Owyhee Subbasin Plan

Chapter 3 Inventory of Existing Activities

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and

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Prepared for:

The Northwest Power and Conservation Council

Final Draft May 28, 2004

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Disclaimer:

Final approval by the Northwest Power and Conservation Council is contingent upon a favorable review by the Independent Scientific Review Panel and meeting requirements for adoption as an amendment to the Council's Fish & Wildlife Program.

Document Citation:

Shoshone-Paiute Tribes and Owyhee Watershed Council. 2004. Owyhee Subbasin Plan – Chapter 3 Inventory of Existing Activities. Steven C. Vigg, Editor. Final Draft. Submitted to the Northwest Power and Conservation Council, Portland, Oregon. May 28, 2004.

Acknowledgements

The Owyhee Coordinating Committee – comprised of the Shoshone-Paiute Tribes and the Owyhee Watershed Council received funding from the Northwest Power and Conservation Council to prepare the Owyhee Subbasin Plan. A great many people and organizations contributed to the development of the Owyhee Subbasin Plan; we extend our appreciation to the following entities, agency representatives, stakeholders and private citizens.

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3.1 Existing and Imminent legal protection[1]

3.1.1 Federal Agencies Conducting Fish & Wildlife Restoration Activities

Numerous federal agencies, including the following, conduct activities within the basin that affect fish and wildlife, as well as the Columbia River Basin Indian tribes. Many of these agencies are responsible for managing water resources, the power generated by hydroelectric projects, or land resources, such as forests, grazing lands, and wildlife refuges.

- Bonneville Power Administration (Bonneville) provides power transmission services and markets the electricity generated by the 31 Corps and Reclamation dams comprising the Federal Columbia River Power System (FCRPS). In doing so, it must provide treatment to fish and wildlife equitable to the other purposes for which the FCRPS is operated.
- U.S. Army Corps of Engineers (Corps) designs, builds, and operates civil works projects to provide electric power, navigation, flood control, and environmental protection.
- Bureau of Reclamation (Reclamation) designs, constructs, and operates water projects for multiple purposes, including irrigation, hydropower production, municipal and industrial water supply, flood control, recreation, and fish and wildlife.
- U.S. Forest Service (Forest Service) manages national forests and grasslands under the principles of multiple use and sustained yield, and ensures that lands will be available for future generations.
- Bureau of Land Management (BLM) administers public lands and subsurface mineral resources, and sustains the health, diversity, and productivity of public lands for the use and enjoyment of future generations.
- U.S. Fish and Wildlife Service (FWS) conserves, protects, and enhances fish, wildlife, and plants, and implements the ESA for terrestrial species, migratory birds, certain marine mammals, and certain fish.
- Bureau of Indian Affairs (BIA) encourages and assists American Indians to manage their own affairs under the trust relationship with the federal government.

In addition to the water, power and land resource management agencies, several other federal agencies have regulatory, resource protection, and research responsibilities in the basin.

- NOAA Fisheries (formerly National Marine Fisheries Service, NMFS) conserves, protects, and manages living marine resources so as to ensure their continuation as functioning components of marine ecosystems, and to afford economic

[1] This section is abstracted from GAO (2004).

opportunities. NOAA Fisheries also implements the ESA for marine and anadromous (migratory fish such as salmon and steelhead) species.
- Environmental Protection Agency (EPA) protects human health and safeguards the natural environment by protecting the air, water, and land. It administers the Clean Water Act and Clean Air Act.
- Natural Resources Conservation Service (NRCS) assists farmers, ranchers, and other landowners in developing and carrying out voluntary efforts to protect the nation's natural resources.
- U.S. Geological Survey (USGS) conducts objective scientific studies and provides information to address problems dealing with natural resources, geologic hazards, and the effects of environmental conditions on human and wildlife health.

Along with their primary water, power, resource and other management and regulatory responsibilities, these agencies are responsible under various laws, treaties, executive orders, and court decisions for protecting, mitigating and enhancing fish and wildlife resources in the basin, as well as involving the tribes in the process.

3.1.2 Federal Acts and Laws Guiding Fish & Wildlife Restoration Activities

One of the main drivers of Columbia Basin fish & wildlife activities is the **Pacific Northwest Electric Power Planning and Conservation Act** (Northwest Power Act) – which provided for the establishment of the Northwest Power and Conservation Council (Council). The Northwest Power Act also directs the Council to develop a program to protect, mitigate, and enhance the fish and wildlife of the Columbia River Basin. The Act requires Bonneville's Administrator to use Bonneville's funding authorities to protect, mitigate, and enhance fish and wildlife affected by the development and operation of the FCRPS and to do so in a manner consistent with the Council's program while ensuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply.

Federal environmental and fish and wildlife protection laws create broad responsibilities for federal agencies. The following nationwide laws guide the fish and wildlife activities of federal agencies throughout the United States, in some cases under the oversight and enforcement authority of regulatory agencies such as EPA and NOAA Fisheries.

- **Clean Water Act** — Authorizes EPA to establish effluent limitations and requires permits for the discharge of pollutants from a point source to navigable waters. EPA approves state and tribal limits for the maximum amount of a pollutant that a water body can receive and still meet water quality standards for specified purposes, including fish and wildlife.
- **Endangered Species Act (ESA)** — Provides for the conservation and recovery of species of plants and animals that FWS and NMFS determine to be in danger or soon to become in danger of extinction.
- **National Environmental Policy Act** — Requires federal agencies to examine the impacts of proposed major federal actions significantly affecting the environment. At the basin level, certain federal laws create agency responsibilities that are

specific to the fish and wildlife there. These laws guide the fish and wildlife activities of agencies such as Bonneville, the Corps, and Reclamation that are to be conducted in conjunction with their water and power responsibilities within the basin. Federal agencies identified the following basin-specific laws, among others, as guiding their fish and wildlife activities:

- **Fisheries Restoration and Irrigation Mitigation Act of 2000** — Directs the Secretary of the Interior to establish a program to implement projects, such as installation offish screens and fish passage devices, to mitigate impacts on fisheries associated with irrigation systems in Idaho, Montana, Oregon, and Washington.
- **Mitchell Act** — Directs the Secretary of Commerce to carry on activities for the conservation of fishery resources in the Columbia River Basin.

At the mission level, many agencies that operate within the basin have fish and wildlife responsibilities under laws that are unique to their activities. These laws guide the fish and wildlife activities of agencies such as the Forest Service, BLM, FWS, and BIA that are to be conducted in conjunction with their resource management responsibilities. The following laws were among the numerous mission-specific laws that federal agencies identified as guiding their fish and wildlife activities (GAO 2004):

- National Forest Management Act — Mandates multiple-uses for lands managed by the Forest Service to include outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness purposes.
- Federal Land Policy and Management Act of 1976 — Directs the Secretary of the Interior to develop and maintain land use plans using a systematic interdisciplinary approach to achieve the integrated consideration of physical, biological, and economic factors.
- National Wildlife Refuge System Administration Act of 1966 — Establishes the National Wildlife Refuge System and directs the Secretary of the Interior in the overall management of the refuge system to maintain the biological integrity, diversity and environmental health of the system, and prepare a comprehensive conservation plan for each refuge.

3.1.3 Court Decisions Define and Clarify Federal Agency Fish & Wildlife Responsibilities

Federal responsibilities and activities under laws, treaties and executive orders are continually being defined and clarified through court decisions. These decisions provide guidance regarding the fish and wildlife activities of federal agencies such as Bonneville, the Corps, and NMFS. The following court decisions have guided Federal fish and wildlife activities in the basin (GAO 2004):

- National Wildlife Federation v. National Marine Fisheries Service— Remanded NMFS' 2000 biological opinion for ESA-listed salmon and steelhead in the Columbia and Snake Rivers to NMFS to resolve deficiencies identified by the court.5

- National Wildlife Federation v. United States Army Corps of Engineers—Remanded a decision regarding dam operations in the FCRPS to the Corps to address compliance with its obligations under the Clean Water Act.6

- Northwest Environmental Defense Center v. Bonneville Power Administration—Interpreted Bonneville's responsibility to provide "equitable treatment" for fish and wildlife in conducting its power marketing activities under the Northwest Power Act

3.1.4 Tribal Rights Regarding Fish & Wildlife Restoration – Legally Defined Federal Responsibilities

Federal responsibilities for protecting, mitigating and enhancing fish and wildlife resources in the basin – while involving the tribes in the process – are defined by a multilayered collection of laws, treaties, executive orders, and court decisions. Nationwide, basin-specific, and agency mission-specific laws create responsibilities for federal agencies to mitigate the impacts of their activities on fish, wildlife and their habitat. In addition, various laws, treaties, executive orders, court decisions, and agency policies require agencies to consider the rights of tribes in the basin. Federal responsibilities and activities under these layers of directives have been defined and clarified over the years through numerous court decisions.

The following Six Columbia River Basin Tribes have Treaties with the US Government establishing Reservations and reserving hunting and/or fishing rights:

- Confederated Tribes of the Umatilla Indian Reservation -- Treaty with the Wallawalla, Cayuse, etc. (12 Stat. 945) June 9, 1855
- Confederated Tribes of the Warm Springs Reservation of Oregon -- Treaty with the Tribes of Middle Oregon (12 Stat. 963) June 25,1855
- Confederated Tribes and Bands of the Yakama Reservation, Washington -- Treaty with the Yakama (12 Stat. 951) June 9,1855
- Nez Perce Tribe of Idaho -- Treaty with the Nez Perces (12 Stat. 957) June 11, 1855
- Confederated Salish and Kootenai Tribes of the Flathead Reservation, Montana -- Treaty with the Flatheads, etc. (12 Stat. 975) July 16, 1855
- Shoshone-Bannock Tribes of Idaho -- Treaty with the Eastern Band Shoshoni and Bannock, (15 Stat. 673) July 3,1868

In addition to Treaties, Presidential Executive Orders were used by the U.S. government to reserve lands for six other Columbia River Basin tribes, including the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation:

- Confederated Tribes of the Colville Reservation, Washington -- 1872
- Burns Paiute Tribe of the Burns Paiute Indian Colony of Oregon -- 1872
- Coeur D'Alene Tribe of the Coeur D'Alene Reservation, Idaho -- 1873
- Shoshone-Paiute Tribes of the Duck Valley Reservation, Idaho/Nevada -- 1877

- Spokane Tribe of the Spokane Reservation -- 1881
- Kalispel Indian Community of the Kalispel Reservation, Washington -- 1914

The executive orders are similar to treaties; they describe the lands reserved for habitation by the tribes, but unlike treaties, do not explicitly state each tribe's right to fish and/or hunt. Nevertheless, the federal government has respected non-treaty tribal rights to hunt and fish. Unlike the other twelve Columbia Basin tribes, the Kootenai Tribe of Idaho has neither a treaty nor an executive order establishing reservation lands.

Three other executive orders, as well as a presidential memorandum, were identified by federal agencies as providing guidance in their inter-governmental relationships with tribes while performing their missions (GAO 2004):

- **Executive Order 12866 (September 30,1993), Regulatory Planning and Review** — Establishes a program to reform and make more efficient the regulatory process, including making the process more accessible and open to the public. Provides that wherever feasible, agencies shall seek views of appropriate state, local and tribal officials before imposing regulatory requirements that might significantly or uniquely affect them.

- **Executive Order 12875 (October 26, 1993), Enhancing the Intergovernmental Partnership** — Prohibits executive agencies, to the extent feasible, from promulgating any regulation not required by statute that creates a mandate upon a state, local or tribal government unless funding for the direct costs is provided or the agency consults with the affected government.

- **Executive Order 13175 (November 6, 2000), Consultation and Coordination with Indian Tribal Governments** — Requires executive agencies to respect Indian tribal self governance and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the federal government and tribal governments. Provides that each agency shall have an accountable process to ensure meaningful and timely tribal input in the development of regulatory policies that have tribal implications.

- **Memorandum for the Heads of Executive Departments and Agencies (April 29, 1994), Government to Government Relations with Native American Tribal Governments** — Requires, among other things, that executive agencies operate within a government to government relationship with federally recognized tribal governments; consult to the greatest extent possible with tribal governments before taking actions that affect tribal governments; and assess the impact of federal government plans, projects, programs and activities on tribal trust resources and ensure that tribal rights and concerns are considered in developing them.

