Walker, D.E., Jr., 1973, "American Indians of Idaho," *Anthropological Monographs of the University of Idaho* (Number 2, Volume 1), Moscow, Idaho.

Warren, Claude E., Kent S. Wilkinson and Max G. Pavesic, 1971, "The Midvale Complex," *Tebiwa* 14(2):39-71. Pocatello.

Public Law 102-575, Title XXVIII

Cooperative Fire Protection Agreement (August 1955)

Interagency Agreement Between the Bureau of Reclamation and the Bureau of Land Management (December 1982)

American Falls Dissolved Oxygen Requirements

(October 1990 price levels) plus or minus such amounts, if any, as may be required by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the type of construction involved herein".

TITLE XXVII—MONTANA IRRIGATION PROJECTS

SEC. 2701. PICK-SLOAN PROJECT PUMPING POWER.

(a) The Secretary of the Interior, in cooperation with the Secretary of Energy, shall make available, as soon as practicable after the date of enactment of this Act, project pumping power from the Pick-Sloan Missouri River Basin Program (authorized by section 9 of the Act entitled "An Act authorizing the construction of certain public works on rivers and harbors for flood control, and for other purposes" approved December 22, 1944 (58 Stat. 891) (commonly known as the "Flood Control Act of 1944") to two existing non-Federal irrigation projects known as the—

(1) Haidle Irrigation Project, Prairie County, Montana; and

(2) Hammond Irrigation District, Rosebud County, Montana.

Provided, That the two districts are determined by the Secretary of Energy to be public agencies, as that term is used in section 9(c) of the Reclamation Project Act of 1939, 43 U.S.C. section 485h(c).

(b) Power made available under this section shall be at the firm power rate.

TITLE XXVIII—RECLAMATION RECREATION MANAGEMENT ACT

Reclamation Recreation Management Act of 1992.
16 USC 460*l*-31 note.

SEC. 2801. SHORT TITLE.

This title may be cited as the "Reclamation Recreation Management Act of 1992".

16 USC 460*l*-31.

SEC. 2802. FINDINGS.

The Congress finds and declares the following:

(1) There is a Federal responsibility to provide opportunities for public recreation at Federal water projects.

(2) Some provisions of the Federal Water Project Recreation Act are outdated because of increases in demand for outdoor recreation and changes in the economic climate for recreation managing entities.

(3) Provisions of such Act relating to non-Federal responsibility for all costs of operation, maintenance, and replacement of recreation facilities result in an unfair burden, especially in cases where the facilities are old or underdesigned.

(4) Provisions of such Act that limit the Federal share of recreation facility development at water projects completed before 1965 to $100,000 preclude a responsible Federal share in providing adequate opportunities for safe outdoor recreation.

(5) There should be Federal authority to expand existing recreation facilities to meet public demand, in partnership with non-Federal interests.

(6) Nothing in this title changes the responsibility of the Bureau to meet the purposes for which Federal Reclamation projects were initially authorized and constructed.

(7) It is therefore in the best interest of the people of this Nation to amend the Federal Water Project Recreation Act to remove outdated restrictions and authorize the Secretary of the Interior to undertake specific measures for the management of Reclamation lands.

SEC. 2803. DEFINITIONS. 16 USC 460*l*-32.

For the purposes of this title:

(1) The term "Reclamation lands" means real property administered by the Secretary, acting through the Commissioner of Reclamation, and includes all acquired and withdrawn lands and water areas under jurisdiction of the Bureau.

(2) The term "Reclamation program" means any activity authorized under the Federal reclamation laws (the Act of June 17, 1902 (32 Stat. 388, chapter 1093; 43 U.S.C. 371)), and Acts supplementary thereto and amendatory thereof).

(3) The term "Reclamation project" means any water supply or water delivery project constructed or administered by the Bureau of Reclamation under the Federal reclamation laws (the Act of June 17, 1902 (32 Stat. 388, chapter 1093; 43 U.S.C. 371), and Acts supplementary thereto and amendatory thereof).

(4) The term "Secretary" means the Secretary of the Interior.

SEC. 2804. AMENDMENTS TO THE FEDERAL WATER PROJECT RECREATION ACT.

(a) ALLOCATION OF COSTS.—Section 2(a) of the Federal Water Project Recreation Act (16 U.S.C. 460l–13(a)) is amended, in the matter preceding paragraph (1), by striking "all the costs of operation, maintenance, and replacement" and inserting "not less than one-half the costs of operation, maintenance, and replacement".

(b) RECREATION AND FISH AND WILDLIFE ENHANCEMENT.—Section 3(b)(1) of the Federal Water Project Recreation Act (16 U.S.C. 460l–14(b)(1)) is amended—

(1) by striking "within ten years"; and

(2) by striking "all costs of operation, maintenance, and replacement attributable" and inserting "not less than one-half the costs of planning studies, and the costs of operation, maintenance, and replacement attributable".

(c) LEASE OF FACILITIES.—Section 4 of the Federal Water Project Recreation Act (16 U.S.C. 460l–15) is amended by striking "costs of operation, maintenance, and replacement of existing" and inserting "not less than one-half the costs of operation, maintenance, and replacement of existing".

(d) EXPANSION OR MODIFICATION OF EXISTING FACILITIES.—Section 3 of the Federal Water Project Recreation Act (16 U.S.C. 460l–14) is amended by adding at the end the following new subsection:

"(c)(1) Any recreation facility constructed under this Act may be expanded or modified if—

"(A) the facility is inadequate to meet recreational demands; and

"(B) a non-Federal public body executes an agreement which provides that such public body—

"(i) will administer the expanded or modified facilities

is approved by the agency with administrative jurisdiction over the project; and

"(ii) will bear not less than one-half of the planning and capital costs of such expansion or modification and not less than one-half of the costs of the operation, maintenance, and replacement attributable to the expansion of the facility.

"(2) The Federal share of the cost of expanding or modifying a recreational facility described in paragraph (1) may not exceed 50 percent of the total cost of expanding or modifying the facility.".

(e) LIMITATION.—Section 7(a) of the Federal Water Project Recreation Act (16 U.S.C. 460*l*–18(a)) is amended—

(1) by striking "purposes: *Provided,*" and all that follows through the end of the sentence and inserting "purposes"; and

(2) by striking "subsection 3(b)" and inserting "subsection (b) or (c) of section 3".

16 USC 460*l*-33.

SEC. 2805. MANAGEMENT OF RECLAMATION LANDS.

(a) ADMINISTRATION.—(1) Upon a determination that any such fee, charge, or commission is reasonable and appropriate, the Secretary acting through the Commissioner of Reclamation, is authorized to establish—

(A) filing fees for applications and other documents concerning entry upon and use of Reclamation lands;

(B) recreation user fees; and

(C) charges or commissions for the use of Reclamation lands.

Regulations.

(2) The Secretary, acting through the Commissioner of Reclamation, shall promulgate such regulations as the Secretary determines to be necessary—

(A) to carry out the provisions of this section and section 2806;

(B) to ensure the protection, comfort, and well-being of the public (including the protection of public safety) with respect to the use of Reclamation lands; and

(C) to ensure the protection of resource values.

(b) INVENTORY.—The Secretary, acting through the Commissioner of Reclamation, is authorized to—

(1) prepare and maintain on a continuing basis an inventory of resources and uses made of Reclamation lands and resources, keep records of such inventory, and make such records available to the public; and

(2) ascertain the boundaries of Reclamation lands and provide a means for public identification (including, where appropriate, providing signs and maps).

(c) PLANNING.—(1)(A) The Secretary, acting through the Commissioner of Reclamation, is authorized to develop, maintain, and revise resource management plans for Reclamation lands.

(B) Each plan described in subparagraph (A)—

(i) shall be consistent with applicable laws (including any applicable statute, regulation, or Executive order);

(ii) shall be developed in consultation with—

(I) such heads of Federal and non-Federal departments or agencies as the Secretary determines to be appropriate; and

(II) the authorized beneficiaries (as determined by the Secretary) of any Reclamation project included in the plan; and

(iii) shall be developed with appropriate public participation.

(C) Each plan described in subparagraph (A) shall provide for the development, use, conservation, protection, enhancement, and management of resources of Reclamation lands in a manner that is compatible with the authorized purposes of the Reclamation project associated with the Reclamation lands.

(d) NONREIMBURSABLE FUNDS.—Funds expended by the Secretary in carrying out the provisions of this title shall be nonreimbursable under the Federal reclamation laws (the Act of June 17, 1902 (32 Stat. 388, chapter 1093; 43 U.S.C. 371), and Acts supplementary thereto and amendatory thereof).

SEC. 2806. PROTECTION OF AUTHORIZED PURPOSES OF RECLAMATION PROJECTS. 16 USC 460*l*-34.

(a) Nothing in this title shall be construed to change, modify, or expand the authorized purposes of any Reclamation project.

(b) The expansion or modification of a recreational facility constructed under this title shall not increase the capital repayment responsibilities or operation and maintenance expenses of the beneficiaries of authorized purposes of the associated Reclamation project. The term "beneficiaries" does not include those entities who sign agreements or enter into contracts for recreation facilities pursuant to the Federal Water Project Recreation Act.

INTERAGENCY AGREEMENT

BETWEEN

THE BUREAU OF RECLAMATION

AND

THE BUREAU OF LAND MANAGEMENT

December 1982

United States Department of the Interior

BUREAU OF RECLAMATION
PACIFIC NORTHWEST REGION
FEDERAL BUILDING & U.S. COURTHOUSE
BOX 043 - 550 WEST FORT STREET
BOISE, IDAHO 83724 - 0430

IN REPLY REFER TO: PN 420
160.

APR 8 1983

Memorandum

To: Regional Engineer
Regional Environmental Officer
Regional Planning Officer
Chief, Recreation Branch

From: Regional Supervisor of Water, Power and Lands

Subject: Final Interagency Agreement between the Bureau of Reclamation (Reclamation) and the Bureau of Land Management (BLM), Dated March 25, 1983

Attached is a copy of the subject agreement signed on March 25, 1983. This agreement is the result of over 3 years of intensive negotiations and reviews by the Washington office staffs and several reviews by the field staffs.

The agreement provides for cooperative efforts between Reclamation and BLM which should improve the efficiency of land management, enable reimbursement for services rendered to each other, improve management of intermingled lands, and provide for the exchange of a wide range of specific services.

The provisions of this agreement should be implemented immediately in dealing with the BLM.

Please provide RO 400 with comments as to how this new agreement might affect your programs.

Attachment

TABLE OF CONTENTS

Section 1. Purpose: This agreement sets forth the basic principles of the Bureau of Reclamation (Reclamation) and the Bureau of Land Management (BLM) for coordinating land use planning, land resource management, land conveyance and exchange, and cooperative services. It brings coordinated efforts into compliance with recent laws and policies. Reclamation will, when requested, provide expertise in the area of water resources conservation, development and management, to be utilized by BLM in preparing its resource management plans. BLM will, when requested, provide expertise in the areas of land resource, forest, range, oil, gas, and mineral management, to be utilized by Reclamation when preparing its land management plans, and in managing Reclamation administered acquired or withdrawn public lands.

This agreement supersedes the March 8, 1972, agreement. All agreements made supplemental to the 1972 agreement will be reviewed within 5 years, and those that are inconsistent with this agreement will be revised to conform in accordance with section 6 of this agreement or will be cancelled.

Section 2. Authority to Enter into an Agreement: Through delegation of authority from the Secretary of the Interior to the Director of BLM and to the Commissioner of Reclamation, agreements may be executed between Reclamation and BLM to provide for mutually beneficial land and water use planning and management activities. Statutory authority for such agreements includes: section 307, Federal Land Policy and Management Act (FLPMA), 43 U.S.C. 1737; Economy Act, 31 U.S.C. 686; and the Reclamation Act of 1902, 43 U.S.C. Chapter 12, as amended and supplemented.

Section 3. Exchange of Services: Either Reclamation or BLM may request services of and perform services for the other, consistent with law, Executive Orders, the Code of Federal Regulations (CFR), each Bureau's instructions, and this agreement.

Section 4. Reimbursement for Services Rendered: The cost of work performed shall be reimbursable providing such work is not normally performed by the Bureau doing the work, or adequate funding for such work is not provided to that Bureau through the normal appropriation process. The requesting Bureau will transfer funds to the other Bureau to cover the estimated cost of work to be performed. The requesting Bureau will furnish a detailed estimate of the work to be performed. The transfer of funds from one Bureau to the other will be accomplished by the State Director, BLM, and the Regional Director, Reclamation, by means of a journal voucher and effected on the SF-224 by the billed agency in accordance with a specific executed agreement supplemental to this agreement. Except under emergency conditions, no work will be performed which cannot be reimbursed from funds available in the current fiscal year's appropriation. Prior to entering into any supplemental agreements that would require the transfer of funds from BLM to Reclamation, an Economy Act Determination must be prepared and approved by BLM.