In addition to these executive orders, some federal agencies have internal orders and memorandums to guide their actions with tribes. The Secretarial Order 3206, jointly issued by the Secretary of the Interior and the Secretary of Commerce in 1997, clarifies the responsibilities of the Departments, their agencies, offices and bureaus when actions taken under the authority of the ESA affect or may affect Indian lands, tribal trust resources or the exercise of tribal rights. This order acknowledges the trust responsibility and treaty obligations of the United States toward Indian tribes and tribal members and its government to government relationship in dealing with the tribes.

Accordingly, activities under the ESA should harmonize trust responsibilities, tribal sovereignty, and the agency missions, and strive to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species. In its 1996 Tribal Policy, Bonneville outlines the foundation for its trust responsibility as a federal agency and provides a framework for a government to government relationship with the 13 federally recognized Columbia River Basin tribes. In addition, the U.S. Fish & Wildlife Service cited its Native American Policy of 1994, and Environmental Protection Agency cited its Tribal Consultation Framework of 2001, as providing agency guidance for meeting responsibilities to the tribes.

The following mission-specific laws guide the fish and wildlife activities of various Federal agencies in conjunction with their Tribal resource management responsibilities:

- **National Indian Forest Resources Management Act** — Directs the Secretary of the Interior to undertake management activities on Indian forest lands with tribal participation. Treaties and executive orders also establish federal agency responsibilities for fish and wildlife. Federal agencies identified two treaties guiding their fish and wildlife activities in the basin—the Columbia River Treaty, which defines the relationship between the United States and Canada concerning the operation of Columbia River dams and reservoirs, and the Pacific Salmon Treaty, which governs the harvest of certain stocks in the fisheries of Northwest states (including Alaska) and Canada. Federal agencies also identified three executive orders guiding their activities with regard to floodplain management, protection of wetlands, and protection of migratory birds. The most recent of these, Executive Order 13186, January 10, 2001, titled Responsibilities of Federal Agencies To Protect Migratory Birds, directs executive agencies to take certain actions to further implement the Migratory Bird Treaty Act for the conservation of migratory birds and their habitats. Executive Order 11988, May 24,1977, requires certain actions related to floodplain management, and Executive Order 11990 of the same date requires certain actions related to the protection of wetlands. Various Laws, Treaties, and Executive Orders Require Agencies to Consider the Rights of Tribes Laws, treaties and executive orders create federal responsibilities to Indian tribes and guide federal agency activities that affect the tribes of the Columbia River Basin. Federal laws, including the following, create a responsibility for federal agencies to support tribal self-government, facilitate tribal participation in federal activities, and assist in the management of tribal resources.

- **Indian Reorganization Act** — Enacts measures to protect ownership of Indian lands, restore lands to tribal ownership, and grants rights of self-government to Indians.
- **Indian Self Determination and Education Assistance Act** — Enacts measures that promote a policy of Indian self-determination by assuring maximum Indian participation in educational and other federal services to Indian communities, generally provided through Interior and Department of Health and Human Services programs for Indians.
- **Snyder Act** — Authorizes appropriations and expenditures through BIA for the benefit, care and assistance of Indians, such as education, health and other purposes. Treaties between the United States and six basin tribes document the agreements reached between the federal government and the tribes in exchange for ceding most of their ancestral lands. Federal agencies have a trust responsibility to protect tribal rights reserved under these treaties. In general, each treaty describes the boundaries of the tribal lands ceded, the boundaries of lands reserved for habitation by the tribe, payments to be made to the tribe, and certain rights of the tribe under the treaty, including specific hunting and/or fishing rights.

3.2 Existing plans and management programs

Descriptions of plans and programs implemented by federal agencies to manage Columbia River Basin fish and wildlife activities are summarized in Table 3.1 -- including the directives driving the plans and programs and the lead agencies.

Table 3.1. Plans and programs that guide Federal fish and wildlife activities in the Columbia River Basin (GAO 2004).

Plan/program	Lead agency	Description
Northwest Power Act-driven plans and programs:		
Columbia River Basin Fish Bonneville, and Wildlife Program	The Council	Program to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries. Developed by the Council, funded by Bonneville, and implemented by a number of agencies and other organizations.
Northwest Power and Conservation Council	The Council	Process to incorporate local-level planning for

Plan/program	Lead agency	Description
Subbasin Planning Process		the 50+ subbasins in the Columbia River Basin into the development and implementation of the Columbia River Basin Fish and Wildlife Program.
Northwest Power and Conservation Council Provincial Review	The Council	Program developed by the Council, and operated on a three-year cycle, to improve the technical review and approval of projects funded by the Columbia River Basin Fish and Wildlife Program.
Endangered Species Act-driven plans and programs:		
Biological Opinions for the FCRPS	FWS and NMFS	Plans that set forth reasonable and prudent measures/alternatives for operation by the Corps, Reclamation, and Bonneville of the FCRPS, in order to minimize impacts to fish and wildlife. Created as a result of consultation with FWS and NMFS under Section 7 of ESA.
Biological Opinion Implementation Plans for the FCRPS	Bonneville, the Corps, Reclamation	Frameworks developed by the agencies managing the FCRPS for complying with Biological Opinions for the FCRPS.
Bull Trout Recovery Plan	FWS	Plan designed to organize, coordinate, and prioritize recovery actions for bull trout, and to outline objective measurable criteria that will be used to determine when bull trout no longer need the protection of the ESA.

Plan/program	Lead agency	Description
recovery plans for salmon (under development)	NMFS	Plans designed to organize, coordinate, and prioritize recovery actions for endangered and threatened salmon and steelhead, and to outline objective measurable criteria that will be used to determine when salmon and steelhead no longer need the protection of the ESA.
Basin-wide Salmon Recovery Strategy (AII-H Paper)	All agencies in the Federal Caucus	A strategy and accompanying suite of actions to be used as a blueprint to guide federal actions towards recovery of threatened and endangered salmon and steelhead in the Columbia River Basin.
Clean Water Act-driven plans and programs:		
Clean Water Act Section 319Grant Program	EPA	Program to provide funding to states and Indian tribes for a wide variety of nonpoint source activities including technical and financial assistance, education, training, technology transfer, demonstration projects, and monitoring.
Clean Water Act General Assistance Grant Program to Tribes	EPA	Program to provide assistance grants to Indian tribal governments and intertribal consortia t o build capacity to administer regulatory and multimedia programs addressing environmental issues on Indian lands.
Clean Water Act Section 104(b)(3) Support to TMDLs	EPA	Program to provide assistance to state water pollution control agencies,

Plan/program	Lead agency	Description
		interstate agencies, and other nonprofit institutions, organizations, and individuals to promote the coordination of environmentally beneficial activities, including storm water control, sludge management, and pretreatment of wastewater.
Clean Water Act Section 106 Grant Program	EPA	Program to provide assistance to Indian tribes in carrying out effective water pollution control programs, including water quality planning and assessments, developing water quality standards and total maximum daily loads, and ambient monitoring.
Clean Water State Revolving Fund	EPA	A loan program to fund water quality protection projects for wastewater treatment, nonpoint source pollution control, and watershed and estuary management.
Lower Columbia Estuary Partnership	EPA	Program under Clean Water Act Section 320 to improve the quality of the Lower Columbia Estuary, and provide the basis for estuarine salmon recovery efforts. Key activities include habitat monitoring, volunteering monitoring, and species recovery.
Court-driven plans and programs:		
US v Oregon Management Plans/Agreements	FWS, NMFS	Plans that address tribal allocation of annual fish harvest, as well as

Plan/program	Lead agency	Description
		hatchery and supplementation measures designed to help rebuild depressed fish stocks.
Mission-driven plans and programs:		
Gas Abatement Project at Chief Joseph Dam	The Corps	Project to install spillway deflectors and implement operational changes at Chief Joseph Dam in order to reduce total dissolved gas levels.
Army Corps Anadromous Fish Evaluation Program	The Corps	Program to develop and evaluate anadromous fish passage facilities Corps at dams on the Columbia and lower Snake Rivers. Includes monitoring, research, and evaluation studies conducted in collaboration with other federal, state, and tribal agencies.
Project Management Plans	The Corps	Internal management plans developed in parallel with any Corps project. Designed to ensure that proper internal procedures are followed to protect and mitigate barriers to fish passage.
District Resource Management Plans	BLM	Internal management plans for all BLM activities. Developed via the National Environmental Policy Act process, they include specific management guidelines for protection of fish and wildlife.
Wild and Scenic River Plans	BLM	Management plans developed to ensure that agency activities protect identified "outstandingly

Plan/program	Lead agency	Description
		remarkable values," including fish and wildlife, recognized in Wild and Scenic River Areas.
Upper Salmon Basin Project	NRCS	Project designed to provide a basis of coordination and cooperation between local, private, state, tribal, and federal fish and land managers, land users, land owners and other affected entities. Goal is to manage the biological, social, and economic resources to protect, restore, and enhance anadromous and resident fish habitat.
General Investigations	Reclamation	Projects funded by special Congressional appropriations, some of which address fish and wildlife enhancement or mitigation. Also typically involve partnerships with other groups, such as states, interest groups, and tribes.
Research and Monitoring Programs	Reclamation	Internal Reclamation programs funded by the Commissioner's office that focus on a range of discretionary activities, including research and monitoring efforts for fish and wildlife.
Resource Management Plans	Reclamation	Management plans required for all reservoirs managed by the agency. Plans address management of recreational activities, as well conservation of fish and wildlife.

Plan/program	Lead agency	Description
Hungry Horse Mitigation Implementation Plan	Reclamation	Specific project at Hungry Horse Dam to control water withdrawals at the reservoir that were causing harm to fish, and to mitigate for impacts of constructing a water control system.
Lower Snake River Compensation Plan	Bonneville, FWS	Specific project to mitigate impacts to fish and wildlife from construction of last four FCRPS dams on the Lower Snake River. Project preceded mitigation requirements set forth under the Power Act.
Recreational Fishery Resources Conservation Plan	FWS	Internal agency plan to incorporate conservation planning into the management of recreational fisheries.
Land and Resource Management Plans (Forest Plans)	Forest Service	Internal agency plans that incorporate specific conservation measures for fish, wildlife, plants, and other natural resources, into management of National Forests.
Lynx Conservation Strategy and Agreement	Forest Service	Strategy to address the needs of lynx and lynx habitat in the context of forest management, and to foster cooperation and interaction between foresters and wildlife biologists.
PACFISH & INFISH	Forest Service, BLM	Interim standards and guidelines for addressing, and incorporating measures for, the recovery of endangered and threatened fish in the

Plan/program	Lead agency	Description
		development of Land and Resource Management Plans.
Northwest Forest Plan	Forest Service, BLM	An interagency approach to developing and implementing measures for the long-term health of forests, wildlife, and waterways on federal lands.
Environmental Quality Incentive Program	NRCS	Cost-share program, operated collaboratively with tribes, to benefit fish and wildlife through environmental improvements to irrigation, erosion, water quality, and agriculture.
State-driven plans and programs:		
"Extinction Is Not an Option" Washington Statewide Strategy to Recover Salmon	: State of Washington	Long-term strategy for the recovery of salmon in Washington state Primary goals of the strategy are to restore salmon, steelhead, and trout populations to healthy and harvestable levels and improve the habitats on which fish
Fish and Forest Agreement in Washington	State of Washington	Collaborative agreement between Washington state, tribes, federal agencies, timber interests, and environmental groups to address timber practices so as to minimize impacts to fish populations.
Oregon Plan for Salmons Watersheds	State of Oregon	A statewide approach to natural resource management in Oregon that focuses on restoring Coho salmon through the Coastal Salmon Restoration Initiative and

Plan/program	Lead agency	Description
		improving water quality through the Healthy Streams Partnership.
Tribally-driven plans and programs:		
Wy-Kan-Ush-Mi Wa-Kish- Wit (Spirit of the Salmon")	Nez Perce, Umatilla, Warm Springs, Yakama Tribes	A framework for restoring salmon in the Columbia River that outlines the cultural context for the tribes' salmon restoration efforts, as well as technical and institutional recommendations and watershed restoration activities
Warm Springs National Fish Hatchery Operational and Implementation Plan	Warm Springs Tribe	Plan outlining management measures and operational procedures for the Warm Springs National Fish Hatchery, which is cooperatively managed by FWS and the Warm Springs tribe.