Where either Reclamation or BLM has agreed to furnish reimbursable service to the other, the agency requesting the service will supply the other with estimates of the cost of such service, the work to be undertaken, work schedules, and budgetary information necessary for the agency receiving the service request to prepare and support its budget requests for the work involved. Either bureau will assist the other as requested in supporting budget presentations for reimbursable work. Such budgetary information will be provided, whenever possible, 18 months prior to the budget year plus one.

Section 5. Management of Reclamation Withdrawn and Acquired Lands:

A. Reclamation withdrawn and acquired lands on which there are authorized for construction or constructed Reclamation projects.

Reclamation has full management jurisdiction until the withdrawal is revoked or modified, and over acquired lands until the administration is transferred to another Federal or non-Federal agency by agreement or law.

At the request of Reclamation, the responsibility for management of Reclamation withdrawn and acquired lands actively in use for project purposes may be transferred to BLM through the execution of a supplemental agreement. In exercising its management responsibility, BLM will regularly coordinate with Reclamation and undertake only those management activities which would not preclude or adversely affect use of the land for Reclamation project purposes.

B. Reclamation withdrawn lands on which there are no authorized for construction or constructed Reclamation projects.

On Reclamation lands which are not within the boundaries of national forests or under another agency administration and there are no authorized for construction or constructed Reclamation projects, BLM has full administrative responsibility.

In exercising its statutory responsibilities on Reclamation land (such as those relating to the U.S. mining and mineral leasing laws, rights-of-way, and cadastral surveys other than farm-unit surveys, and the Recreation and Public Purposes Act, FLPMA, etc.), BLM, in consultation with Reclamation, shall develop special stipulations, consistent with statutory authority, and terms and conditions, as may be determined necessary by Reclamation, to protect the Reclamation withdrawn and acquired land for Reclamation purposes.

Rights-of-way grants issued for lands to be occupied by Reclamation for project purposes in lieu of a withdrawal will contain a provision for a future agreement specifying management responsibilities.

Section 6. Specific Services Applicable to this Agreement:

A. Withdrawals. All withdrawals will be made, modified, extended, or revoked in accordance with section 204 of FLPMA, and implementing rules and regulations, 43 CFR Part 2300, unless otherwise directed by specific statutes.

Reclamation will file a petition and application for a withdrawal as a method of reserving public lands for project uses when Reclamation: (1) requires administrative and/or management jurisdiction; (2) requires protection for its facilities and project uses against nondiscretionary entries; or (3) intends to transfer administrative and/or management jurisdiction to a third party. Reclamation will apply for a right-of-way for all other uses. In either case, the application will cover no more land than is needed to construct, operate, maintain, and protect Reclamation project uses and will restrict use and entry only to the minimum necessary to protect project interests. When possible, an application will be submitted well in advance of need for the land. Blocking out will be accomplished in accordance with sound real estate and land management practices whenever possible and practical.

A withdrawal to reserve an area for a particular public purpose and/or transfer jurisdiction over surface management and close the lands to nondiscretionary mineral entry and disposal will usually be required for: (1) lands necessary for permanent structures such as dams, reservoirs, large capacity or lined canals, laterals or drains, and powerplants; (2) critical watershed lands on which nondiscretionary mineral entry would likely result in the degradation of water quality; and (3) lands needed for project operation, maintenance and dam safety.

A withdrawal only granting the transfer of surface management jurisdiction and/or reserving the land for a particular public purpose will usually be required for: (1) lands needed to meet present and future fish and wildlife requirements pursuant to the Fish and Wildlife Coordination Act and/or for outdoor recreation as may be authorized by Congress; (2) lands on which sedimentation and/or wave action may occur; and (3) lands necessary for the relocation of roads, railroads, highways and utilities required as a result of project construction or operations.

Rights-of-way will be used where the jurisdiction and protection afforded by a withdrawal is not necessary. Possible examples could include: (1) lands necessary for project works and facilities such as smaller, unlined laterals, drains, pipelines; (2) transmission lines, telephone lines, and roads; (3) lands necessary for operation and maintenance buffers; (4) lands required for scenic areas, open space, greenbelts, etc.; and (5) lands needed for floodplain management.

Within 2 years, or when possible, less, from receipt of a perfected petition or application for a withdrawal or 1 year or less from the

receipt of a perfected right-of-way request, BLM will complete the withdrawal or right-of-way grant process. If the occupancy and use of the land are mandated by law prior to these time limits, or a substantial financial savings will result, BLM and Reclamation will facilitate an accelerated schedule, including an emergency withdrawal or other methods of authorizing Reclamation's entry onto such land.

B. Withdrawal Review. Under the provisions of sections 204(f) and 204(l) of FLPMA, BLM is required to review, near the date of expiration, all withdrawals having a definite expiration date, or in the case of withdrawals made prior to October 1976 having no definite expiration date, the mandated review will be completed prior to October 1991. Reclamation and BLM have established schedules for the review of all Reclamation withdrawn lands by 1991.

Reclamation will propose to convert withdrawals, where appropriate, to rights-of-way in accordance with Section 6.A. herein. The withdrawal will be retained where a right-of-way does not provide Reclamation with: (1) the necessary administrative and/or management jurisdiction to perform all current, planned, and known future project uses; (2) sufficient protection for its facilities and project uses against nondiscretionary entries; or (3) the ability to readily transfer administrative or management jurisdiction to a third party, or to maintain such third party jurisdiction. In any event, the reservation of public land by either a withdrawal or right-of-way shall cover no more land than is needed to permit Reclamation the freedom of use and discretionary action necessary to meet all of its stated and implied statutory requirements to construct, operate, maintain, and protect all Reclamation project uses, and will restrict use and entry only to the minimum degree necessary to protect project interests.

Rejustification of withdrawals will be made according to the guidelines contained in the BLM Manual Part 2355.3.

In addition to the scheduled review of Reclamation's withdrawals, Reclamation will review, according to schedules mutually agreed to at the field level, all of its pending withdrawal applications to determine if Reclamation's purposes could be served as well by a right-of-way. If a right-of-way will serve as well, Reclamation will request the withdrawal application be terminated and replaced with a right-of-way application, or if the withdrawal of lands is still needed, Reclamation will act to perfect the withdrawal application. Reclamation will provide BLM a yearly inventory update of its withdrawn and acquired lands. This updated report will be provided to BLM by November 15 of each year to coincide with Public Land Statistics requirements.

C. Land Sales. When Reclamation requests relinquishment of withdrawn lands, it may recommend sale of those lands to a specific entity or sale on the open market. If BLM determines that the lands are appropriate

for sale under provisions of section 203 of FLPMA or any other authority, BLM will, within legal constraints, honor Reclamation's recommendation.

In accordance with Departmental Manual delegation, at the request of Reclamation, Reclamation and BLM may enter into a supplemental agreement at the field level providing that Reclamation perform a specific land sale under provisions of section 203 of FLPMA. Such a supplemental agreement may additionally provide that Reclamation perform requisite land use planning prior to land sale, subject to BLM approval of Reclamation prepared plans.

D. Exchanges. When Reclamation determines that an exchange of Federal land, either withdrawn or acquired by Reclamation for private land, would be in the best interest of the Federal Government, and Reclamation does not have authority under section 14 of the Act of August 4, 1939 (43 U.S.C. 389), or other direct authority to make such exchange, BLM will, when requested, effect the exchange through its authorities. A supplemental agreement under section 7 of this agreement will be entered into at the field level for each exchange. When Reclamation land to be exchanged is acquired land, Reclamation will prepare a public notice for signature of the Secretary of the Interior and for publication in the Federal Register, which transfers the jurisdiction of the acquired land to BLM, specifically to effect the exchange. Simultaneously with the transfer of jurisdiction over the land to BLM, BLM will publish a notice of realty action as prescribed in 43 CFR 2200.1 and 2200.2 for the proposed exchange segregating the lands involved from operation of the public land laws including the mineral laws. The exchange will be consummated by BLM within 2 years. Reclamation will be responsible for all land appraisals and preparation of legal description and transfer documents. Lands received by BLM in any such exchange will be transferred to Reclamation's jurisdiction in a mutually agreed to form utilizing a right-of-way or withdrawal.

E. Reservation of Rights-of-way. When Reclamation proposes to relinquish a withdrawal, or to otherwise dispose of withdrawn land under Reclamation's direct jurisdiction and management on which Reclamation needs or anticipates a need for a right-of-way, Reclamation will, when available, provide to BLM field reports, drawings, and descriptions of any rights-of-way reserved across this land under subsection 4-P of the Factfinders Act of 1924 (43 U.S.C. 417). When mineral entry is requested on Reclamation's withdrawn land, an opening may be granted under the Act of April 23, 1932 (43 U.S.C. 154), and necessary rights-of-way may be reserved, with any conditions or terms of use necessary to protect Reclamation's interests in the land or which have resulted from interagency consultation. Rights-of-way not meeting the criteria of the above laws will be reserved under section 507 of FLPMA.

F. Granting Rights-of-way. Reclamation will, within its discretion, authority, and rules (section 10 of the Act of August 4, 1939, 43 U.S.C. 387 and section 28 of the Mineral Leasing Act of 1920, as amended), be

responsible for reviewing requests and granting rights-of-way across its withdrawn and acquired land and facilities (see section 5.A.). Reclamation will furnish BLM's respective State Director with a copy of all grants on withdrawn lands, including maps, which it issues, to be recorded on BLM's Master Title Plats.

When land under this or any other agreement is managed by a third party, Reclamation will coordinate with that party before issuing rights-of-way that would interfere with the activities of the managing party. On all rights-of-way for which Reclamation lacks authority to make a grant, BLM will issue the grant on all withdrawn or acquired lands, after consultation with Reclamation. Such consultation shall include: (1) questions of whether grant should or should not be granted; (2) modification of location of grant from the location applied for; and (3) terms and conditions and stipulations of the grant.

G. Making of Planning Studies and Engineering Investigation on Public Lands. Under the provisions of section 307(a) or other legal authority, Reclamation may enter onto the public lands to make studies and investigations necessary for project purposes, as required or authorized by Congress. Such studies and investigations will be fully coordinated with the BLM to ensure minimum disruption of ongoing programs.

H. Mineral and Geothermal Leases. Except for those minerals and conditions meeting the provisions of section 10 of the Reclamation Projects Act of 1939 (43 U.S.C. 387), leases for mineral, and geothermal resources on all land acquired or withdrawn by Reclamation will be issued by BLM. Applicants for mineral and geothermal leases on such land should be directed to file their applications with BLM's State offices. BLM will, in all issues involving mineral, and geothermal leases on or under Reclamation lands; request that Reclamation determine whether leasing is permissible and if so to provide any stipulations required to protect the interest of the United States. Reclamation will respond to this request for mineral leasing clearance within 60 days when adequate records are readily available. When adequate records are not available, Reclamation will provide an interim progress report within 30 days. BLM will not issue permits, leases, or licenses on acquired or withdrawn lands under Reclamation's management without Reclamation's consent and concurrence on all conditions and stipulations. Reclamation's recommendations on withdrawn lands under BLM management responsibility are advisory only insofar as Reclamation planned or current project uses are not adversely affected.

I. Cadastral Survey. BLM will conduct, on a reimbursable basis, cadastral surveys, resurveys, and investigations on existing and future projects in accordance with: (1) jointly agreed to schedule, provided that Reclamation will notify BLM of needs in sufficient time for it to incorporate the work into its authorized work programs; and (2) Reclamation provides the funds. If BLM is unable to accomplish a cadastral survey within Reclamation's time limits, BLM will perform the work on a

Upon completion of the validity examination, BLM will notify Reclamation of the findings and recommendations. Where BLM believes mining claims are not supported by discovery, BLM will initiate a contest action and will report to Reclamation on the results of such actions.

N. Recreation. When the management of Reclamation withdrawn or acquired land not located within or adjacent to a National Forest is with Reclamation in accordance with section 5 of this agreement, unless otherwise authorized by Congress, Reclamation's recreation planning, development, and management will be in accordance with Public Law 89-72 (79 Stat. 213). Reclamation will encourage non-Federal public bodies to manage recreation associated with Reclamation's land and water areas. When a non-Federal recreation manager cannot be found, Reclamation will discuss with BLM the option of BLM managing recreation on Reclamation project lands. Supplemental agreements will, if necessary, be utilized to determine the management responsibility and funding reimbursement. The two agencies will assure coordination and cooperation to promote compatibility of recreation development and operation (including compatible recreation fee structure) on adjacent Reclamation/BLM lands. When Reclamation plans recreation development on project lands, it will consider recreation use and recreation potential of BLM administered lands that are adjacent to Reclamation project lands. When BLM plans recreation development on lands adjacent to Reclamation project lands, it will consider recreation use, recreation potential, and previously developed Reclamation recreation plans for authorized or constructed Reclamation projects. If BLM prepares plans or management actions that could alter recreation potential of a Reclamation project that is not yet constructed, BLM will consult with Reclamation.