3.2.1 Local Government and Local Non-Governmental Entities in the Owyhee Subbasin

3.2.1.1 Owyhee County, Idaho

http://owyheecounty.net

Located in Idaho's southwestern corner, Owyhee County is bordered by Nevada on the south, Oregon on the west, Canyon, Ada and Elmore counties on the north and Twin Falls County on the east.

- Population: 10,460
- Elevation: 2,200 to 8,438 feet
- Area: 7,639 square miles

3.2.1.2 Elko County, Nevada

http://www.governet.net/NV/CO/ELK/home.cfm

The county, a political subdivision of the State, was organized in the year 1869. The county has been and is now operating under the provisions of the general laws of the State. Elko County is located in northeastern Nevada and is the second largest county in the state (17,135 square miles). It is bordered on the north by Idaho, and on the east by Utah. The City of Elko, the County seat, is 290 miles east of Reno, 241 miles west of Salt Lake City and 246 miles south of Boise. The Land of Elko County consists of mountains interspersed with low, flat valleys. The Humboldt River flows through Elko county, with the Ruby Mountains stretching across the county in a north-south direction. The County's elevation varies between 5,000 and 11,000 feet with the Ruby Dome (elevation 11,300 feet) being the highest point in the county. Approximately 71% of the land in Elko County is federally controlled. Elko County has four incorporated cities: Carlin, Wells, West Wendover, and the City of Elko. Jackpot, a major unincorporated town, has experienced rapid growth in recent years. The City of Elko is the major urban area, with the remainder of the County primarily rural.

3.2.1.3 Malheur County, Oregon

http://www.malheurco.org

Located in Oregon's southeast corner, the county is the state's second largest. It is 94 percent rangeland, two-thirds of which is managed by the Federal Bureau of Land Management. Today, irrigated fields in the county's northeastern corner, known as Western Treasure Valley, are the center of intensive and diversified farming.

3.2.1.4 Owyhee Watershed Council, Ontario, Oregon

Information pertaining to the Owyhee Watershed Council (OWC) can be accessed at the following web site: http://www.owyheewatershed.com .

The OWC Mission statement:
To lead the effort in ensuring sustainable, responsible, and productive stewardship of all land and water resources for the economic and environmental benefit of the Owyhee Watershed.

The Owyhee Watershed Council was formally recognized in June, 2001. The Council is made up of numerous members representing various watershed interests (ranching, farming, local business, scientific community, recreation, etc.) This is in addition to an extensive technical support committee made up of local, state, and federal agency personnel. All members are appointed by the Malheur and Owyhee County Courts.

3.2.1.5 The Owyhee Initiative

The draft Owyhee Initiative proposal is available for review at the following web site link: http://www.owyheeinitiative.org/FAQs/agreement.htm . The following groups participated in the development of the proposed plan:

- The Wilderness Society

- Idaho Conservation League
- Sierra Club
- The Nature Conservancy
- Owyhee County Commissioners
- Owyhee Borderlands Trust
- People For The Owyhees
- Owyhee Cattlemen's Association
- Idaho Outfitters and Guides Association
- Owyhee County Soil Conservation Districts

3.2.2 State Fish Management Plans – Trout

3.2.2.1 Idaho Department of Fish & Game – Trout Management Plan

A primary goal of IDFG trout management is to provide for "quality" and "trophy" trout fisheries (2001-2006 Fish Management Plan; IDFG 2001). Within the context of IDFG's fish management programs and this fish management plan, these terms are used to refer to specific management programs that utilize special regulations to increase the size of trout. Excerpts of Owyhee Subbasin goals, objectives and strategies from the IDFG trout management plan are summarized in Appendix 4.4.4.

Quality and trophy trout fisheries generally provide increased catch rates as well. Trout may be of wild/natural or hatchery origin. Quality and trophy trout management differ with respect to the size of trout the regulations are designed to provide. They are defined as follows:

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

Trophy Trout Management - A management program using special regulations that reduces or delays mortality to provide increased catch rates and increased size of trout such that 20% or more of the trout exceed 16 inches. Trophy trout management is appropriate for lakes and streams with good productivity and growth potential where the majority of affected anglers desire to forego all or a major portion of or all harvest opportunity in order to catch large trout.

Special regulations used under quality and trophy trout management programs may include a combination of a 2-fish bag limit and various size limits, or catch-and-release where appropriate. Bait may be applied where necessary to achieve size structure goals. IDFG has quality management programs that may utilize a minimum size limit of 14-inches or 16-inches, depending on productivity and biological characteristics of the fish population. Trophy management programs utilize a minimum size limit (most often 20-

inches), again depending on productivity and biological characteristics of the fish population. For quality and trophy management objectives, slot limits may be used where there is a clear public demand for harvest opportunity or where recruitment is not a limiting factor. The most restrictive regulation, catch-and-release, may be used as part of quality or trophy trout management, depending on the same characteristics.

Quality and trophy management may include seasonal restrictions to reduce mortality on spawners, or on trout as they concentrate to migrate downstream in the fall in response to dropping water temperatures. Seasonal restrictions responding to these circumstances will be employed only after a biological necessity has been established. It may also apply to all trout within a body of water, or may be applied to certain species in order to provide a diversity of opportunity within the same body of water or a geographical area.

As the number of anglers using the water increases and harvest rates impact the size structure of the trout, or as more anglers desire to optimize catch rates and size of fish and de-emphasize harvest, quality and trophy trout management may be applied to additional waters.

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

The following narrative and management objectives – from the IDFG 2001-2006 Fish Management Plan – pertain to trout management in the Owyhee River System.
The Owyhee River and Bruneau River basins lie in southwestern Idaho, southeastern Oregon and northern Nevada. This basin encompasses approximately 11,340 square miles of semi-arid high desert country, of which about 8,000 square miles lies within Idaho. In the higher bench lands of the Bruneau and Owyhee, the rivers and their tributaries flow through deeply incised canyons. Elevations in the Owyhee drainage range from 8,100' in the Owyhee Mountains to 2,400 feet at the Snake River. The Owyhee River has an annual average discharge of 661,500 acre-feet of water at the Oregon/Idaho border. Elevations in the Bruneau drainage range from over 10,000 feet in the Jarbidge Mountains to 2,455 feet at the mouth. The Bruneau River has an annual average discharge of 292,000 acre-feet of water.

Most of the Owyhee River drainage contains populations of redband trout. Due to the unique qualities of this fish and the inaccessibility of the Owyhee drainage, this entire drainage will be managed for racial preservation. Lahontan cutthroat trout have been introduced into several reservoirs near Riddle. Livestock grazing on some tributary streams has impacted fish habitat, and efforts should be made to work with landowners and land management agencies to improve habitat.

IDFG Objectives and Programs for the Owyhee Subbasin

1. Objective: Manage stream and reservoir fisheries to preserve the genetic integrity of native desert redband trout.

- Program: Stock other species of fish only in reservoirs that will not pose a threat to preserving redbands and use only sterile rainbow trout.

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

2. Objective: Work cooperatively with state and federal land management agencies and grazing permittees to improve riparian and aquatic habitats.

- Program: Establish riparian vegetation objectives in management plans that annually provide 80% of the potential, riparian vegetation mass to be in place prior to high flows occurring.

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

3. Objective: Increase reservoir fishing opportunities.

- Program: Seek opportunities to construct new fishing reservoirs in cooperation with federal, state, and private landowners.

- Program: Seek cooperative agreements with private landowners to gain access to existing reservoirs.

- Program: Restock reservoirs with appropriate stocks of fish when drought conditions cause fish kills or de-watering.

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

3.2.2.2 Nevada Department of Wildlife – Trout Management Plan (Gary Johnson, Elko Office)

The Nevada Department of Wildlife (NDOW) Trout Management Plan is currently under development – as a draft document (Gary Johnson, Personal Correspondence, Elko Office). Extensive fish assessment and habitat survey work has been done by NDOW within the Owyhee Subbasin over the past two decades. These data were utilized, along

with expert opinion from Gary Johnson (NDOW) and Pat Coffin (BLM) to help us quantify redband trout habitat ratings for the Nevada portion of the Owyhee Subbasin.

3.2.2.3 Oregon Department of Fish & Wildlife – Trout Management Plan, Redband Trout (Ray Perkins, Vale Office)

Distribution

Inland redband trout are native to the planning area. The populations within the Oregon planning area are grouped with the inland Columbia Basin redband/steelhead group (*Oncorhynchus mykiss gairdneri*) which includes other populations upstream of Hells Canyon Dam. Excerpts of Owyhee Subbasin goals, objectives and strategies from the ODFW trout management plan are summarized in Appendix 4.4.5.

Within the planning area redband are found in the mainstem of the Owyhee River, five tributaries of the Owyhee and in a tributary of Succor Creek – comprising 180 miles of river habitat (Table 3.2). Perkins et al. (unpublished) estimated that about 779 miles of redband trout habitat exists in the Idaho and about 321 miles of redband trout habitat exists in the Nevada portion of the Owyhee system (Table 3.3).

Table 3.2. Inland redband trout populations distribution and genetic status within the planning area in Oregon; and outside the planning area in Idaho and Nevada (From Ray Perkins, unpublished trout management plan, 2004).

STREAM REACH	ESTIMATED MILES OF HABITAT	GENETIC TESTS	RESULTS OF TEST
OREGON			
Dry Creek	5	YES	REDBAND
N. F. Owyhee River	1		
Jordan Creek	5	YES	REDBAND
Antelope Creek	1		
S. F. Carter Cr.	5	YES	REDBAND
W. L. Owyhee R.	5	YES	REDBAND
Owyhee River	159		
TOTAL	**180**		

The populations in Dry Creek and West Little Owyhee River are found in headwater reaches near springs. A few individuals have been found in lower Antelope Creek near ephemeral springs that exist only during average and above average water years. The populations in Jordan Creek and North Fork Owyhee River are located almost entirely in

Idaho. The majority of the habitat and most of the populations of inland redband exist outside the planning area in Idaho and Nevada (Table 3.3).

Table 3.3. Inland redband trout populations present within the Owyhee River basin within Idaho and Nevada (ODFW Trout Management Plan; Ray Perkins 2004).

RIVER REACH	ESTIMATED MILES OF HABITAT	GENETIC TESTS	RESULTS OF TEST
IDAHO			
N. F. Owyhee R.	61		
Jordan Creek		YES	REDBAND
Deep Creek	142		
Battle Creek	103		
Blue Creek	139		
Mainstem E. F. Owyhee	239		
Mainstem S. F. Owyhee	95		
TOTAL	**779**		
NEVADA (East Fork Owyhee River)			
Fawn Creek	5		
Mill Creek	13	YES	REDBAND
Van Duzer Creek	27		
Penrod Creek	15		
Deep Creek	18	YES	REDBAND
Hendricks Creek	3		
Beaver Creek	9		
Badger Creek	7		
California Creek	14		
Slaughterhouse Cr.	19		
Mainstem E. F. Owyhee	46		
TOTAL	**176**		
NEVADA (South Fork Owyhee River)			
Smith Creek	2		
Burns Creek	7		
Snow Canyon Cr.	11		
Jack Creek	32	YES	REDBAND
Bull Run Cr.	17	YES	HYBRIDS
Silver Cr.	10		
Indian Cr.	24	YES	REDBAND
Mainstem S. F. Owyhee	42		
TOTAL	**145**		

Life History

The life history of the inland redband trout within the planning area has not been studied. We assume that their life history is similar to other populations that have been studied, such as work completed in the Blitzen and Malheur river basins (Hosford and Pryble 1985, Hosford and Pryble 1989). Inland redband trout spawn from April through July depending upon water temperature. Spawning success is greatest in streams with clean gravel and cobble substrate. Most fish mature and spawn in their third year with a few in their fourth year. Most die after spawning.

Production

Oregon populations are very small. In tributary streams and confined to stream reaches near perennial springs. The populations in Jordan Creek and North Fork Owyhee River located mostly in Idaho are much larger. The abundance of inland redband trout in the Owyhee River mainstem above the reservoir is unknown.

Samples of redband trout from Dry Creek, West Little Owyhee River, Jordan Creek, and South Fork Carter Creek (Succor Creek) have been analyzed genetically. The results indicated that the populations in these streams show little evidence of hybridization with hatchery rainbow trout.