O. Fish and Wildlife Mitigation and Enhancement. Each agency will coordinate with the other when its plans and activities involve fish and wildlife resources and values related to lands administered by the other. Where water-related projects of either agency involve meeting the requirement of the Fish and Wildlife Coordination Act (FWCA), the agency initiating the action will ensure that the coordination and other requirements of the FWCA are met. Plans for the management of wildlife resources on lands of interest/concern to both agencies shall be developed jointly with the State under authority of the Sikes Act (16 U.S.C. 670 a-f). Management of the lands will be specified in a habitat management plan (HMP) developed for the area. The HMP will become part of Reclamation's land resources management plan for the area. Where a supplemental agreement executed for the specific Reclamation project provides for BLM's implementation of the approved mitigation plans, Reclamation will transfer the funds necessary to enable BLM to carry out its agreed to efforts. State funding and participation will be as specified in supplemental agreements between the agencies cooperating on the specific project, and in accordance with BLM's existing memorandum of understanding with the concerned State wildlife agency. Cooperative programs of both agencies shall be implemented by the State Director and the Regional Director in accordance with the management plan for the project. BLM will be

responsible for funding such projects on its lands or on Reclamation lands where no Reclamation project is planned, and on which withdrawals have not been revoked. Reclamation will provide funding for wildlife management related plans/activities/projects on the withdrawn public lands whenever such plans/activities/projects are for the purpose of mitigating the impacts of Reclamation projects.

P. Environmental Impact Analyses and Statements. All actions taken pursuant to this agreement concerning environmental matters will conform to the requirements of the Council on Environmental Quality regulations, 40 CFR Parts 1500-1508, 516 DM-1-7, the Bureau of Reclamation National Environmental Policy Act (NEPA) Handbook, and BLM Guidebooks 1791 and 1792. The agency (BLM or Reclamation) initiating the action which requires NEPA compliance will be the lead agency.

Where BLM or Reclamation proposes an action in an area where both Bureaus have responsibility or interest, the two Bureaus will cooperate in the preparation of the appropriate environmental analysis and, where necessary, the lead agency as defined above will prepare the categorical exclusion checklist, environmental assessment, FONSI, or EIS.

Cultural resource protection and management matters will conform to applicable sections of 36 CFR 60, 63, and 800; Reclamation Instructions Part 376.11 and BLM Manuals 8100, 8110, and 8111.

Q. Planning Program. If either agency proposes to prepare a plan or undertake a study involving lands administered by or affecting the interests of the other agency, the agency proposing to conduct the study will provide notice to the affected agency at the time when it is proposed. The agencies shall fully coordinate their plans and studies allowing ample time for budget considerations. When appropriate, the planning agency's plans may be adopted by the other agency as an amendment to its own land use or resource management planning document. Provisions of 43 CFR 1600 and other appropriate authority will be utilized in revising, amending, or preparing planning or study documents.

Inconsistencies between the plans of the two agencies will be addressed as prescribed by the planning authority of each agency. Differences unresolved through negotiation will be referred to the Assistant Secretary - Land and Water Resources for action as deemed appropriate.

In the preparation of all planning documents, BLM will serve where practicable and legal as the primary supplemental source of expertise for various areas of multiple use land management when so requested by Reclamation. Reclamation will serve where practicable and as requested by BLM as the primary source of expertise in the planning, management, and development of water resources. This does not replace or supplement earlier agreements which either agency has with third parties.

R. Engineering and Technical Services. BLM State Directors may, at any time, request Reclamation Regional Directors for service in connection with the planning, investigation, design, inspection, construction, repair, or rehabilitation of engineering works, including activities under emergency conditions. There is one exception to this procedure. In accordance with DM 753 1.3c, requests for services related to dam safety will be initiated by BLM's Dam Safety Officer, Denver Services Center, or Chief, Division of Engineering, Washington; and submitted to the Reclamation Dam Safety Officer, Engineering and Research Center, Denver, or to the Commissioner, Washington. Requests may be for inspection, site investigations, and other exploratory work necessary to provide projects of a reconnaissance grade, or feasibility grade, with sufficient technical details and costs estimates to support BLM's budget requests.

Requests for engineering services will be made by letter from the State Director to that Regional Director responsible for the area in which BLM's works needing services are located. To the extent practical, such requests shall be made 18 months prior to the budget year plus one, or as early as possible to permit coordination with Reclamation work programs. The requests shall specify the following:

a. Job requirements;
b. Nature of the work to be done;
c. Extent of engineering and other services to be performed;
d. Schedules to be met; and
e. Budgetary information.

Where construction work which will cost over $1,000,000 and will extend over more than one fiscal year includes the issuance of invitations to bids and specifications for construction is to be undertaken by Reclamation for BLM, a separate supplemental agreement covering such work, and the record of its financing, shall be executed between the State Director of BLM and the Regional Director of Reclamation. Reimbursement shall be made promptly upon receipt of information or a detailed statement of cost. Such budgetary information will be supplied, whenever possible, 18 months prior to the budget year plus one. The indirect costs charged for work performed by Reclamation or BLM shall include supportable overhead costs associated with work performed under this agreement and based on the guidelines established in part 346, DM 3.4 of the Departmental Manual. These costs shall not be calculated by using arbitrary factors.

S. Wild and Free-Roaming Horses and Burros. When wild and free-roaming horses or burros inhabit areas crossing administrative boundaries between BLM and Reclamation, their management and protection will be the responsibility of BLM, under its regulations. Upon request from Reclamation, BLM will cooperate in the removal, and relocation or disposal, of such animals from Reclamation lands (see section 5.A.).

T. Salinity Control on Public Land. Each agency will coordinate with the other when its plans and activities involve salinity control efforts in the Colorado River Basin which relate to or affect the other's management responsibilities or the lands administered by the other. Coordination at the field administrative/technical level will be accomplished through Federal interagency Salinity Control Coordinating Committee, and supplemental agreements as needed, by the appropriate State Directors and Regional Directors.

U. Computer Service. Whenever either agency has computer programming, time, or other service, which would be of use to the other agency, and such service is requested, the agency having the desirable program, time, or other service, will, within its time and personnel constraints, provide, on a reimbursable basis, the program, time, or service to the requesting agency. Whenever computer stored information of either agency is compatible with the other agency's computer, and would be of use to the other agency, arrangements will be made for automatic, compatible transfer of such information.

V. Discrepancies in Policy. Where agency differences in policy exist, as described in policy documents and papers of the BLM or Reclamation, the policy of the agency having primary jurisdiction over the lands will prevail.

W. Hydrometeorological Data Collection. Requirements for the collection of hydrometeorological data on BLM lands, including wilderness areas, or wilderness study areas, will be determined mutually in order to establish correlation networks with gages outside such areas to enhance scientific study, or weather modification, to improve water supply forecasting, and for public safety in flood forecasting and flood control operations. Agreement for installation of hydrometeorological data collection devices will be accomplished through the BLM consultation and permit process. Hydromet stations may be placed and maintained within primitive areas, wilderness areas, or wilderness study areas administered by BLM only where approved by BLM, and will be placed and maintained in a manner prescribed by BLM.

X. Road Maintenance. When administratively controlled roads extend across boundary lines between BLM and Reclamation lands, then the agency offices are encouraged to develop local supplemental agreements for exchange of maintenance activities. The purpose of this is to improve efficiency by combining similar or like work across administrative boundaries. All maintenance activities should be accomplished in such a manner so as to protect the environment and performed to a standard that places user safety at the forefront.

Y. Other Specific Services. This agreement may be amended or modified at any time, upon mutual concurrence, to cover any service or requirement overlooked, or developing in the post-signing period. Amendments must be initialed by both agency heads or their designees to become effective.

Section 7. Supplemental Agreements: Supplemental agreements may be entered into by a BLM State Director and a Reclamation Regional Director to implement this master agreement. Those supplemental agreement needs identified within this master agreement that directly affect project authorization will be completed during the planning stage for the project.

Section 8. Implementation: This agreement is effective upon signature of the heads of both agencies. A copy of this agreement will be distributed by each agency to each State and Regional Director.

Section 9. Renegotiation: This agreement is renegotiable at the option of either party.

Section 10. Termination of Agreement: This agreement may be terminated upon mutual agreement or upon 90 days written notice of either party.

Commissioner, Bureau of Reclamation — Date

Director, Bureau of Land Management — Date 3/25/83

COOPERATIVE FIRE PROTECTION AGREEMENT BETWEEN
REGION 1, BUREAU OF RECLAMATION AND
STATE SUPERVISOR FOR THE STATE OF IDAHO
BUREAU OF LAND MANAGEMENT
DEPARTMENT OF THE INTERIOR

Contract No
14-06-100-796

THIS AGREEMENT, made this 17th day of August, 1955, between the United States Department of the Interior, Bureau of Land Management, hereinafter referred to as BLM, acting by and through its State Supervisor for the State of Idaho, located at Boise, Idaho, and the United States Department of the Interior, Bureau of Reclamation, hereinafter referred to as Reclamation, acting by and through its Regional Director, Region 1, Boise, Idaho,

WITNESSETH, THAT:

2. WHEREAS, the parties hereto agree it is necessary to provide fire protection to the resources on lands under the administrative jurisdiction of BLM and adjacent lands under the administrative jurisdiction of Reclamation; and

3. WHEREAS, BLM has facilities for and now provides such protection on lands under its administrative jurisdiction; and

4. WHEREAS, the parties hereto agree that protection of lands under the jurisdiction of both agencies can more efficiently and economically be provided by BLM; and

5. WHEREAS, Title VI of the Act of Congress approved June 30, 1932 (47 Stat. 417, 31 U.S.C.A. 686) makes provisions for such cases as herein stipulated and agreed, and the agreement of the parties hereto in all respects meets the qualifications set forth in said Title VI;

NOW, THEREFORE, the parties hereto agree as follows:

6. BLM shall provide fire protection for lands under administrative jurisdiction of Region 1 of Reclamation in the same manner as BLM provides such protection for lands under its administrative jurisdiction. Such protection shall be limited to lands on which agreement is reached in accordance with Article 8 below.

7. Fifteen months in advance of the fiscal year concerned (by April 1 of each year) BLM and Reclamation will agree upon the acreage of Reclamation lands to be protected during the fiscal year concerned and will reach tentative agreement on estimated rates per acre for such protection. Reclamation will request an allocation of Soil and Moisture Conservation funds based on the results of this estimate.

8. After July 1 of each year when Reclamation has received its allotment advice on the availability of Soil and Moisture Conservation funds, it will advise BLM of the money to be made available for fire protection and final notice of lands to be protected under the agreement will be worked out. Upon such notice BLM will prepare and submit to Reclamation Forms 1080 and 1081 for transfer of funds.

9. Nothing herein contained shall be understood to impair the right of BLM or Reclamation to recover the cost of suppression and damages on account of fires resulting from the negligent, wilful or unlawful act of any individual on or adjacent to the lands covered by this agreement, or impair any other rights of similar nature under applicable State or Federal laws.

10. Reclamation shall have full and free access to BLM records pertaining to this agreement.

11. This agreement shall be effective on its approval and shall continue in effect from year to year, unless terminated by Reclamation or BLM during the period November to February inclusive of any year by thirty (30) days notice by either party to the other, or by mutual agreement, at any time. Such termination will not affect the protection of or payment for such protection under the terms of this agreement in the fiscal year in which notice of termination is given.

12. BLM assumes no responsibility for any damage which may be occasioned by any fire or the suppression thereof on or spreading to the land included in this agreement.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed the day and year first above written.

BUREAU OF LAND MANAGEMENT

Date August 3, 1955

By _____
State Supervisor for the
State of Idaho

BUREAU OF RECLAMATION

Date August 17, 1955

By _____
Acting Regional Director, Region 1

BEFORE THE IDAHO BOARD OF HEALTH AND WELFARE

THE STATE OF IDAHO, Department of Health and Welfare, Complainant, vs. IDAHO POWER COMPANY, a Maine corporation, and AMERICAN FALLS RESERVOIR DISTRICT, Respondent.	)	Docket No. 79-9 STIPULATION AND AMENDED CONSENT ORDER

STIPULATION

COMPLAINANT, by and through John J Hockberger, Jr., Deputy Attorney General, and Respondents Idaho Power Company, by and through Paul L Jauregui, General Counsel, and American Falls Reservoir District, by and through John M Barker, President, hereby stipulate to the following facts and, furthermore, agree to the terms of the Amended Consent Order which follows this stipulation of facts.