Growth of redband in the planning area has not been studied, but individuals seldom get over 10 inches in the tributaries. Trout from the mainstem can reach 18 inches.

Fishery

The fishery targeting inland redband trout is small compared to that for hatchery rainbow trout. Some native trout are caught incidental to the harvest of hatchery trout. Size of the catch is usually from 6 to 9 inches, with few individuals over 10 inches.

Management Concerns

A combination of habitat alteration and natural conditions restrict the abundance and distribution of both tributary and mainstem populations of inland redband trout. These conditions also keep the populations in the mainstem very low. Removal of riparian vegetation has allowed water temperatures to increase. The stream banks where the riparian vegetation has been removed are less stable and flush more sediment into streams during high water events. Unscreened diversions allow fish to enter irrigation ditches where they perish.

The confinement of small numbers of individuals in short perennial stream reaches increases the susceptible of these populations to catastrophic events and genetic bottlenecks. Maintaining connectivity of the populations in the planning area with the

populations in Idaho and Nevada is important. It maintains genetic variability and allows populations that are eliminated by catastrophic events to be repopulated.
Introduced hatchery trout that can interbreed with the native redband trout are still being planted in reservoirs in the planning area and upstream in Idaho and Nevada. Effects of stocked hatchery trout into waters with redbands are unknown.

The fishery directed on redband is small and incidental to stocked hatchery rainbow trout and warmwater fish. Stocking hatchery rainbow trout attracts more anglers into remote areas where native fish occur. The impact of an artificially inflated fishery can impact the small native populations.

Critical Uncertainties:

- What effects are the hatchery trout stocked into the planning area having on the native redband trout populations?
- What effects are the nonnative trout stocked into the upper basin in Idaho and Nevada having on the native redband trout in the planning area?
- What are the effects are introduced warmwater game fish having on native redband trout in the planning area?

In desert watersheds the issue of water rights is a major concern. The issue of increasing water storage upstream of Owyhee Reservoir is a concern because construction of additional dams would further segment this species and destroy spawning habitat. The result could mean the isolation and eventual extinction of the small populations in the planning area.

The populations of inland redband trout upstream of Owyhee Dam are acting as a meta-population. A meta-population is a series of populations that exchange individuals over time. If small populations are lost due, the habitat can be re-seeded from other nearby populations. This spreads the risk of extinction over several populations. Maintaining this interconnectivity within the Owyhee Basin is very important to long-term survival and genetic viability of this/these populations.

Management Objectives

Objective 1. Influence land management decisions in ways that benefit fish habitat.

Objective 2. Improve riparian habitat to provide food and cover for fish, maintain late season flows, prevent erosion, and ameliorate temperature extremes.

Objective 3. Improve water quantity and water quality to meet the biological needs of fish by providing adequate instream flows, reducing fish losses at diversions, and reducing nonpoint source pollution.

Ecological Considerations

1. Warmwater vs. coldwater interactions

- Channel catfish and smallmouth bass in the river upstream of the reservoir may be limiting the distribution of redband trout in the main river.
- The warmwater fish populations in the reservoir may be impacting the native amphibian fauna around the reservoir.

2. Fish issues that may conflict with amphibians issues.

- Management for large brown trout in the river downstream of the dam may have impacts on the frog/salamander population within this reach of the river.
- Management of trout in the upper basin stock ponds maybe impacting native populations of amphibians.

3. Introduced populations of fish in the upper river may impact the amphibians native this reach of the river.

- Hatchery rainbow trout stocked into several mainstream stock ponds in the headwaters of Oregon tributaries might be impacting native populations of redband trout.

4. All management activities in the future that concern the reservoir may be driven by the status of the introduced Lahontan tui chub.

3.2.3 State-EPA Water Quality Management

"Designated uses" have been identified for most, but not all, water bodies within Idaho, Oregon, and Nevada portions of the Owyhee Subbasin. For those water bodies not yet designated, the presumed existing uses are cold water aquatic life and primary contact recreation. One important use of waters in the Owyhee subbasin is to provide trout habitat that supports fisheries for both naturally-produced native redband trout and hatchery raised fish. Each “designated use” has narrative and numeric criteria that describe the level of water quality necessary to support that use. When a lake, river or stream fails to meet the water quality criteria that support its "designated use," it is considered to be an impaired water body – and is placed on the Federal Clean Water Act (CWA) 303(d) impaired waters list. Specific actions are required under state and federal law to ensure that the "impaired" water body is restored to a healthy fishable, swimmable condition. A summary of the 303(d) listed impaired waters – for Idaho, Oregon, and Nevada – is presented in § 4.5 “*Consistency with ESA/CWA Requirements*” of the Owyhee Subbasin Management Plan (Chapter 4) and in Appendix 4.3.

Causes of water quality problems are determined when water quality management plans – *Total Maximum Daily Loads* or *TMDLs* – are developed for the watersheds in which the listed segments are located. A TMDL identifies allowable pollutant loads to a waterbody from both *point* (end of pipe) and *non-point sources* (runoff) that will prevent a violation of water quality standards. Within the Owyhee Subbasin, several TMDLs and 305(b) assessments have been developed or are planned by the three states – Idaho, Oregon and Nevada – that have CWA responsibilities (see below).

3.2.3.1 Idaho TMDLs and Water Quality Management in the Owyhee Subbasin

The Idaho Department of Environmental Quality (IDEQ) recently completed its latest Integrated 303(d)/305(b) Report for 2002-03 (IDEQ 2003). (IDEQ) has also completed the following water quality management recovery plans:

- **Upper Owyhee (IDEQ 2003)**
- **North Fork and Middle Fork Owyhee (IDEQ 2003)**
- **South Fork Owyhee (IDEQ 2003)**
- **2002-03 Integrated 303(d)/305(b) Report (IDEQ 2003)**

These plans are available for review at the Idaho Department of Environmental Quality web site.

3.2.3.2 Nevada TMDLs and Water Quality Management in the Owyhee Subbasin

The Nevada Division of Environmental Protection (NDEP) first listed the East Fork Owyhee River (Wildhorse Reservoir to Mill Creek) on the 1996 303(d) list for total phosphorus, total dissolved solids (TDS), total suspended solids (TSS), turbidity and iron. In 1998, the lower reach of the East Fork Owyhee River (Mill Creek to Duck Valley Reservation) was added to the list for the same pollutants. The decision to include these water bodies on the 1996 and 1998 303(d) Lists were based upon data and information collected by NDEP. In 2002, the listing for the upper reach of the East Fork Owyhee River (Wildhorse Reservoir to Mill Creek) was expanded (based upon NDEP data) to include temperature. In 2002, Mill Creek was added to the 303(d) List due to exceedence of the cadmium (total), copper (dissolved and total), dissolved oxygen, iron (total), phosphorus, total dissolved solids, total suspended solids, temperature, turbidity and pH standards. Data collected by NDEP and corroborated by RTWG supported inclusion of these constituents into the 303(d) List for Mill Creek.

In January 2004, a Total Maximum Daily Loads for the East Fork Owyhee River and Mill Creek was completed as a review draft:

- **East Fork Owyhee River and Mill Creek TMDL (NDEP 2004).**

This water quality recovery plan covers the following parameters for the two stream reaches:

East Fork Owyhee River	Mill Creek
⇒ Iron (total)	⇒ Cadmium (total)
⇒ Phosphorus (total)	⇒ Phosphorus (total)
⇒ Total Suspended Solids	⇒ Copper (total; dissolved)
⇒ Turbidity	⇒ Temperature
⇒ Temperature	⇒ Dissolved Oxygen
	⇒ Total Dissolved Solids
	⇒ Iron (total)
	⇒ Total Suspended Solids
	⇒ pH

⇒ Turbidity

This TMDL is available for review at the Nevada Division of Environmental Protection web site.

3.2.3.3 Oregon TMDLs and Water Quality Management in the Owyhee Subbasin

The Oregon Department of Environmental Protection (ODEQ) has completed a state-wide Water Quality Management 305(b) Report (ODEQ 2000). ODEQ has not yet conducted TMDLs for the Oregon portion of the Owyhee Subbasin. The following water quality management plans are scheduled for completion by ODEQ during 2007-2009:

- **Upper Owyhee**
- **Middle Owyhee**
- **Crooked Rattlesnake**
- **Jordan**
- **Lower Owyhee**

3.2.4 Federal Government

3.2.4.1 Bureau of Land Management (BLM) – Resource Southeastern Oregon Management Plan

The Bureau of Land Management Record of Decision (BLM-ROD) approves the BLM's Southeastern Oregon Resource Management Plan (SEORMP). This BLM Resource Management Plan (RMP) will manage the public lands within the Malheur and Jordan Resource Areas of the Vale District during the next 20 years and beyond. Excerpts of Owyhee Subbasin goals, objectives and strategies from the Southeastern Oregon Resource Management Plan are summarized in Appendix 4.4.1. The SEORMP is a general resource management plan for 4.6 million acres of BLM administered public lands primarily in Malheur County with minor acreage in Grant and Harney Counties, Oregon (Table 3.4).

Table 3.4 Area of Federal, State, and private land in each resource area and in the Southeastern Oregon Resource Management Plan (SEORMP.) (source BLM geographic information system (GIS) data base)

Surface Jurisdiction	Malheur RA (acres)	Jordan RA (acres)	Planning Area (acres)
BLM			
Malheur County	1,982,572	2,462,711	4,445,283
Harney County	21,426	124,640	146,066
Grant County	9,299		9,299

Surface Jurisdiction	Malheur RA (acres)	Jordan RA (acres)	Planning Area (acres)
Subtotal	2,013,297	2,587,351	4,600,648
Other Federal Agencies			
Malheur County	51,842	48,487	100,329
Harney County			
Grant County			
Subtotal	51,842	48,487	100,329
State of Oregon			
Malheur County	101,467	176,347	277,814
Harney County	25,344	5,909	31,253
Grant County			
Subtotal	126,811	182,256	309,067
Private			
Malheur County	1,081,194	274,364	1,355,558
Harney County	35,326	39,017	74,343
Grant County	12,411		12,411
Subtotal	1,128,931	313,381	1,442,312
TOTAL	3,320,881	3,131,475	6,452,356

The planning area occupies the northern extent of the Great Basin division of the Intermountain Region. Physiographic provinces include much of the Basin and Range, the Owyhee Uplands, Blue Mountain, and Western Snake. The regional area and general vegetation classification is known as the Intermountain Sagebrush Province/Sagebrush Steppe Ecosystem. The Sagebrush Steppe Ecosystem covers much of eastern Oregon and Washington, southern Idaho, and portions of northern Nevada, California, and Utah. This ecosystem contains a broad diversity of landform and vegetation types, ranging from vast expanses of sagebrush-covered plateaus to rugged mountains blanketed with western juniper woodland and grassland.

The purpose of the SEORMP is to ensure that public land is managed for multiple use and sustained yield in accordance with the "Federal Land Policy and Management Act" (FLPMA) of 1976. A primary goal of this plan is to develop management practices that ensure the long-term sustainability of healthy and productive land, consistent with principles of ecosystem management. The SEORMP establishes guidance for managing a broad spectrum of land uses and allocations including livestock grazing management, wild horse management, land tenure adjustments, off-highway motorized vehicle use, wild, scenic and recreation river designations, mineral management, vegetation

management and areas of critical environmental concern (ACECs). The SEORMP contains resource objectives, land use allocations, management actions and direction needed to achieve program goals. The SEORMP consolidated, updates and replaces the existing land management guidance for the Malheur and Jordan Resource Areas.

The plan was prepared under the regulations implementing the Federal Land Policy and Management Act of 1976 (43 CFR 1600). An environmental impact statement was prepared for this plan in compliance with the National Environmental Policy Act (NEPA) of 1969. The plan is nearly identical to the one set forth in the Proposed SEORMP published in November of 2001.

Also, existing activity plans, e.g., livestock allotment management plans and wildlife habitat management plans, will continue to be in effect. They will be evaluated and changed, if needed, to be in conformance with the RMP. This plan established parameters for all resources on BLM-administered land in these two resource areas, with the exception of the wilderness suitability recommendations of existing wilderness study areas (WSA's) in the planning unit. The recommendations for wilderness suitability have been previously analyzed in the 1989 "Oregon Wilderness Final Environmental Impact Statement" and are outside the scope of this planning process.