1. On June 2, 1980, the Board adopted a Consent Order in this case. That Order was based on a Stipulation between the parties also entered on June 2, 1980.

2. The Stipulation of June 2, 1980 is incorporated by this reference as a basis for Board action on the following Amended Consent Order.

3. The June 2, 1980 Stipulation and Order provided for a dissolved oxygen (DO) monitor on the downstream face of the American Falls Power Plant (Monitor No 1) and a second DO monitor anchored near the middle of the Snake

River approximately three hundred (300) feet downstream from the American Falls Dam (Monitor No 2).

4. Readings from Monitor No 1 were to be used to determine if there was a low DO problem during the winter when Monitor No 2 was not required to operate. If the readings from Monitor No 1 revealed a DO problem, Monitor No 2 was to be installed within twenty-four (24) hours.

5. Readings from Monitor No 2 were to be used to calculate compliance with §1-2276 of the Idaho Water Quality Standards, "Dissolved Oxygen Standard for Waters Discharged from Dams, Reservoirs, and Hydroelectric Facilities".

6. Experience with Monitor No 1 and Monitor No 2 over the past three years has suggested the need for a better arrangement.

(a) Monitor No 1 produces data that is not representative of river water quality.

(b) Because of its location, Monitor No 2 must be powered by batteries and use a radio transmitter to report its readings. These features require excessive maintenance and have a negative effect on the reliability of the system. Monitor No 2 must be serviced by boat, a difficult and sometimes dangerous proposition.

7. The Amended Consent Order makes two substantive changes in the provisions of the June 20, 1980 Order with the objective of improving reliability and accuracy of DO monitoring below the American Falls Replacement Dam.

(a) Under the Amended Consent Order, Monitor No 1 would be removed and three penstock monitors, P1, P2 and P3, one located in each of the three penstocks would be used in its place. These

monitors would measure the DO of waters entering the power plant throughout the year. The monitors are already installed and operational, and are used primarily to provide information to assist plant operators in the operation of both the plant and the water quality facilities during periods of low DO. By virtue of their locations, the Penstock Monitors are capable of providing a representative, accurate, and reliable DO measurement of waters entering the power plant.

(b) Also under the Amended Consent Order Monitor No 2 would be moved to a new location nearer the north bank of the Snake River downstream of the power plant, within the monitoring zone shown on the attached map, Amended Addendum A.

At its new location, the monitor would be redesignated as River Monitor SR1. Monitor SR1 would be mounted on a permanent, fixed monitoring platform attached to the riverbank and extended out into the river approximately 20 feet. The platform would provide ready access to the monitor for operation and maintenance, and would allow a hard wire connection from the monitor to the recorder in the powerhouse.

8. All parties to this stipulation expect that relocation of the DO compliance monitor to the SR1 location will result in representative DO readings comparable in value to those taken at the existing Monitor No 2 location, but with improved accuracy, reliability, and safety.

9. In accord with this Stipulation and the Stipulation of June 2, 1980, and consistent with Water Standards Section 1-2276, respondents voluntarily and willingly waive their right to trial or board adjudication of these

facts, and voluntarily and willingly agree to be bound by the following Amended Consent Order of the Idaho Board of Health and Welfare entered under the authority of Idaho Code Section 39-108, without formal notice, hearing or other procedures provided by Idaho Code Sections 39-108 and 67-5201 to 67-5218.

DATED this 4th day of July, 1983.

JOHN J. HOCKBERGER, JR.
Deputy Attorney General

~~JOHN H BARKER, President of~~
American Falls Reservoir District
MERL E. LEONARD, Vice-Presidе...

PAUL L. JAUREGUI
Attorney for Idaho Power Company

AMENDED CONSENT ORDER

Based upon the foregoing Stipulation of the parties hereto, the Board hereby ORDERS, ADJUDGES AND DECREES that the following shall supercede its Consent Order in this matter dated June 20, 1980.

After the Idaho Department of Health and Welfare filed its complaint herein, the parties cooperated in the development of a dissolved oxygen (hereinafter "DO") monitoring plan for waters of the Snake River below the American Falls Replacement Dam and Power Plant. The parties have stipulated to certain facts, including the occurrence of several measurements of DO of less than the state standard in waters below the American Falls Replacement Dam and Power Plant during the summer periods prior to the installation of the

aspirators in 1979, and have waived all formal procedures to which they are entitled by law, signifying they desire this Board to enter a final order.

The Idaho Board of Health and Welfare finds the provisions of the parties' proposed order are adequate to meet the DO requirements of Water Quality Standards and Wastewater Treatment Requirements (hereinafter "Water Standards"), and further finds each of the parties' stipulated facts and incorporated them herein.

Therefore, without adjudication of any questions of law or fact, but upon the parties' stipulated facts and good cause appearing therefore;

IT IS HEREBY ORDERED AND THIS DOES ORDER:

I

COMPLIANCE WITH DISSOLVED OXYGEN STANDARD

Respondents shall, in accordance with House Concurrent Resolution No 44 adopted by the Idaho Legislature on March 5, 1980, comply with the dissolved oxygen (DO) standard of 6 mg/l for Snake River water below the American Falls Replacement Dam and Power Plant; provided, that during the period beginning on May 15 and ending on October 15, respondents shall comply with a DO standard of 5 mg/l for such waters. Respondents shall use the installed aspirators, and when required, the bypass of water around the power plant to maintain the DO content of Snake River waters below the American Falls Replacement Dam and Power Plant in compliance with those standards. Respondents shall effect all reasonable mitigating measures in the shortest reasonable period of time when the DO concentration is below the applicable standard, with particular attention to complying with the applicable standard continuously during seasonal periods of oxygen depression.

II

INSTALLATION OF DO MONITORS

Respondents have installed four DO monitors which shall be operated as follows:

(a) Penstock Monitors - P1, P2 and P3. One Penstock Monitor shall be installed for each of the three penstocks at the project. These monitors shall continuously measure the DO concentrations of the waters entering the power plant. The Penstock Monitors shall be operated on a year-round basis, and minimum daily DO concentrations shall be reported to the Pocatello office of the Department of Health and Welfare, Division of Environment, by the 15th day of each month. Daily written records will be furnisned to the department upon request.

(b) River Monitor SR1 - SUMMER LOW DO PERIOD OPERATION. River Monitor SR1 shall be located a minimum of eighteen (18) inches below the surface of the river at a location approved by the Division of Environment, Department of Health and Welfare, within the monitoring zone shown on the Addendum hereto and shall be operated between May 15 and October 15. This monitor shall be located so as to be free from effects of any nearby artificial influences on DO measurement . Monitor SR1 shall be capable of taking and recording readings at ten (10) minute intervals each hour and six (6) consecutive readings shall be averaged to determine hourly averages. Minimum hourly average DO concentrations measured by Monitor SR1 each day between May 15 and October 15 shall be reported to the Department of Health and Welfare, Division of Environment, at the Pocatello Office, monthly, by the 15th of the following month. Daily written records will be furnished to the department upon request. During periods when the hourly averages are less than the applicable standard

for two (2) or more consecutive hours, the Division of Environment, Pocatello office, shall be notified by respondents as soon as possible during the working day. At the time of notice, respondents shall submit a description of remedial actions taken to meet the applicable DO standard. Respondents shall also submit a copy of the ten (10) minute DO readings from Monitor SR1 for the day(s) on which the reported low DO readings occurred.

(c) River Monitor SR1. WINTER OPERATION. Between October 15 and May 15, when the power plant is generating electric energy, respondents shall use mitigating measures when DO as measured at any Penstock Monitor is below the applicable standard for two (2) consecutive hours. In such event, respondents shall also install the River Monitor SR1 as soon as practicable during the following twenty-four (24) hours. Mitigating measures shall include aspiration and, when required in order to meet the applicable standard, bypass of waters. A violation in accordance with Paragraph III hereof shall not be charged until the average hourly DO at the River Monitor SR1 is below the applicable standard for four (4) or more consecutive hours.

III

DEFINITION OF VIOLATION

(a) An hour of DO deficiency shall be deemed to have occurred when the average of six (6) consecutive ten (10) minutereadings from River Monitor SR1 indicates that the DO content is below the applicable standard. Four (4) or more consecutive hours of DO deficiency shall constitute a violation of the standard and of this order, except as provided by Paragraph (b) below.

(b) A period of four (4) consecutive hours of DO deficiency shall not constitute a violation when it occurs as a result of a water quality facility test conducted as previously approved by the Division of Environment.

Idaho Department of Health and Welfare. Respondents may apply for approval of a test plan by submitting a written request to the Division of Environment in advance of the proposed test dated. Such requests shall include the following information:

(1) the date on which the test is to commence;

(2) the purpose of the test;

(3) the specific facilities to be tested;

(4) the procedures, such as supplemental monitoring, to be used in the test;

(5) the duration of the test;

(6) foreseeable water quality impacts from the test; and

(7) Such additional information as the division may require.

Completed requests will be reviewed by the division and either denied, approved with conditions, or approved as submitted. Approval with conditions may be predicated upon incorporation into the test plan of conditions considered necessary to protect downstream water uses.

IV

SPARE MONITOR

The Respondents shall keep one spare replacement for Monitor SR1 in good operating condition to be used if a malfunction of Monitor SR1 occurs.

V

RELOCATION OF MONITORS

The Division of Environment, Department of Health and Welfare, may, upon written request by the Respondents, and if the division determines there is adequate justification based on actual operating conditions, allow the adjustment of any monitor location.

VI

BYPASS

Respondents shall obtain written agreement with the United States Bureau of Reclamation to accomplish bypass in accordance with this order and supporting Stipulation, and such agreement shall be consummated as soon as reasonably possible. Failure to obtain an agreement does not abrogate the responsibility of Respondents to meet the DO standards as approved by the 1980 Idaho Legislature. A copy of said agreement shall be sent to the Department of Health and Welfare when available. The verbal agreement currently in effect to accomplish bypass shall be continued until a written agreement can be agreed upon.

VII

NO RESPONSIBILITY IF NO POWER GENERATION

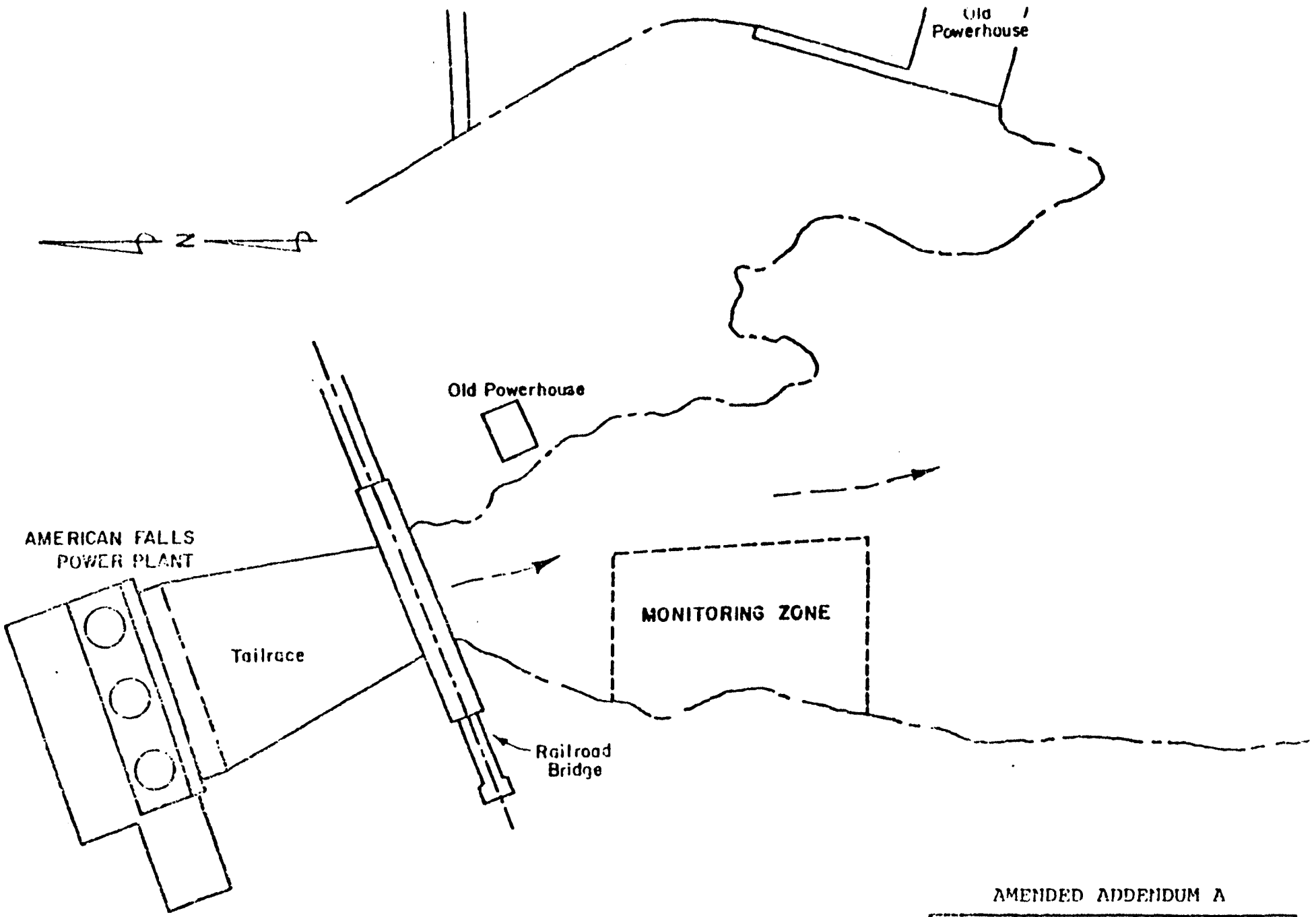
Respondents shall have no responsibility under this order as to dissolved oxygen below the American Falls Replacement Dam and Power Plant when water is not being used for generation at the power plant below the American Falls Replacement Dam.