The following is a summary of the major components of the approved SEORMP:

- Meet or exceed Air Quality Standards.
- Provide opportunities for exploration and development of energy and mineral resources while protecting other sensitive resources.
- Provide for an appropriate management response on all wildfires, while providing for fire fighter and public safety and protecting resource values.
- Recognize and utilize fire as a critical natural process to protect, maintain, and enhance resources.
- Restore, protect, and enhance the diversity and distribution of desirable vegetation communities including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.
- Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.
- Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.
- Manage ponderosa pine, Douglas fir, and western larch communities to emphasize forest health.
- Manage western juniper and aspen woodlands to restore and promote productivity and biodiversity.
- Manage public land to maintain, restore, or enhance populations and habitats of special status plant and animal species.
- Manage public lands by ensuring that surface water and ground water influenced by BLM activities comply with or are making progress toward achieving State of

Oregon water quality standards for beneficial uses as established per stream by the Oregon Department of Environmental Quality.

- Manage riparian/wetland areas for the restoration, maintenance, or improvement of riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands.
- Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.
- Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land.
- Manage riparian areas so they provide diverse and healthy habitat conditions for wildlife.
- Manage upland habitats so that the forage, water, cover, security and structure necessary for wildlife are available on public land.
- Maintain and manage wild horse herds in seven established herd management areas (HMA's) of Vale District and Heath Creek-Sheephead HMA of Burns District at appropriate management levels (AML's) to ensure a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.
- Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.
- Provide and enhance developed and undeveloped recreation opportunities, while protecting resources, to manage the increasing demand for resource-dependent recreation activities.
- Designate and manage 673,069 acres in five Special Recreation Management Areas (SRMA's), and 3,962,193 acres in two Extensive Special Recreation Management Areas (ERMA's).
- Manage off-highway vehicle (OHV) use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users. Designate public lands for OHV use as "Open" on 2,615,066 acres, "Limited" on 2,004,369 acres, and "Closed" on 15,826 acres.
- Manage public land actions and activities in a manner to be consistent with visual resource management (VRM) class objectives. Designate and manage 1,308,297 acres as VRM Class I, 217,226 acres as VRM Class II, 639,657 acres as VRM Class III, and 2,469,509 acres as VRM Class IV.
- Retain and/or designate 26 areas totaling 206,257 acres as Areas of Critical Environmental Concern (ACECs).
- Protect and enhance outstandingly remarkable values (ORV's) of congressionally designated national wild and scenic rivers, and provide interim protection of ORV's of rivers found to be administratively suitable for inclusion in the national wild and scenic river system. Continue to manage the congressionally designated Main Owyhee (120 miles, 35,240 acres), West Little Owyhee (58 miles, 12,520 acres) and North Fork Owyhee (10 miles, 1,247 acres) components of the National Wild and Scenic Rivers System (NWSRS), as prescribed in their 1993 management plan, compliant with the Oregon District Court's decision. Recommend and manage four river segments (42.5 miles) as administratively

suitable for designation as wild and scenic rivers. Release from further wild and scenic river consideration 145.5 miles of eligible study river segments determined to be non-suitable administratively for wild and scenic river designation.

- Continue managing 32 wilderness study areas (WSA's —1,273,015 acres) under BLM's "Interim Management Policy for Land under Wilderness Review" (IMPLWR). Include in adjacent WSA's certain other BLM-administered lands identified in the 1991 "Wilderness Study Report, Oregon" which are determined to have wilderness values and manage them under the IMPLWR.
- Manage caves determined to be significant and caves nominated for significance which require more data to determine significance in compliance with the 1988 "Federal Cave Resources Protection Act" and BLM's "Oregon and Washington Interim Cave Management Policy".
- Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations.
- Provide for the protection and conservation of cultural and paleontological resources. Increase the public's knowledge of, appreciation for, and sensitivity to cultural and paleontological resources. Consult and coordinate with American Indian groups to ensure their interests are considered and their traditional religious sites, landforms and resources are taken into account.
- Meet public needs for use authorizations such as rights-of way, leases and permits consistent with other resource objectives.
- Acquire and maintain legal public access to public land consistent with other resource objectives.
- Eliminate unauthorized use of public land.
- Lands are identified for retention and acquisition to consolidate public land holdings while retaining and acquiring land with high and public resource values.
- Establish right-of-way corridor routes and corridor avoidance and exclusion areas.

3.2.4.2 Bureau of Land Management (BLM) – Owyhee Resource Area – Resource Management Plan

Purpose and Need

The Owyhee Resource Management Plan (RMP) was prepared to provide the Bureau of Land Management, Lower Snake River District with a comprehensive framework for managing public lands administered by the Owyhee Resource Area. The purpose of the RMP is to ensure public land use is planned for and managed on the basis of multiple-use and sustained yield in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA). Excerpts of Owyhee Subbasin goals, objectives and strategies from the Owyhee Resource Management Plan are summarized in Appendix 4.4.2.

Planning Area

The Owyhee Resource Area, located in southwestern Idaho's Owyhee County, encompasses 1,779,492 acres. This total includes the following:

- 1,320,032 acres administered by BLM, Idaho
- 136,936 acres administered by the State of Idaho
- 319,777 acres of private lands

- 2,747 acres of water, primarily the Snake River

The area is bounded on the west by Oregon, on the south by Nevada, on the north by the Snake River and on the east by Castle Creek, Deep Creek, the Owyhee River, and the Duck Valley Indian Reservation. Most of the public lands are contiguous with only a few scattered or isolated parcels. The resource area contains the northern extent of the Owyhee Mountain Range and lies within what is often referred to as the Columbia Plateau. The Columbia Plateau is an elevated plateau with mountains which are separated by canyons draining to the Pacific Ocean via the Snake and Columbia Rivers. This broad regional landform and vegetative classification is known as the Intermountain Sagebrush Province/ Sagebrush Steppe Ecosystem. The Sagebrush Steppe Ecosystem is widespread over much of southern Idaho, eastern Oregon and Washington, and portions of northern Nevada, California, and Utah. This ecosystem contains a large diversity in landform and vegetation types ranging from vast expanses of flat sagebrush covered plateaus to rugged mountains blanketed with juniper woodlands and grasslands.

Planning Criteria

This step in the planning process provides for the development of planning criteria. Planning criteria influence all aspects of the planning process including inventory and data collection, formulation of alternatives, estimation of effects, and selection of the preferred alternative and RMP. Planning criteria can be in the form of limits or constraints, or they can be statements of goals or standards to be achieved.

Planning Criteria do the following:

- streamline the plan's preparation and put it into focus;
- establish standards, rules, and measures to be used in the process;
- guide development of the RMP to ensure that it is tailored to the issues;
- guide and direct the resolution of issues through the planning process;
- indicate factors and data that must be considered in making decisions.

General Planning Criteria

The principles of multiple use and sustained yield will guide the land use decisions within the Owyhee Resource Area. However, all lands may not be open for all multiple uses. Some uses may be excluded on some lands to protect resource values either by law or regulation or by decision reached through the planning process. Site specific locations for range improvements and other structures will generally not be determined in the RMP. The RMP was prepared using the most current and best available information. Only limited inventories for the purpose of gathering additional data were conducted.

The following general planning criteria apply to the Owyhee RMP.

- Existing laws, regulations, and BLM policies;
- Plans, programs and policies of other federal agencies, state and local governments, and Indian tribes;
- Public input;
- Quantity and quality of noncommodity resource values;

- Future needs and demands for existing or potential resource commodities and values;
- Past and present use of public and adjacent lands;
- Public benefits of providing goods and services relative to costs;
- Environmental impacts;
- Social and economic values;
- Public welfare and safety.

Specific Program Planning Criteria
In addition to the general criteria listed above, the following program-specific criteria will apply to individual program decisions:

Air Quality: Under the Clean Air Act, BLM administered lands were given a Class II air quality classification. This classification allows moderate deterioration associated with moderate, well-controlled industrial and population growth. All lands within the resource area will be managed under Class II standards unless they are reclassified by the State as provided for in the Clean Air Act.

Water Quality: Section 319 of the Clean Water Act obligates federal agencies to be consistent with State Nonpoint Source Management Program Plans and relevant water quality standards. Section 313 requires compliance with State Water Quality Standards. BLM will incorporate applicable best management practices or other conservation measures for specific programs and activities into the RMP. Water quality will be maintained or improved in accordance with State and Federal standards.

Vegetation Management: Vegetation will be managed to achieve desired plant communities (considering the ecological site potential) that provide for:

- Biodiversity; protection and restoration of native species; and non-consumptive uses including plant protection, visual quality and watershed protection.
- The desired plant communities will provide forage for livestock, wildlife, and wild horses.
- Forage will be allocated for domestic livestock grazing on suitable rangeland based on multiple use and sustained yield.
- Plant maintenance, watershed protection and stability, and wildlife habitat needs will be provided for.
- Forage will be allocated to support wildlife at population levels based on multiple use and sustained yield objectives and through consultation with the Idaho Department of Fish and Game.
- Forage will be allocated to wild horses sufficient to support the appropriate management level (AML).
- Water quality will be given priority in all vegetation management decisions.
- Prescribed fire and other treatment methods will be considered as management tools to manipulate vegetation.

Riparian Areas, Floodplains and Wetlands: Riparian areas, floodplains and wetlands will be managed to protect, improve and restore their natural functions to benefit water storage, groundwater recharge, water quality, and fish and wildlife values. All management practices will be designed to maintain or improve the integrity of these high-priority values. The Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management will be used to guide management actions.

Forest and Woodland Management: Except where closed by law or regulation, lands containing forest products such as firewood and Christmas trees will be available for harvest, subject to special restrictions to protect other resource values.

Noxious Weed Control: BLM will work with county governments to monitor the locations and spread of noxious weeds. BLM will control the occurrence and spread of noxious weeds on public lands where economically feasible and to the extent funds are available. Noxious weed control will be conducted in accordance with the integrated weed management guidelines and design features identified in the Northwest Area Noxious Weed Control Program EIS of 1985.

Threatened and Endangered Species: Management actions authorized, funded or implemented by BLM will be done so as not to jeopardize the continued existence of Federally listed threatened or endangered plant or animal species or result in the destruction or modification of critical habitat. State sensitive species and species proposed for Federal listing (candidate species) will be given the same consideration as listed species.

Wild Horses: Forage will be provided to support wild horses at levels established in accordance with the Wild and Free-Roaming Horses and Burros Act. Adjustments of the appropriate management level (AML) range will be based on monitoring to ensure a thriving natural ecological balance within the herd management areas (HMAs).

Livestock Management: Livestock utilization of public lands will be managed under the principles of multiple use and sustained yield. Livestock will be managed to improve public land resources, enhance productivity and stabilize the livestock industry dependent upon the public range over the long term. The Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management will be used to provide guidance. Forage will be allocated for domestic livestock grazing on suitable rangeland based on multiple use and sustained yield objectives by allotment. Forage determinations made in the RMP will provide guidance for issuance of grazing decisions on individual allotments in accordance with applicable BLM regulations. Decisions will be made on season of use, class of livestock and stocking levels.

Fire Management: Wildfires will be aggressively suppressed in all areas except where specifically identified to allow natural fire processes to occur. Fire suppression will be done using the least amount of surface disturbance. In wilderness study areas and in areas containing significant cultural or paleontological values, surface-disturbing fire suppression equipment will only be used to protect human life or property. Public lands

and resources affected by fire will be rehabilitated in accordance with the multiple use objectives identified for the affected area, subject to available funding. The Lower Snake River District Fire Management Plan will provide guidance for fire management activities.

Land Tenure Adjustments: All public lands will be retained in federal ownership unless determined that disposal of a particular parcel will serve the public interest. Lands may be identified for disposal by sale, exchange, or State indemnity selection. Lands identified for acquisition will be based on public benefits, management considerations and public access needs. Specific actions to implement the land tenure decisions made in the RMP will include full public participation.

Rights-of-Way: Public lands will generally be available for transportation and utility rights-of-way except where specifically prohibited by law or regulation (such as wilderness study areas) and in areas specifically identified as avoidance and exclusion areas to protect high resource values.

Energy and Minerals: Except where specifically withdrawn to protect resource values, public lands will be available for energy and mineral exploration and development based upon applicable regulations and Federal and State laws. Mitigation measures will be developed to protect resource values.