AS AMENDED this 8th day of July, 1983.

IDAHO BOARD OF HEALTH AND WELFARE

ATTEST:

Secretary to the Board



AMENDED ADDENDUM A

AMERICAN FALLS PROJECT
DISSOLVED OXYGEN
MONITORING ZONE

Jerome, Idaho
June 3, 1983

The Board of Directors of the American Falls Reservoir District, Idaho, met in regular public session at the regular meeting place of the Board at 1035 North Lincoln, Jerome, Idaho, on June 3, 1983 at 10:00 o'clock a.m., with the following persons present:

Merl E. Leonard	Vice-President
Russell Woolley	Member
Armin Schroeder	Member
Tom Olmstead	Member/Treasurer
Frank W. Graves	Member
Dale Depew	Member

Absent:

John M. Barker	President

There was also present John A. Rosholt, attorney for the Board and Ella M. Mink, Secretary to the Board.

After the minutes of the preceding meeting had been read and approved, and after discussion, it was moved by Director Woolley, seconded by Director Graves, and unanimously carried that the following resolution be adopted:

WHEREAS, it is in the best interest of the District that a Stipulation and Amended Consent Order (a copy of which is attached hereto as Exhibit "A") pertaining to the operating criteria for water quality at the American Falls Project be executed as necessary, by the District and forwarded to the Idaho Department of Health and Welfare Board of Directors.

WHEREAS, the attached Stipulation and Amended Consent Order has been reviewed and approved by the District's counsel;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the American Falls Reservoir District, meeting in regular session this 3rd day of June, 1983, that the President or Vice-President hereof be authorized to execute the Stipulation and Amended Consent Order and forward the same to the Idaho Department of Health and Welfare, Board of Directors.

(Other business not pertinent to the above appears in the minutes of the regular meeting of the Board.)

Upon motion duly made, seconded, and unanimously carried, the meeting was adjourned.

/s/ Merl E. Leonard
Merl E. Leonard, Vice-President

ATTEST:

/s/ Ella M. Mink
Ella M. Mink, Secretary

STATE OF IDAHO)
) ss.
County of Twin Falls)

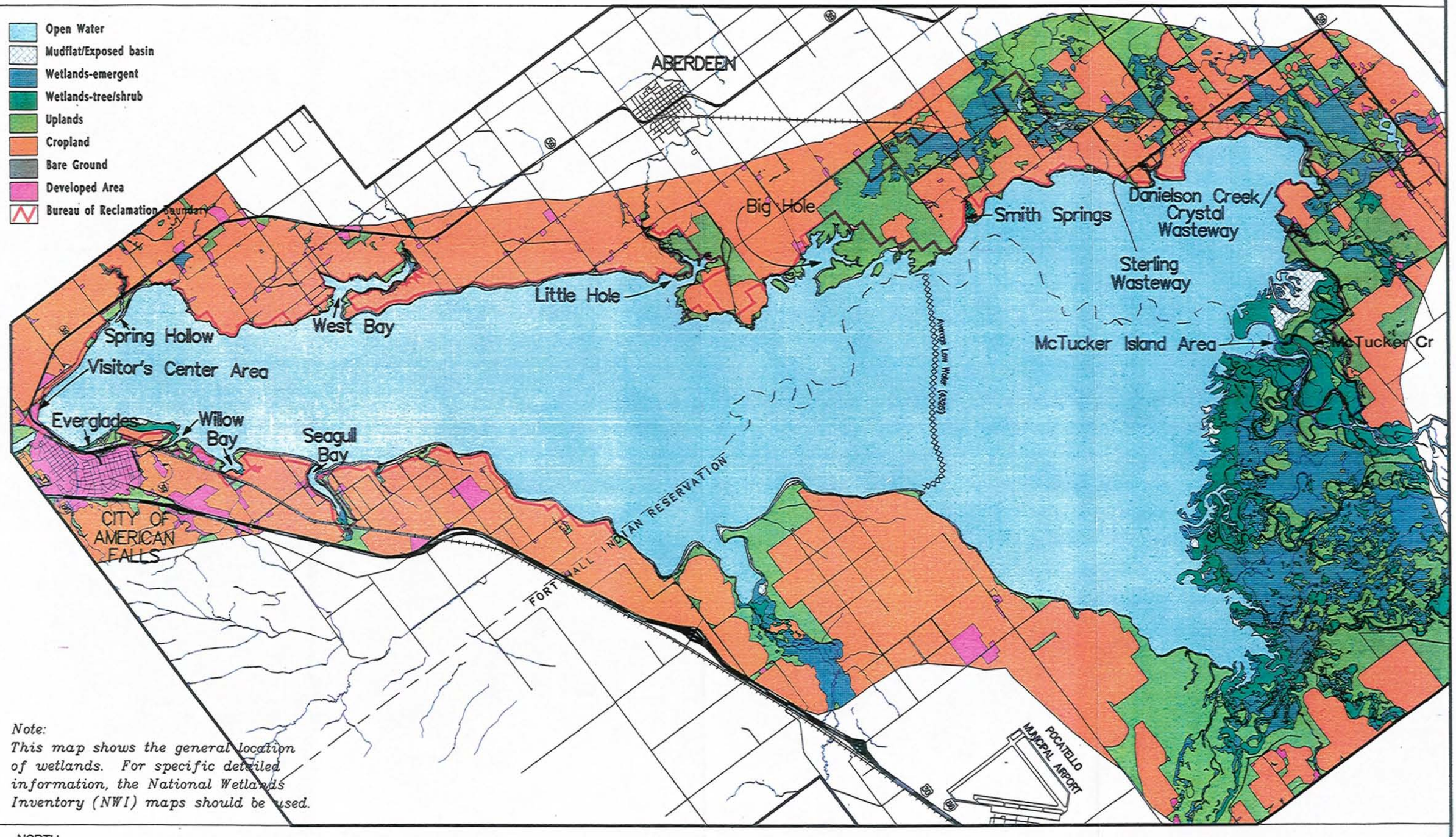
I, Ella M. Mink, do hereby certify that I am the duly qualified and acting Secretary of the Board of Directors of the American Falls Reservoir District, Idaho.

I further certify that the foregoing constitutes a true and correct copy of the minutes of the meeting of the Board of Directors of said District held at the regular meeting place of said Board on June 3, 1983, including the resolution adopted at said meeting, all as recorded in the regular official book of minutes of the proceedings of said board, kept in my office, insofar as the same refer to or concern said resolution, that said proceedings were duly had and taken as herein shown, that the meeting therein shown was in all respects called, held and conducted in accordance with law, and that the persons therein named were present at said meeting, as therein shown.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the American Falls Reservoir District, State of Idaho, this 3 day of June, 1983.

Ella M. Mink
Secretary

(SEAL)



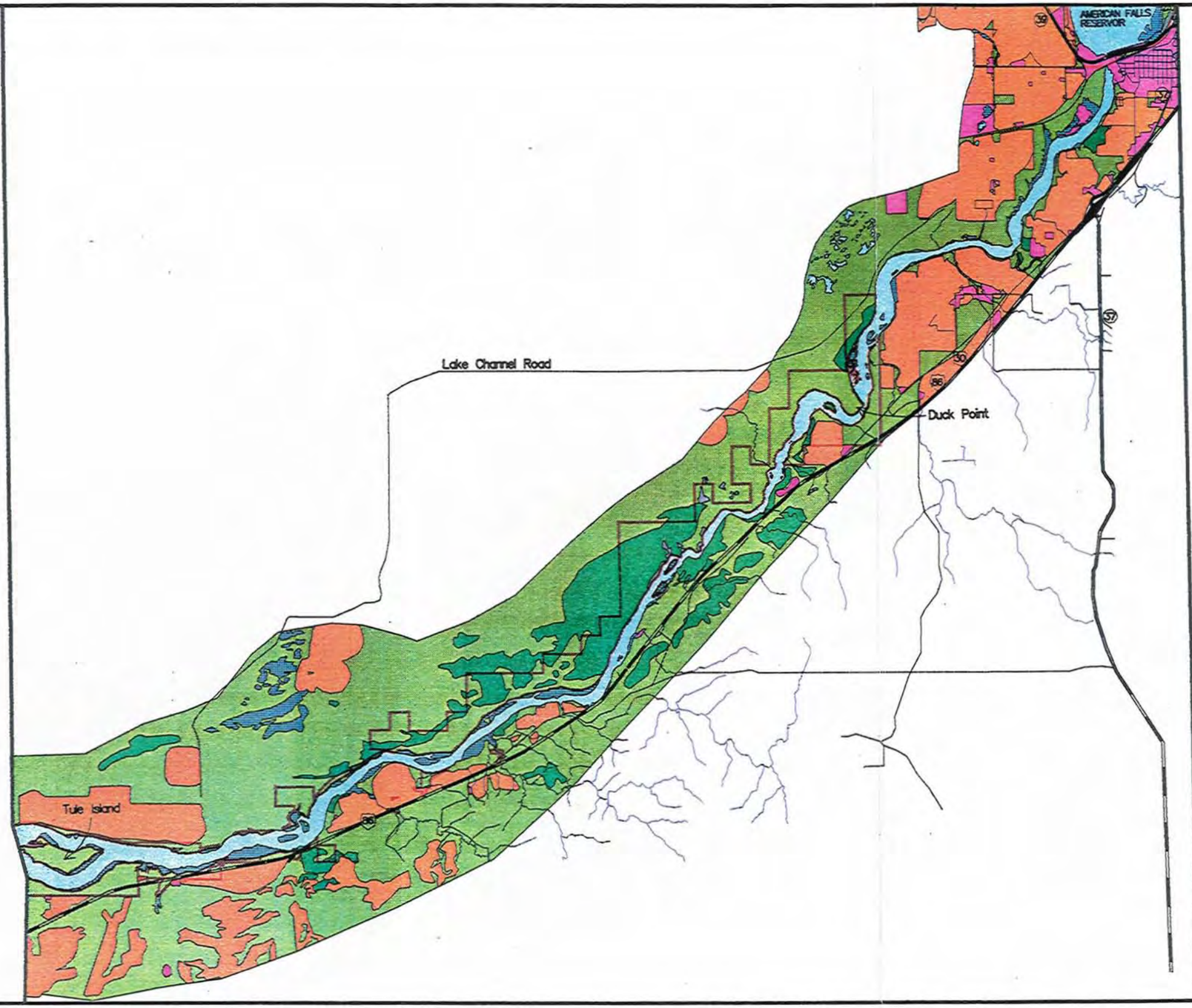
Note:
This map shows the general location of wetlands. For specific detailed information, the National Wetlands Inventory (NWI) maps should be used.