Recreation: The public lands will be managed to enhance recreation opportunities and visual resources. All lands will be identified as being within either special recreation management areas (SRMAs) or extensive recreation management areas (ERMAs). Some areas may be subject to special measures to protect resources or reduce conflicts among uses. BLM may develop and maintain various recreation facilities on the public lands including campgrounds, picnic areas and boat launches.

Motorized Vehicle Use: All public lands will be designated as open, limited, or closed to off highway vehicles. Public safety, resource protection, user access needs and conflict resolution will be considered in making these decisions.

National Wild and Scenic Rivers System: All rivers and streams in the Owyhee Resource Area, including those on the Nationwide River Inventory, will be evaluated for potential addition to the National Wild and Scenic Rivers System. The evaluation will be done in accordance with the guidelines published by the Secretaries of Interior and Agriculture on September 7, 1982, and other current applicable guidance.

Wilderness Recommendations: BLM wilderness recommendations developed during previous wilderness evaluation efforts will be carried forward into the RMP. Any additional BLM wilderness “suitable” recommendations developed during the RMP will be in accordance with the criteria and quality standards identified in the BLM Wilderness Study Policy; Policies Criteria and Guidelines for Conducting Wilderness Studies on Public Lands.

Cultural, Geological, Paleontological and Cave Resources: Cultural, geological, paleontological and cave resources will be managed to maintain or enhance significant scientific, educational and recreational values. Cultural sites that meet National Register criteria will be protected and nominated for inclusion on the register.

Areas of Critical Environmental Concern (ACEC): Areas of critical environmental concern (ACECs) are defined by the Federal Land Policy and Management Act (FLPMA) as: "Areas within the public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards." ACECs may be designated in areas where both criteria of "relevance" and "importance" as defined in the BLM planning regulations are met.

Fish, Wildlife, and Habitat Objectives

Fishery Habitat Objectives:

- FISH 1: Improve or maintain perennial stream/riparian areas to attain satisfactory conditions to support native fish.

- FISH 2: Improve reservoir fisheries, when appropriate, in consultation with State agencies and adjacent landowners.

Wildlife Habitat Objective:

- **WDLF 1:** Maintain or enhance the condition, abundance structural stage and distribution of plant communities and special habitat features required to support a high diversity and desired populations of wildlife.

3.2.4.3 Bureau of Land Management (BLM) – Proposed Elko/Wells Resource Management Plans – Fire Management Amendment and Final Assessment

This plan pertains to the Nevada portion of the Owyhee Subbasin (BLM 2003). Excerpts of Owyhee Subbasin goals, objectives and strategies from the Proposed Elko/Wells Resource Management Plans amendment are summarized in Appendix 4.4.3. Objectives and strategies were developed for protection and enhancement of wildlife in the following habitat types/ species associations:

- Low Sagebrush and Desert Shrub
- Aspen Areas
- Seral Sagebrush Grasslands
- Mountain Mahogany/Juniper
- Mixed Conifer

Objectives and strategies for Low Sagebrush and Desert Shrub:

Objective:	**Strategy:**

- To maintain the native community, to provide for livestock and wildlife forage. Some of the areas are important for winter antelope habitat.
- Prevent annual vegetation or non-native plant incursion into this vegetation type resulting from disturbance of the existing community.
- Maintain native vegetation composition.

Objectives and strategies for Aspen Areas:

Objective:
- Maintenance and restoration of the aspen stands.

Strategies:
- Maintain healthy aspen stands with appropriate stand age class diversity.
- Maintain and improve riparian integrity.

Objectives and strategies for Seral Sagebrush Grasslands:

Objective:
- Maintain and improve native vegetation conditions, limit the spread of annual invasive species and noxious weeds, protect critical watersheds, provide wildlife and livestock forage and provide woodland products from higher elevations.

Strategy:
- Maintain and/or improve sagebrush/perennial grass diversity.
- Prevent further encroachment of annual and non-native vegetation in the area.

Objectives and strategies for Mountain Mahogany/Juniper:

Objective:
- Management objectives are for woodland products and big game habitat.

Strategy:
- Maintain woodlands.

Objectives and strategies for Mixed Conifer:

Objective:
- Restore the health of the forest community.

Strategy:
- Healthy mosaic of uneven aged conifer stands with reduced fuel loadings.

3.2.4.4 U.S. Forest Service – Humboldt-Toiyabe Forest Plans

A Forest Plan provides overall management direction that drives activities and sets guidelines for programs and projects. The National Forest Management Act requires Forest Plans to be revised every 10 - 15 years. The Humboldt and Toiyabe Forest Plans were last developed in 1986 – both forest plans are currently being revised. Humboldt and Toiyabe National Forest Plans and revisions can be accessed at the following link: http://www.fs.fed.us/r4/htnf/projects/forestplan/index.shtml .

Currently, the Humboldt-Toiyabe National Forest is updating its 1986 Land Management Plans. Revision efforts will focus on six area which are in need of change (Source the Humboldt-Toiyabe National Forest web site accessed May 2004):

1. **Forest and Rangeland Health**
2. **Fire and Fuel**
3. **Grazing Management**
4. **Recreation Niches**
5. **Off Highway Vehicles**
6. **Landscape Strategy**

1. Forest Plan elements that are in need for change relative to Forest and Rangeland Health include:

- Past management practices, such as fire exclusion and livestock grazing, have moved ecosystems away from their properly functioning conditions. Ecosystems; as defined by their composition, structure, and function; are less resilient and are not sustainable. Examples include the decline of sagebrush communities due to the expansion of cheat grass and encroachment of pinyon-juniper stands, and a decrease in the seral components of forestlands.
- Disturbance processes, such as wildland fire and insects and disease, have changed from historic regimes. Ecosystems are less resilient to the effects of these disturbances.
- Invasive, noxious, and exotic species are increasing. The 1986 Forest Plans do not adequately cover invasive species management.
- There is an increased awareness of the high level of biological diversity that is geographically fragmented across the Forest. The unique qualities of these diverse communities require recognition. Since the Plans were written additional species of concern have been identified in Conservation Agreements.
- Forested lands represent only 8% of the National Forest System land within the Forest, and are critical for watershed integrity. Water quality is important for riparian dependent species and municipal water supplies.
- A new suite of Management Indicator Species (MIS) need to be identified based on habitats, potential impacts of use, and management of National Forest System lands.

2. Forest Plan elements that are in need for change relative to fire and fuel include:

- Since the 1986 Plans were written, much has been learned about the role fire plays as a disturbance process in the ecosystem. Due to fire suppression, the role that fire plays in the ecosystem has been altered.

- There has been an increase in the number of people living adjacent to and within the Forest. This increase in the wildland-urban interface limits fire activity, and creates a need to deal with acceptable fuel treatment options.
- Increasing size, intensity, and severity of wildland fires pose greater threats to firefighter safety, human life, and property. Increasing fuel loads are causing fires to burn outside of their historic regimes, and stand replacement fires are escalating.
- Need to incorporate national and regional fire management strategies, like the National Fire Plan and Healthy Forest initiatives, completed in recent years.

3a. Forest Plan elements that are in need for change relative to Grazing Management with respect to Livestock Use:

- The Humboldt and Toiyabe Plans are not consistent in their goals, objectives, standards, and terminology. For example the Toiyabe Plan set utilization standards relative to condition class of satisfactory or unsatisfactory, while the Humboldt Plan sets maximum utilization standards at or near desired future conditions.
- The current Plans only address utilization, stubble height, and stream bank stability. There is little flexibility to change short and long term management strategies to be responsive to changes in environmental conditions, such as drought, fire, and high forage years.

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3b. Forest Plan elements that are in need for change relative to Grazing Management with respect to wild horses and burros:

- The existing Plans provide little direction regarding wild horse and burro management. For example, many of the wild horse territories do not have or exceed designated management levels.
- Conflicts for forage utilization between livestock, horses, and wildlife are an increasing issue.

4. Forest Plan elements that are in need for change relative to Recreation Niches include:

- Nevada's increasing population growth, along with the promotion and discovery of Nevada as an outdoor recreation destination, contribute to the accelerating demands on limited recreation facilities, settings, and resources. Changing demographics, including aging populations, nontraditional and urban user groups are rapidly altering recreation products, technologies, and activities. The existing Forest Plans did not anticipate the new and changing demands, use patterns, and resource impacts.
- Increasing demands for recreational opportunities are often most intense in specific areas, especially in urban interface settings. These new pockets of concentrated use have generated resource and social issues not addressed in the current Forest Plans.
- Segments of the public have increased expectations of the Nation's forests to provide a level of services and facilities. These expectations demonstrate the increased linkage of urban forest zones, urban lifestyles, and quality of life.

- The public expects the Forest to provide high scenic quality as a component of their communities and recreation experiences. The Visual Quality Objectives referenced in the Forest Plans were based more on views from principal travel routes of 20 to 25 years ago, and do not necessarily reflect these current community values and concerns.
- Recreation Opportunity Spectrum (ROS) management objectives and standards need to consider new activities, values, and use patterns. ROS and scenery management objectives need to be consistent with overall desired conditions and management emphases.
- The Forest lacks a strategy to direct and promote rural tourism. Additional pressure is being placed on the development of Forest recreation opportunities and experiences to help support local economies.

5. Forest Plan elements that are in need for change relative to Off Highway Vehicles include:

- Off Highway Vehicle (OHV) popularity and use on National Forest System lands is growing at a phenomenal rate. Many locations throughout the HTNF attract intense OHV recreation, which is escalating the development of pioneered routes. In addition, large motorized events have grown in frequency.
- Motorized use, both summer and winter, is shifting into areas not previously used, and/or areas that are not suitable for these types of activities. User skill, equipment, and values are changing, allowing users to reach and impact new areas. The unrestricted use is causing resource damage and user conflicts.
- Residential growth in the urban interface is closing off traditional use areas, thereby creating conflict between residents and motorized users. This growth has also generated new Forest visitors with easy access to "backyard" National Forest System land.
- Forest Plan direction is outdated and did not anticipate the changes in use intensities, the geographic spread of motorized uses, or the types of equipment. Current travel management direction allows cross-country travel and the associated pioneering of new routes over much of the Forest.
- Areas that do have designated route restrictions have not had those restrictions consistently enforced, which has allowed new routes to proliferate. The designated routes are not necessarily adequate to give users the quality or quantity of experience they seek. Signing, mapping, and pre-trip planning information are generally spotty at best, leaving visitors to decide on their own how and where to travel.

6. Forest Plan elements that are in need for change relative to Landscape Strategy include:

- Current Forest Plan direction sets criteria, but does not set priorities on lands selected for adjustment. The criteria have not been reviewed in the last 20 years.
- In 1989, when the Toiyabe Forest boundary was adjusted, 90% of Reno was incorporated into the administrative boundary. This set the stage for acquisitions within urban landscapes, which have increased management complexities.

Traditional National Forest resource management objectives may not be fulfilled due to these complexities.

- The 1998 Office of Inspector General Report on the Forest Service Lands program in Nevada identified significant problem areas that have changed land adjustment concerns, practices, and procedures.
- Southern Nevada Public Land Management Act provides a significant funding source for land acquisition throughout Nevada. This funding opportunity has fostered many local government acquisition proposals that enhance open space availability around urbanized areas.
- Federal land acquisitions are a sensitive issue for most rural counties in Nevada that have a limited private land base. Some counties already exceed 90 percent federal ownership.

3.2.4.5 U.S. Fish & Wildlife Service – ESA Recovery Plans

The only native salmonid species that is currently known to have self-sustaining populations in the Owyhee Subbasin is the redband trout (*Oncorhynchus mykiss gairdneri*) – this sub-species is currently not listed under the ESA. Bull trout (*Salvelinus confluentus*) – is listed under the ESA as "threatened" – is found in adjacent river systems (such as the Bruneau and Jarbidge); however, self-sustaining populations of this bull trout are not known to exist within the Owyhee Subbasin.

Currently one species of birds and three species of mammals that inhabit the Owyhee Subbasin are listed as threatened or endangered species under the Federal ESA:

- the bald eagle (*Haliaeetus leucocephalus)* – Threatened
- the gray wolf (*Canis lupus)* – Endangered
- the grizzly bear (*Ursus arctos)* – Threatened
- the lynx (*Lynx Canadensis)* – Threatened

Currently, recovery plans are in place for some of these ESA-listed species. The following ESA recovery plans can be accessed at the US Fish & Wildlife Service ESA web site.