Exhibit 1

Land Status - Reservoir

AMERICAN FALLS

- Open Water
- Wetland/Riparian Area
- Juniper Woodlands
- Grass/Sagebrush Uplands
- Cropland
- Bare Ground
- Developed Area
- Bureau of Reclamation Boundary



Note:
This map shows the general location of wetlands. For specific detailed information, the National Wetlands Inventory (NWI) maps should be used

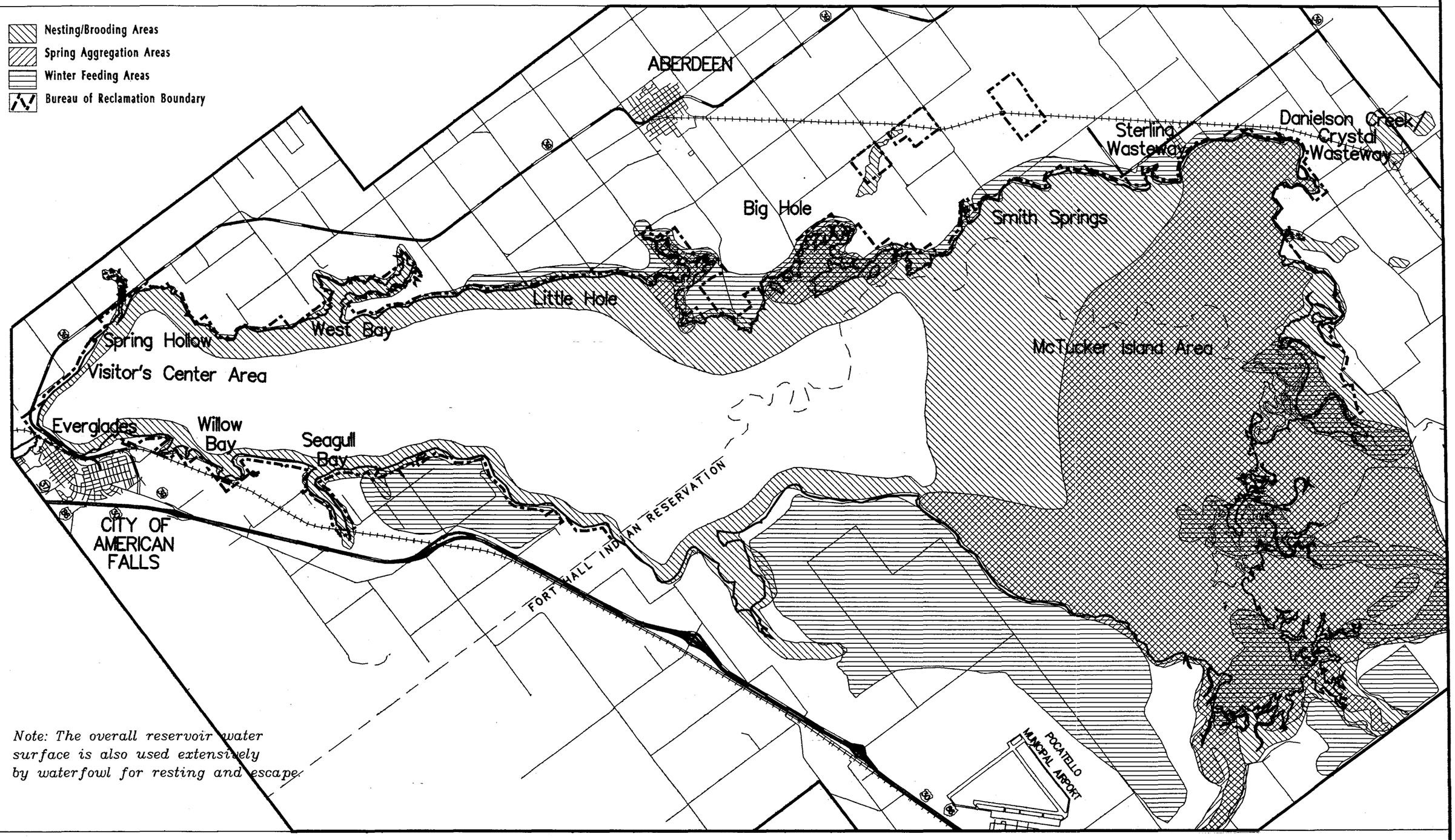
NORTH

MILES

.5 0 1 2 3

Exhibit 2

Land Status - River



Note: The overall reservoir water surface is also used extensively by waterfowl for resting and escape.

Exhibit 3

Land Cover - Reservoir

AMERICAN FALLS

Shorebird Aggregations
Proposed Western Hemisphere Shorebird Reserve Network
Heron Rookery
Bank Swallows Habitat (largest colony on reservoir)
Breeding Gulls - California Gulls & Ring-billed Gulls
Bureau of Reclamation Boundary

ABERDEEN
Sterling Wasteway
Danielson Creek/ Crystal Wasteway
Big Hole
Smith Springs
Little Hole
West Bay
Spring Hollow
Visitor's Center Area
McTucker Island Area
Everglades
Willow Bay
Seagull Bay
CITY OF AMERICAN FALLS
FORT HALL INDIAN RESERVATION
POCATELLO MUNICIPAL AIRPORT

NORTH

MILES
.5 0 1 2 3

Exhibit 4

Land Cover - River

AMERICAN FALLS

Mule Deer Wintering Area

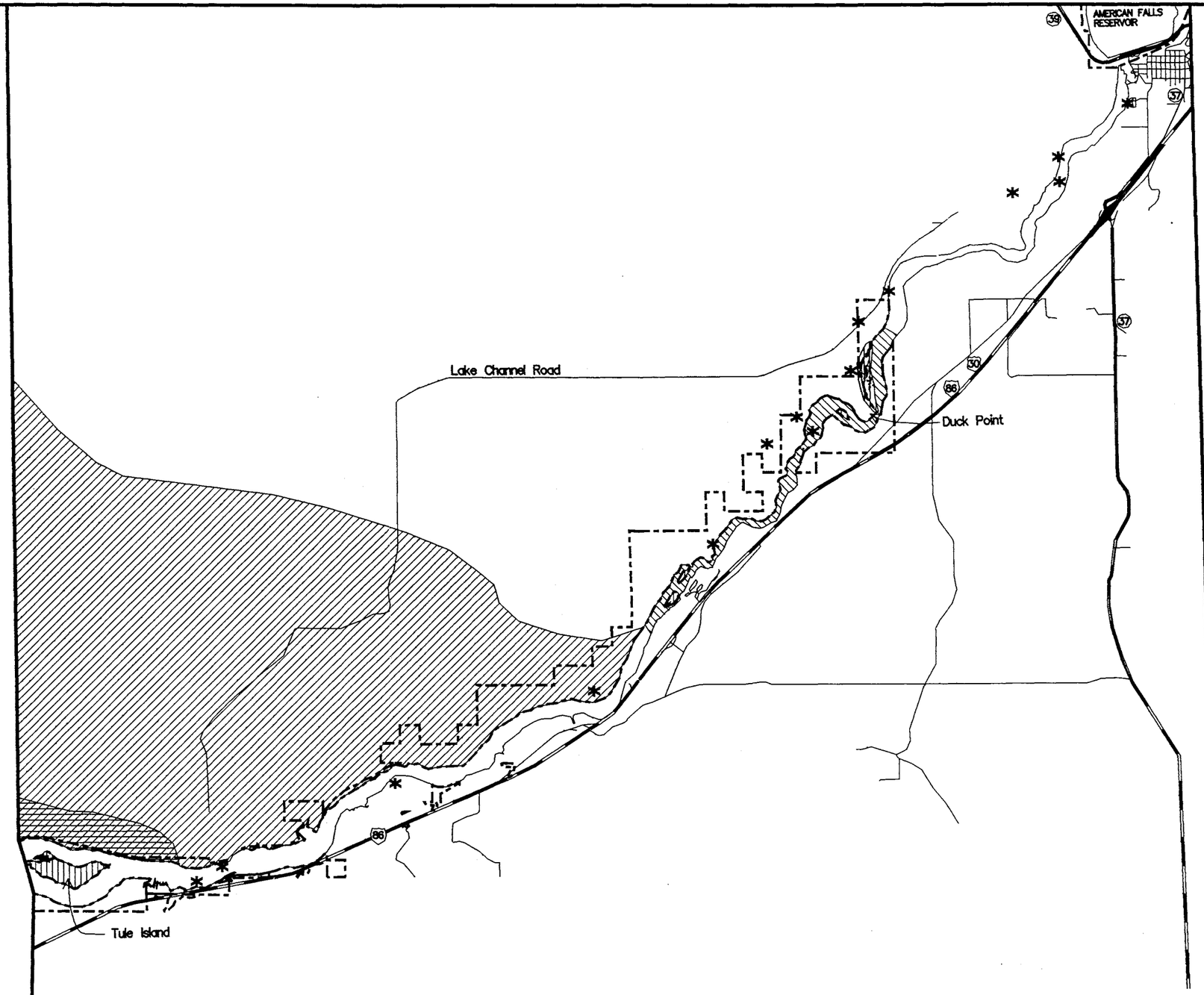
Pronghorn Antelope Wintering Area

Duck Nesting Area

Winter/Migrant Duck Open Water Area

Bureau of Reclamation Boundary

* Wintering Bald Eagle (FE) - Sightings in 1992



Note:
FE = Federal Endangered

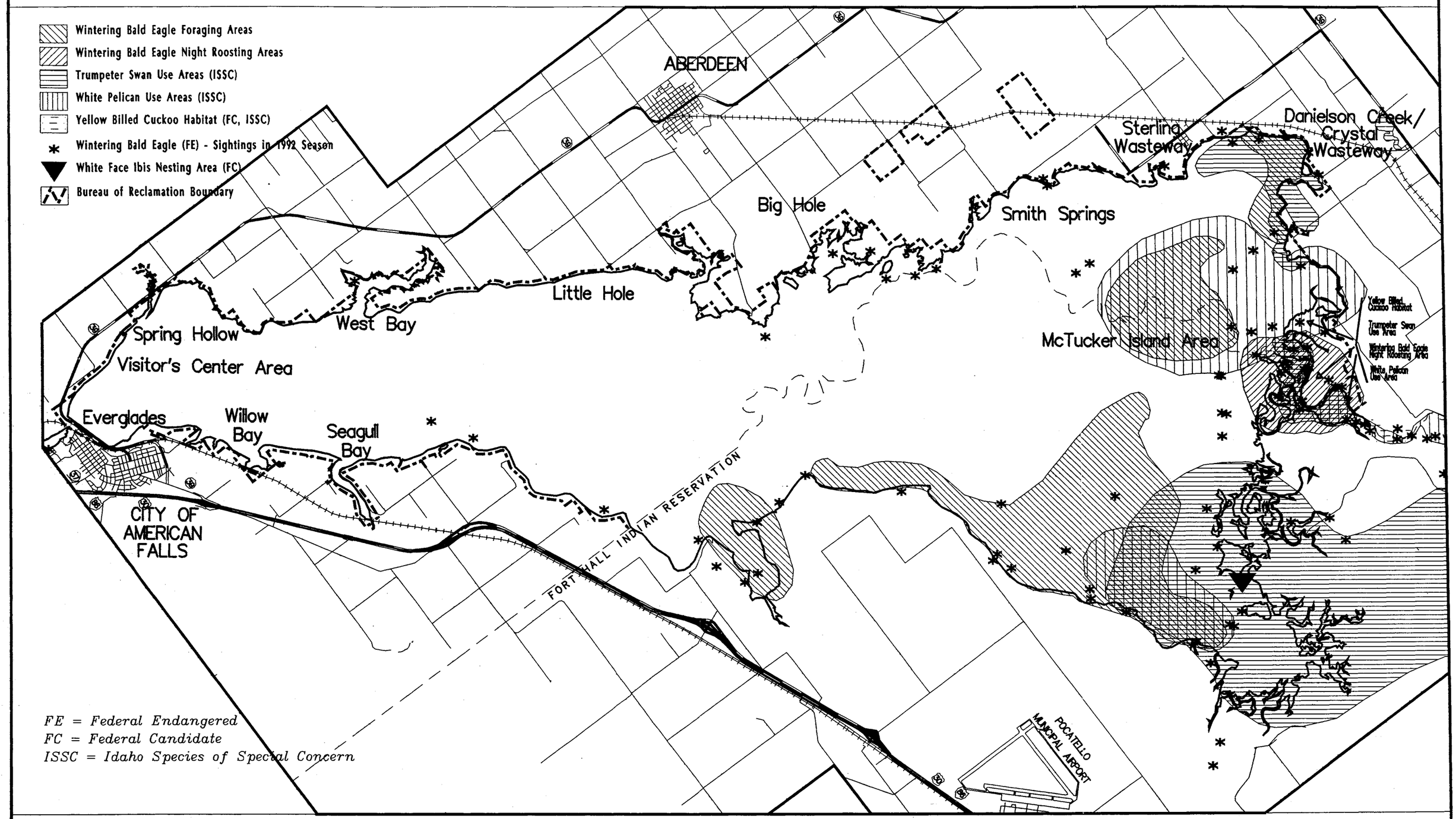
NORTH

MILES

.5 0 1 2 3

Exhibit 5

Waterfowl Use Area - Reservoir



FE = Federal Endangered
FC = Federal Candidate
ISSC = Idaho Species of Special Concern