- the bald eagle (no recovery plan available on the FWS web site)
- the gray wolf (no recovery plan available on the FWS web site)
- the grizzly bear: http://ecos.fws.gov/docs/recovery_plans/1993/930910.pdf
- the lynx (no recovery plan available on the FWS web site)

In addition, the peregrine falcon (*Falco peregrinus)* was previously listed as a threatened species under the ESA, and has recently been de-listed.

At this time no invertebrates, amphibians or reptiles inhabiting the Owyhee subbasin are listed under the Federal ESA. The Columbia spotted frog, however, is a candidate species that will be evaluated for possible listing. Other candidate specie inhabiting the Owyhee Subbasin is:

- the yellow-billed cuckoo (*Coccyzus americanus*)

Two populations of sage grouse were recently (2003-2004) considered as candidates for listing under the ESA – "western" sage grouse and "eastern" sage grouse. The U.S. Fish and Wildlife Service determined, however, that the petitions to list these subgroups of sage grouse failed to show that "western" or "eastern" sage grouse are genetically distinct – either as a subspecies or a distinct population segment – from each other or from the greater sage-grouse populations. Therefore, USFWS decided that they are not eligible for listing under the ESA. The greater sage grouse, however, is currently under review for possible listing under the ESA.

The USFWS and the Bureau of Land Management (BLM) are the primary federal agencies responsible for the management of species such as sage grouse and pygmy rabbit – that inhabit the sage brush dominated regions of the Columbia Basin. The USFWS has funded ongoing projects to work with federal and state agencies as well as private organizations to conserve the greater sage-grouse and its habitat through voluntary partnerships on both public and private lands. Since 2001, the USFWS has provided Utah with $2.4 million and Washington with $730,000 for the restoration of sagebrush habitat. Through its Landowner Incentive Program, the agency also provided $1.4 million to Montana to improve the management of sagebrush habitat on private lands there. Over the past five years, the Bureau of Land Management has worked with several western states on cooperative sage-grouse conservation projects and has established partnerships with communities throughout the West to conserve and restore sage-grouse habitat.

3.2.4.6 U.S. Environmental Protection Agency – Clean Water Act Recovery Plans

The overall goal of the Clean Water Act is for all waters in the U.S. to be "fishable and swimmable". States are required to develop protective instream standards. Where those standards are not consistently met, a recovery plan must be developed and implemented. These recovery plans are referred to as Total Maximum Daily Loads (TMDL's) and the implementation plans (Water Quality Management Plans) that accompany the TMDL reports. TMDL's and the resulting implementation and improvement of water quality are important mechanisms to support the regional effort to restore healthy populations of salmon, resident fish & wildlife throughout the Columbia Basin (refer to the State TMDLs in the previous section).

The "CWA 303(d) impaired waters list" provides a way for states to identify and prioritize water quality problems. The list also serves as a guide for developing and implementing watershed recovery plans to protect beneficial uses while achieving federal and state water quality standards. Section 305(b) of the federal Clean Water Act (CWA) requires each state to prepare a water quality assessment report every two years. The U.S. Environmental Protection Agency (EPA) compiles the information from the individual state reports and prepares a summary report for Congress on the status of the nation's waters. EPA gives the states guidelines for preparation of 305(b) reports (USEPA 1997).

3.2.5 Shoshone-Paiute Tribe

The Shoshone-Paiute Tribes' have an important co-management role of the in the Owyhee Subbasin of the Middle Snake Province. The **vision** of the Shoshone-Paiute Tribes of Idaho & Nevada is to achieve a healthy Owyhee River system and adjoining watersheds within the Columbia River ecosystem -- which as a functional unit will support viable, genetically diverse and naturally sustainable fish & wildlife communities. Strategic planning and funding of mitigation & enhancement projects is essential to achieve the vision of the Shoshone-Paiute Tribes. In order to achieve the fish & wildlife goals and objectives, the Tribes sees value in working within the Columbia Basin Provincial Review Process and seeking cooperation with tribal, state and federal management entities with jurisdictions adjoining the Duck Valley Indian Reservation. Information compiled and summarized for Subbasin Summaries (Perugini et al. 2002) and Subbasin Plans, as part of the Middle Snake Provincial Review process, will be essential for identification and prioritization of enhancement and mitigation work in the Owyhee and Bruneau/Jarbidge subbasins.

The Shoshone-Paiute Tribes have developed the following goals, objectives and strategies for the fish, wildlife and habitat restoration in the Owyhee and Bruneau Subbasins (Perugini et al. 2002).

Goal: Work cooperatively with federal, state, county and private entities throughout the subbasin to enhance, protect and/or restore fish and wildlife habitat

Objective: Protect, enhance, and/or acquire wildlife mitigation properties in the Middle Snake Province, with emphasis on the Owyhee and Bruneau subbasins.

- Work with local landowners to discus habitat enhancement/protection/ acquisition opportunities.
- Develop method to evaluate habitat enhancement/protection/ acquisition opportunities in the subbasin
- Work collaboratively with interested entities in the subbasins, including, but not limited to: the Nature Conservancy, IDFG, NDOW, local sage grouse working groups, Owyhee Initiative Work Group, BLM, USFS, and NRCS.
- Explore opportunities to develop "grass banks" in Owyhee and Bruneau subbasins

Objective: Coordinate subbasin-wide land acquisitions, conservation easements and riparian habitat improvements.

- Fund and facilitate coordinator position and activities in subbasins where the Shoshone-Paiute Tribes have historical natural resource and cultural interests and rights.
- Facilitate development of cooperative funding and implementation of habitat protection and restoration across state and jurisdictional boundaries

Objective: Protect streams, associated wetlands and riparian areas on Duck Valley Indian Reservation

3.3 Existing restoration and conservation projects

3.3.1 BPA Funded Projects

BPA funded mitigation within the Owyhee Subbasin has occurred primarily through implementation efforts by the Shoshone-Paiute Tribe as off-site protection, mitigation, enhancement and compensation activities called for under Section 4(h) of the Pacific Northwest Electric Power Planning and Conservation Act and the Northwest Power Planning Council Fish and Wildlife Program. These activities provide partial mitigation for the extirpation of anadromous fish resources from usual and accustomed harvest areas and Reservation lands. Additional mitigation is also occurring to address impacts to resident fish and wildlife populations and habitats attributable to development of the Federal Columbia River Power System. This includes the implementation of wildlife mitigation efforts, via the Mid-Snake Interagency Work Group, through off-site mitigation intended to address the wildlife construction and inundation ledger for xx Dam.

These projects are all located within the boundaries of Duck Valley Indian Reservation. Geographic coordinates for DVIR corners are listed below:

LATITUDE	LONGITUDE	DESCRIPTION
-116.391	42.156	NW corner DVIR
-116.391	41.836	SW corner DVIR
-115.984	42.158	NE corner DVIR
-115.985	41.836	SE corner DVIR

3.3.2.1 Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation (200302600)

Project Description:
Conduct wildlife surveys to determine species composition and relative abundance on the Duck Valley Indian Reservation. HEP analyses will be conducted to determine habitat suitability index for target wildlife species.

Target Species:
Columbian spotted frog, sage grouse, white-faced ibis, American white pelican, bald eagle, peregrine falcon, waterfowl, sensitive bat species (including spotted bat), pygmy rabbit.

Type of Project (CBFWA):
wildlife

Objectives:

OBJECTIVE	STRATEGY -- TASK
1. Develop and implement terrestrial habitat and wildlife monitoring plan for the Duck Valley Indian Reservation.	a. Research, Monitoring &Evaluation (RM&E) – contract with a wildlife M&E specialist to develop a terrestrial habitat and wildlife monitoring plan
	a. Research, Monitoring & Evaluation (RM&E) –conduct habitat Analysis of DVIR using Landsat Thematic Mapper satellite image taken of reservation; groundtruthing; and delineation of habitat types and area extent. Incorporate habitat data into monitoring plan in subsequent iteration of plan.
	b. Research, Monitoring &Evaluation (RM&E) – conduct habitat evaluation (HEP methodology).
	c. Research, Monitoring &Evaluation (RM&E) – conduct wildlife monitoring: a.Spotted frog presence/absence surveys; b. Sage grouse lek surveys; c. Waterfowl production surveys; d. Bat surveys; e. Raptor surveys; f. Point counts for avian species; g. Small mammal surveys; h. Amphibian and reptile surveys; i. Big game surveys; j. White-faced ibis surveys; k. Pygmy rabbit survey.

Project 200302600 “Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation” was rated Fund-High Priority by both ISRP and CBFWA, and recommended in the Middle Snake Provincial Review package to NWPCC and subsequently recommended for funding by NWPCC (Mattie Allen, Shoshone-Paiute Tribes). In spite of approval of the project by the regional review process, but it was not funded by BPA in FY2003 or FY20004. Given that the ISRP has recommended this project as fundable, the Shoshone-Paiute Tribes consider the goals, objectives and strategies of this project to be validated and will seek future BPA-funding.

3.3.2.2 Enhance and Protect Habitat and Riparian Areas on the DVIR (199701100)

Project Description:

This project increases critical riparian areas of the Owyhee River and its tributaries as well as preserves the numerous natural springs located on the Duck Valley Indian Reservation. These riparian restoration actions will provide a clean pure source of water for the fish and wildlife.

Target Species:

Redband trout, bull trout other wild resident trout species comprising the native community; anadromous salmonids – either for reintroduction or off site mitigation; all wildlife species.

Type of Project (CBFWA):
Resident

Objectives:

OBJECTIVE	STRATEGY -- TASK
1. Protect specific springs from livestock impacts – based on revision of list of springs in proposal.	a. Cooperative management/Research – identify, prioritize and locate springs in need of protection
	b. Habitat Restoration – implement protective measures of springs (minimum of 6 springs per year)
2. Protect specific streams from livestock impacts –In coordination with Project 2000-079 and field observations.	a. Cooperative management/Research – identify, prioritize and locate streams/stream reaches in need of protection (priority to suspected redband trout streams)
	b. Habitat Restoration – Implement protective measures (fencing riparian areas/fixing road crossings) on streams and/or headwaters (appr. 6-10 miles of fence, troughs, culverts, etc)
3. Conduct fishery and habitat surveys	a. Research, Monitoring & Evaluation (RM&E) – implement PFC assessment
	b. Research, Monitoring & Evaluation (RM&E) – Conduct population estimates, size structure, condition, locations (GPS) in coordination with project 2000-079

Accomplishments:

YEAR	ACCOMPLISHMENT
1997	Began habitat assessments on DVIR
1997	Began planting trees around lakes (1000 4-5' trees)
1997	Initiated erosion control of lakes
1997	Purchase equipment to begin habitat work
1997	Quarterly & Annual report
1998	Began habitat protection of natural springs (i.e. Exclosure fencing, water troughs for stock)
1998	Protected two headwater areas (one fork of the Three Forks, Willis meadows, protecting 2 miles of stream)
1998	Initial data on population location, age structure, size, and habitat condition on 6

YEAR	ACCOMPLISHMENT
	streams and East Fork Owyhee River
1998	Began monitoring tree survival at lakes (Sheep Creek 35% survival, Mt. View 90%)
1998	Began monitoring of exclosures
1998	Began maintenance of exclosures, and springs
1998	Used fishery information to begin work on genetic assessment proposal
1998	Protected six springs (see map in narrative), located and prioritized future work
1999	Continued spring protection
1999	Began stream habitat rehabilitation (planted 50 willow shoots on 3 streams each)
1999	Continued maintenance and monitoring (repair exclosure fence, plumbing of troughs, photos of exclosure for future monitoring)
1999	Began stream habitat protection
1999	Protected 2 headwater areas 1 mile of stream protected (Boyle Creek, Watchabob)
1999	Protected 8 springs
1999	Collected water quality data and began monitoring biological parameters of streams (D.O, Ph, Temp)
2000	Continued Protective measures
2000	Protected 2 headwaters (protecting 1.5 miles of stream Boyle Creek, Willis Meadows)
2000	Protected 7 springs
2000	Continued monitoring of water quality
2000	Continued monitoring and maintenance of exclosures and springs
2000	Began to work with Tribal Environmental Department in monitoring
2000	Began to develop descriptions of streams, length, elevations, etc.
2001	Continued protective measures
2001	Protected 5 springs
2001	Protected 1 headwater area of suspected redband trout stream (Miller Creek, 1.5 miles of stream)
2001	Continued stream surveys, habitat and biological monitoring
2001	Worked with Project # 2000-079 in sharing data and information on trout streams, habitat conditions, biological information
2001	Continued with monitoring maintenance of springs and enclosures
2001	Fixed for road crossings (Skull Creek, Jones Creek 2, Little Sheep Creek) putting the stream back in channel and off road.