NORTH

MILES

.5 0 1 2 3

Exhibit 6

Other Avian Habitat - Reservoir

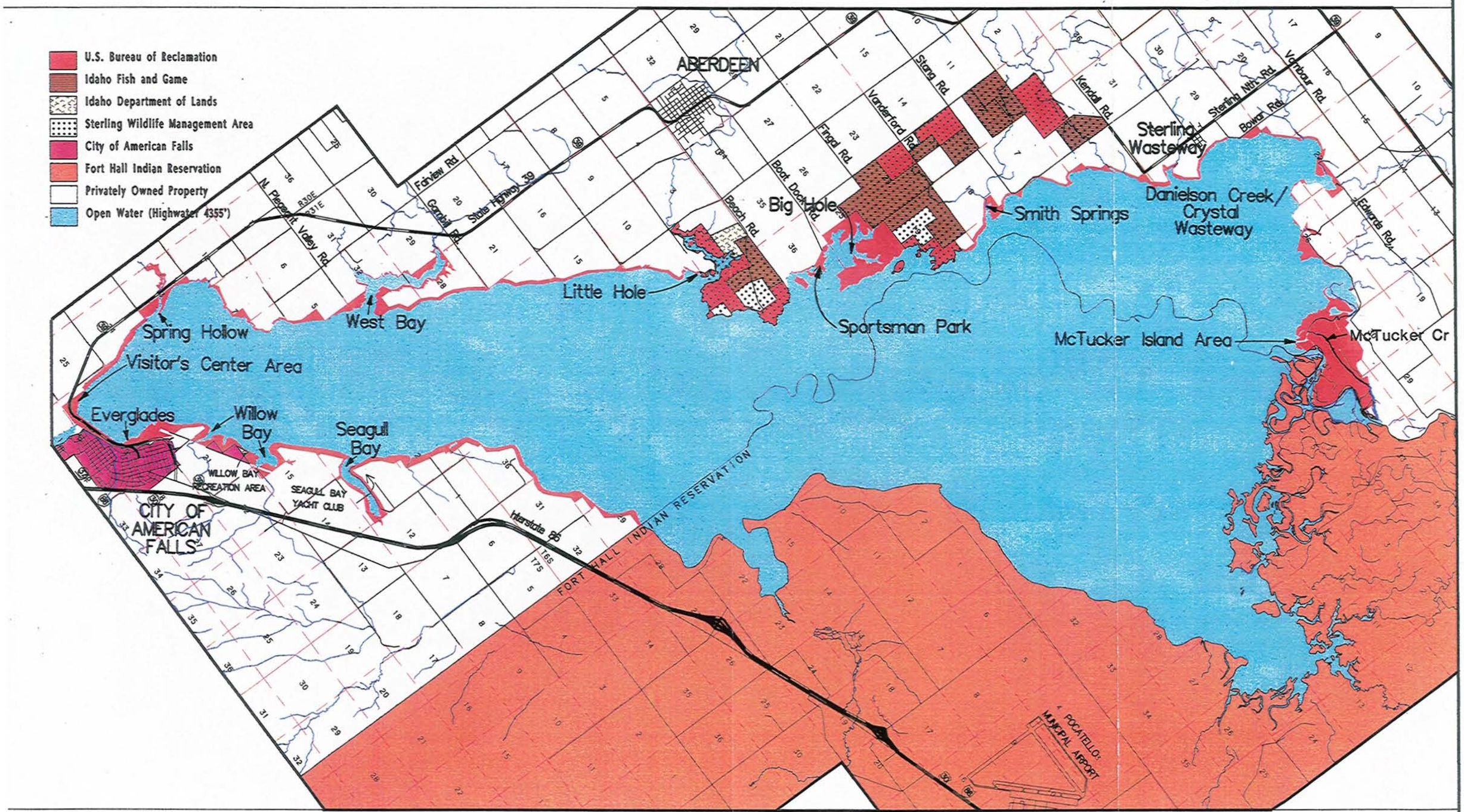
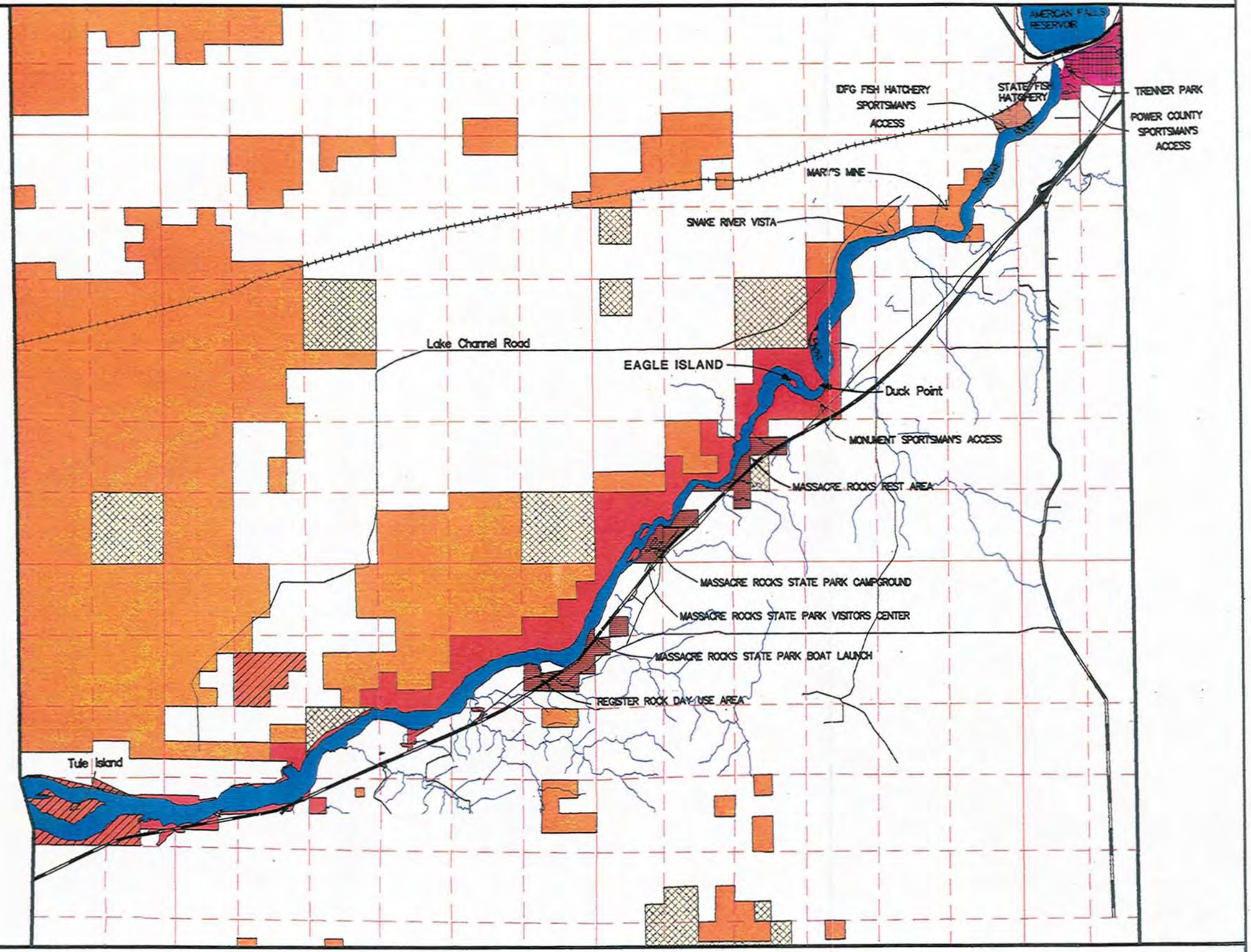


Exhibit 7

Wildlife Use Areas - River

- U.S. Bureau of Reclamation
- U.S. Bureau of Land Management
- U.S. Fish & Wildlife Service: Minidoka National Wildlife Refuge
- Idaho Fish & Game
- Idaho Parks & Recreation: Massacre Rocks State Park
- Idaho Department of Lands
- City of American Falls
- Private Lands
- Open Water



NORTH

MILES

.5 0 1 2 3

Exhibit 8

Special Status Species Use Areas - Reservoir

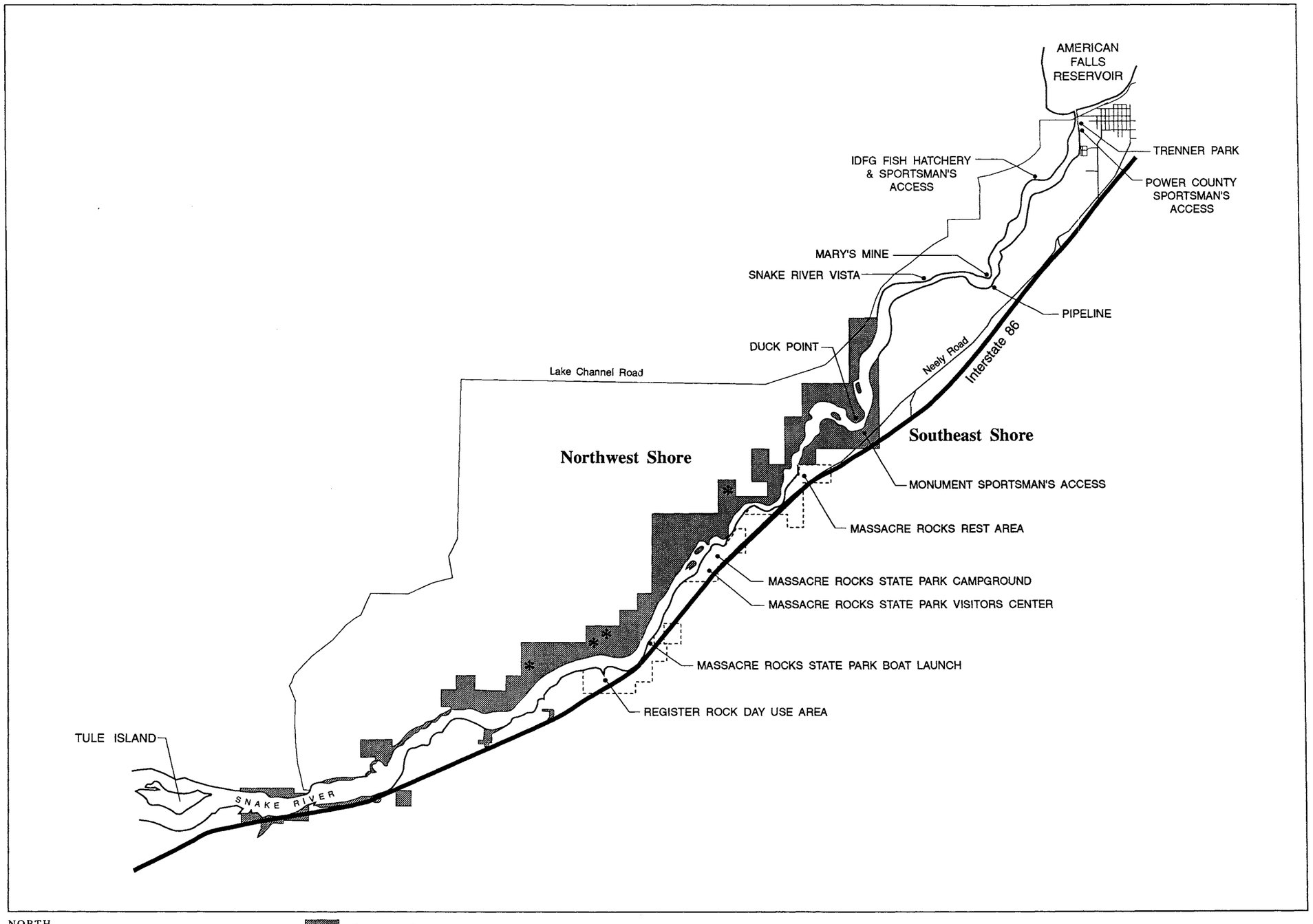


Exhibit 9

Lease and Easements - Reservoir

M:1s116:10:012

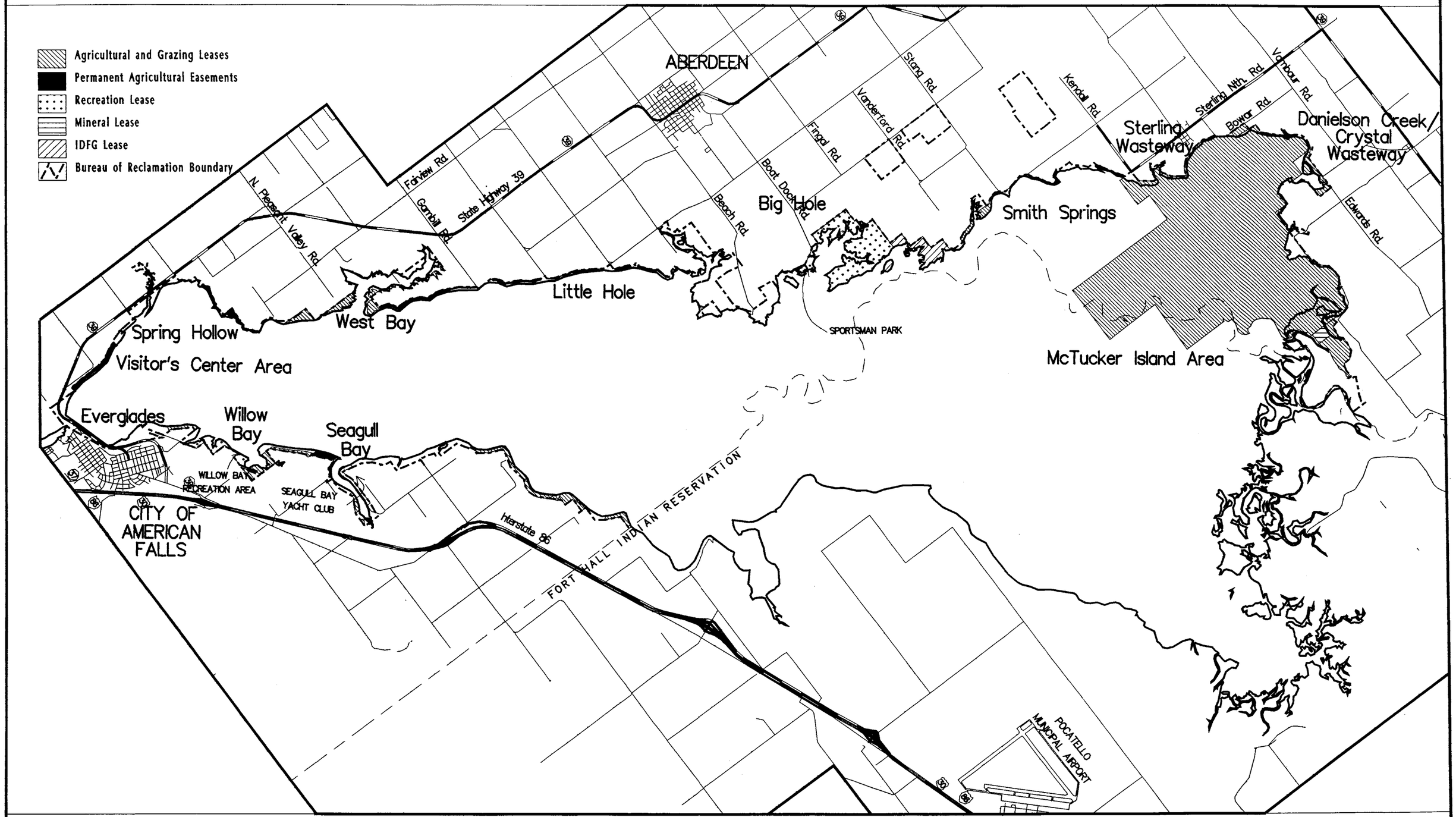


Exhibit 10

Agriculture and Grazing - River

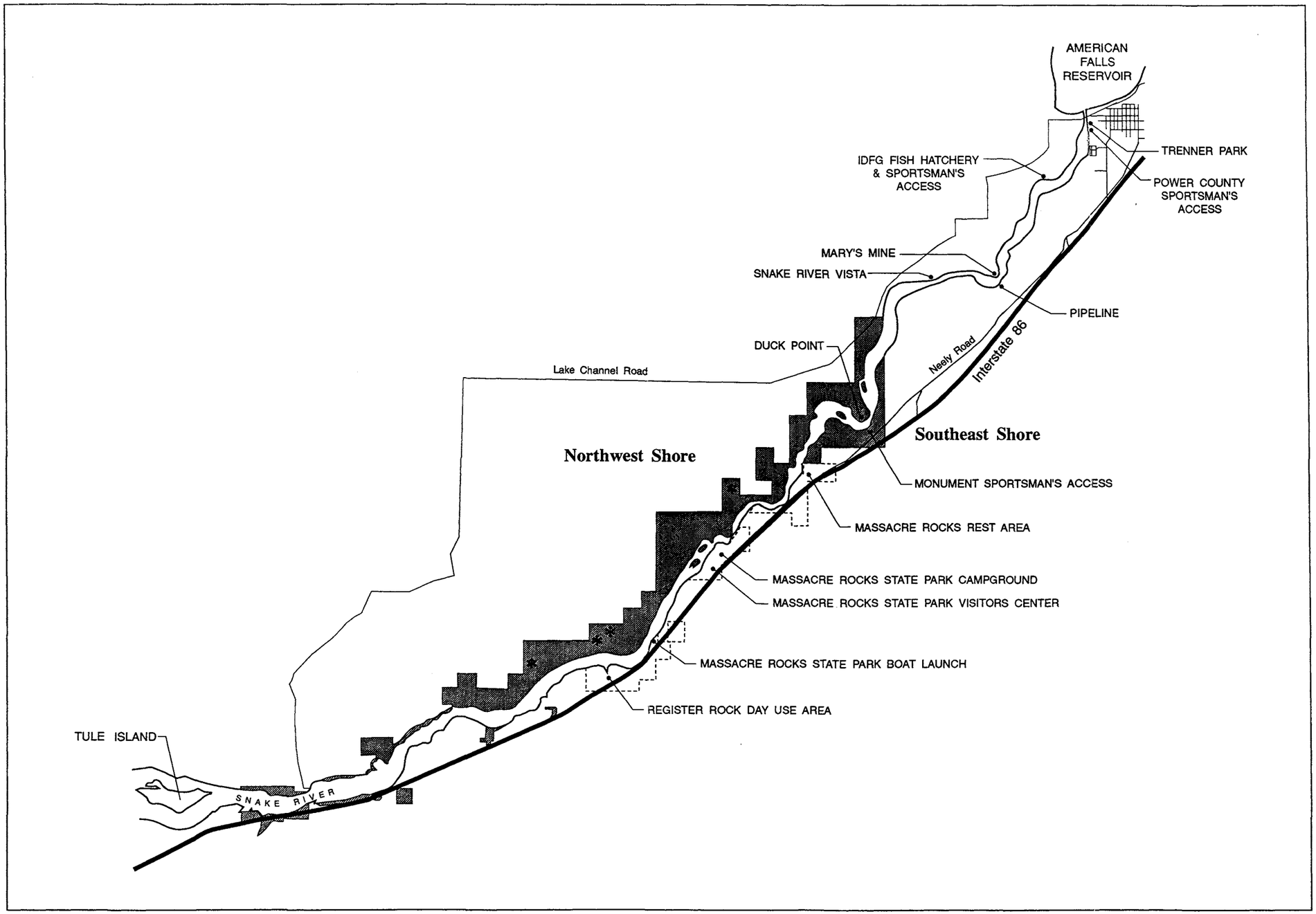


Exhibit 11

Unauthorized OHV Use Areas - River

Planning Areas

Reclamation lands along the river are divided into the four planning areas and eight subareas described below. The management approach for the Islands and Lower Shoreline & Isolated Parcels are the same for all alternatives. All roads are closed to motorized vehicle use.

Northwest Shore: Weathered basalt mesa with talus slopes and sand dunes; sagebrush grasslands with juniper dispersed throughout; generally inaccessible except with 4-wheel drive, all terrain vehicles and motorcycles; numerous roads and evidence of resource damage; significant and extensive cultural resources.

Area (1): Reclamation lands with no leases or grazing allotments

Area (2): Reclamation lands with Idaho Department of Fish and Game (IDFG) lease

Area (3): Reclamation lands with IDFG lease and BLM grazing allotment

Area (4): Reclamation lands with BLM grazing allotment

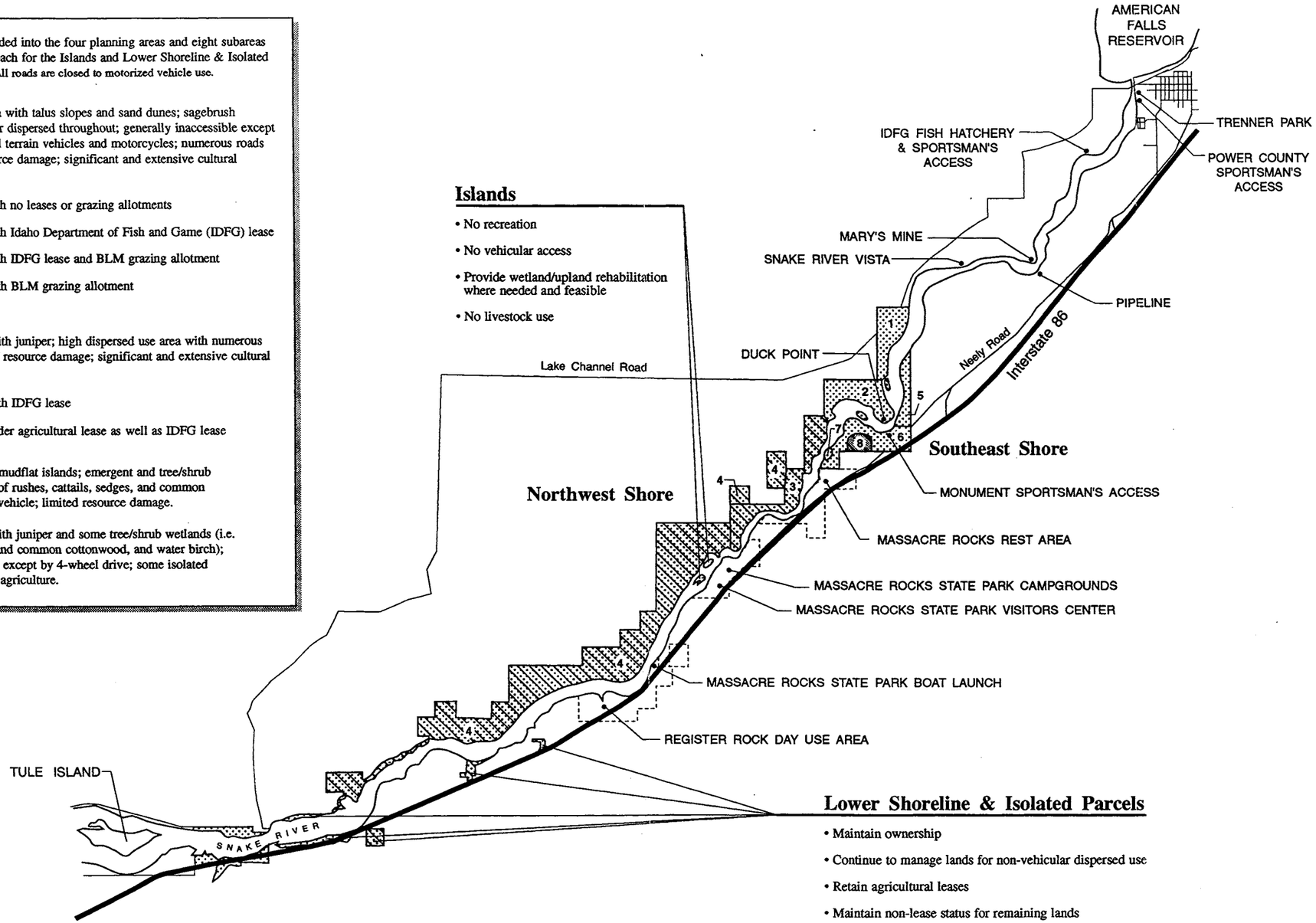
Southeast Shore: Hilly terrain dotted with juniper; high dispersed use area with numerous roads and evidence of resource damage; significant and extensive cultural resources.

Areas (5, 6 & 7): Reclamation lands with IDFG lease

Area (8): Reclamation lands under agricultural lease as well as IDFG lease

Islands: Bedrock remnants or mudflat islands; emergent and tree/shrub wetlands with stands of rushes, cattails, sedges, and common reed; inaccessible by vehicle; limited resource damage.

Lower Shoreline & Isolated Parcels: Hilly terrain dotted with juniper and some tree/shrub wetlands (i.e. Russian olive, black and common cottonwood, and water birch); generally inaccessible except by 4-wheel drive; some isolated parcels are leased for agriculture.



Islands

- No recreation
- No vehicular access
- Provide wetland/upland rehabilitation where needed and feasible
- No livestock use

Lower Shoreline & Isolated Parcels

- Maintain ownership
- Continue to manage lands for non-vehicular dispersed use
- Retain agricultural leases
- Maintain non-lease status for remaining lands

NORTH
0 .5 1 2 miles
1:100,000 Scale

Access, Land Use & Development
No Motorized Access
Grazing (Northwest Side) / Agriculture (Southeast Side) Permitted

Natural & Cultural Resource Management
Resource Protection & Enhancement
Resource Enhancement Emphasis

Exhibit 12

Land Management Areas - River