3.3.2.3 Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes (199505703)

Project Description:

Acquire, enhance and protect wildlife habitat to mitigate for the construction of Anderson Ranch, Deadwood, and Black Canyon hydroelectric facilities.

The Tribes will coordinate with the Albeni Falls Wildlife Mitigation Program (BPA Project 9206100) -- the wildlife mitigation program in place in the northern part of the state. The Tribes will consult and coordinate with this interagency team during M&E development and on HEP activities.

Target Species:
Mule deer, elk, mallard mink, black-capped chickadee, yellow warbler, yellow-rumped warbler, ruffed grouse, blue grouse, spruce grouse, sage grouse, redband trout, bull trout.

Type of Project (CBFWA):

Objectives:

OBJECTIVE	STRATEGY -- TASK
1. Identify parcels for acquisition or conservation easement	a. Research, Monitoring &Evaluation (RM&E) – perform broadscale habitat analysis of province using GIS data from ICDC, NNHP, NRCS, GAP Analysis and regional biologists
	b. RM&E – Consult with state and federal agency biologists, the Nature Conservancy and other entities to identify high priority areas
	c. Land/easement acquisition – negotiate with willing land owners to buy easements and/or fee-titles
2. Identify sites for habitat enhancement activities	a. RM&E – Consult with BLM Resource Area biologists, USFS, IDFG, Nature Conservancy, Northeastern Nevada Stewardship Group, Owyhee Initiative work group, local sage grouse work groups and others to identify habitat enhancement opportunities
	b. Cooperative Co-management -- Identify cost-sharing opportunities, develop enhancement plan, conduct NEPA compliance, and develop necessary MOUs – with cooperating agency(ies)
3. Protect 2500 HUs of wildlife habitat and associated aquatic habitat through fee-title acquisition or conservation easement	a. Land/easement Acquisition – acquire fee title or easement to appropriate parcels of land.
	b. RM&E – Conduct baseline HEP
	c. RM&E – Conduct baseline survey of property (GPS fences, habitat extents, aerial photos, noxious weed survey)
	e. RM&E – Conduct baseline aquatic resources

OBJECTIVE	STRATEGY -- TASK
	evaluation (PFC at minimum).
	f. RM&E – Conduct baseline wildlife surveys Draft property management plan that details O&M and M&E
4. Protect 500 HUs of wildlife habitat and associated aquatic habitat through habitat enhancement activities	a. RM&E – Conduct baseline monitoring activities (HEP); GPS treatment/enhancement areas
	b. Habitat Restoration – control noxious weeds
	c. Habitat Restoration – construct/repair/maintain fencing
	e. Habitat Restoration – conduct stream protection activities (water troughs, etc.)
	f. Habitat Restoration – rehabilitate/restore habitat by planting native seed stock or by transplanting native plants
	g. Habitat Restoration – manipulate vegetation (seeding, prescribed burns, chaining) to achieve enhancement objectives

Accomplishments:

Mitigation will occur in the Middle Snake Province – including the Owyhee Subbasin -- as defined by the NWPCC 2000 Fish and Wildlife Program for the following FCRPS hydroelectric projects:

- Deadwood Dam
- Anderson Ranch Dam
- Black Canyon Dam

YEAR	ACCOMPLISHMENT
2002	Purchase of 5355 acre wildlife mitigation parcel (closing ~ September 2002) in Bruneau subbasin

3.3.2.4 Lake Billy Shaw Operations and Maintenance and Evaluation (199501500)

Project Description:
The purpose of this Operation and Maintenance(O&M) project is to enhance and develop the Billy Shaw Reservoir fishery as a premier trout fishery in the Northwest U.S. Stocking with native fish (or suitable surrogate species); and conduct shoreline enhancement and water quality monitoring to facilitate fishery development.

Target Species:

Native resident fish.

Type of Project (CBFWA):
resident

Objectives and Strategies:

OBJECTIVE	STRATEGY -- TASK
1. Protect shoreline and inlet streams from degradation	a. Habitat restoration – plant native trees/willows and grasses along shoreline and tributaries to Lake Billy Shaw
	b. Control grazing impacts – install 4-7 water troughs/stock ponds to keep stock away from reservoir/fences
2. Disseminate information to public.	a. Education & public outreach – monthly newspaper articles/quarterly to city paper
	b. Education & public outreach – update & maintain signs to alert public to new fishing facility.
3. Work with Owyhee Schools on volunteer projects.	a. Education and public outreach – have students aid in planting trees/willows/grasses.
4. Reports to Bonneville Power Administration	a. Information documentation and transfer – Annual and Quarterly reports to track progress.
5. Stock Lake Billy Shaw with Sterile rainbow trout	a. Fishery Management – manage put-and-take fishery in Lake Billy Shaw – stock fish in reservoir during spring and fall as temperatures and conditions warrant and set fishery seasons.
	b. Monitor & evaluate – collect and summarize data on biological and economic aspects of Lake Billy Shaw fishery.
6. In coordination with scientists and other agencies update and review Operations and Maintenance and Monitoring and Evaluation Plan	a. Monitoring and Evaluation Plan
	b. Operations and Maintenance Plan, including maintenance of fish screens at the dam and water intake structure.

Accomplishments:

YEAR	ACCOMPLISHMENT
1998	Construction complete on Dam and associated structures
1999	Initial filling in spring, water quality and piezometer monitoring begun, Fish

	screen maintenance, reseeding of borrow areas in fall 1999
2000	Continued monitoring of piezometers and water quality, Invertebrate sampling, invertebrate transplants, initial enhancement of shoreline areas (tree planting, willows), water quality data analyzed for fish stocking, exclosure fence around reservoir,
2001	Continued monitoring of piezometers and water quality, willows planted along shoreline, trees planted, contracts developed for initial stocking with sterile rainbow trout, maintenance of screens and structures, further development of M&E plan,
2001	installed solar water pump to provide water for stock, monitoring and maintenance of fences, water pumps and well, photo points established for monitoring of enhancement activities, Initial wildlife surveys begun in reservoir area

Project 199501500 “Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)” was merged (in 2003) with Project 198815600 “Implement Fishery Stocking Program Consistent With Native Fish Conservation” (Mattie Allen, Shoshone-Paiute Tribes). The new of this project title is: "Duck Valley Reservoirs Fish Stocking and O&M" and retains the old Lake Billy Shaw project number (199501500). The budget is the total of both recommended budgets and retains all the objectives of both projects (see below for the fish stocking objectives and strategies.

3.3.2.5 Implement Fishery Stocking Program Consistent With Native Fish Conservation (198815600)

Project Description:
To enhance fisheries on the DVIR we will stock three reservoirs (closed systems) with rainbow trout. This project will support a sustainable (put-and-take) harvest by Shoshone-Paiute tribal members and non-Indian anglers without impacting native trout.

Target Species:
Rainbow Trout (hatchery), Redband Trout (native)

Type of Project (CBFWA):
Resident

Objectives:

OBJECTIVE	STRATEGY -- TASK
1. Provide subsistence put-and-take trout fisheries for tribal and sport fishery for non-tribal members at various reservoirs on the Duck Valley Indian Reservation.	a. Fishery Management – manage put-and-take fisheries at suitable times & reservoirs (Mountain View Reservoir, Lake Billy Shaw, and Sheep Creek Reservoir) on the Duck Valley Indian Reservation to maximize survival and harvestable production (within one year) and minimize the impact on native resident fish populations.

	b. Monitor and Evaluation (M&E) – monitor seasonal reservoir conditions such as temperature and dissolved oxygen – to schedule trout stocking in order to optimize growth rates, catch rates, and harvest rates of hatchery trout.
	c. Monitor and Evaluation (M&E) – monitor native redband trout populations (presence/absence in reservoirs and influent/effluent streams – to minimize impact by hatchery trout.
	c. Monitor and Evaluation (M&E) – monitor cost & benefits of put-and–take fisheries.

Accomplishments:

YEAR	ACCOMPLISHMENT
1988	Rainbow trout stocking in Mountain View Reservoir, ID and Sheep Creek Reservoir, NV
1989-1998	(same as above)
1999	biological data collected, fishery data collected, rainbow trout stocking in Mt. View and Sheep Creek Reservoirs
2000	biological data collected, fishery data collected, rainbow trout stocking in Mt. View and Sheep Creek Reservoirs
2001	biological data collected, fishery data collected, rainbow trout stocking in Mt. View and Sheep Creek Reservoirs Began looking at feasibility stocking of native fish

3.3.2.6 Assess Resident Fish, E. Fork Owyhee Subbasin (2000079)

Project Description:

This project will eventually provide information on native trout on the DVIR for possible stocking into Lake Billy Shaw.

Target Species:
Redband Trout

Type of Project (CBFWA):
Resident

Objectives:

Project 2000079 Assess Resident Fish, E. Fork Owyhee Subasin is no longer funded; the funding awarded was limited, as it was awarded through a within-year request (Mattie

Allen, Shoshone-Paiute Tribes). The Tribes tried to get more funding in FY2004 to study native trout in the northern portion of the reservation, specifically the Mary's Creek area, as the original study was fine scale and limited to the southeastern portion of the DVIR.

3.3.2.6 Objectives and Strategies for Proposed and Approved but unfunded BPA Projects

The Habitat, Parks, Fish & Wildlife Department of the Shoshone-Paiute Tribes developed a suite of integrated funding proposals for FY2000 (Table 3.5). These proposals were submitted to the BPA funding process in January 1999. The new proposals were not recommended for funding by the Resident Fish Committee of CBFWA; however, the new Owyhee Basin proposals were subsequently recommended for FY2000 funding by the ISRP.

Table 3.5. Proposals recommended for funding by the Northwest Power Planning Council's Independent Scientific Review Panel for funding – but not funded in FY2000.

Project ID	Owyhee Subbasin Proposals -- Project Title	Strategy	Funded since 2000
20040	Develop a Fish & Wildlife Management Plan for the Owyhee Basin, DVIR	Integrated fish, wildlife and habitat planning.	no
20041	Develop a Fish & Wildlife Conservation Law Enforcement Plan, DVIR	Law Enforcement	no
20094	Assess Resident Fish Stocks Of The Owyhee Basin, DVIR	Research, Monitoring & Evaluation (RM&E) of fish populations, including genetic assessment of native trout	partially
20092	Inventory Wildlife Species & Populations Of The Owyhee Basin, DVIR	Research, Monitoring & Evaluation (RM&E) of wildlife populations, including habitat evaluation	yes
20093	Evaluate the Feasibility for Anadromous Fish Reintroduction in the Owyhee	Reintroduction of extirpated anadromous fish species	no

In their October 8, 1999 evaluation of FY2000 projects, the ISRP (99-3) clearly articulated the rationale to fund the five new Shoshone-Paiute Owyhee Basin proposals as a unified program:

> The proposals provide a strong rationale that funding be awarded to initiate the native fish and wildlife program that these 5 proposals present, because of: 1) the absence of any current wildlife or resident fish survey or management programs, 2) the total blockage of the Owyhee by Hell's

> Canyon Dam, and 3) the presence of potentially strong native stocks of redband trout in the Owyhee Subbasin. Further, since the current proposal solicitation and review process is under consideration of change, the important basic sub-basin survey work that is proposed could go undeveloped while the region develops a new proposal solicitation process. Funding for the development of a fish and wildlife inventory and subbasin plan in the Owyhee would further the proposed strategy to emphasize eco-province planning and peer review, which the ISRP supports." The ISRP went on to say: "Collectively, the proposals contain innovative projects of high programmatic value" … and "The work outlined in the 5 DVIR proposals will address the 4 criteria proposed by the Council for highest priority of recommendation …"

The final outcome was a decision by the Northwest Power Planning Council to not fund the Shoshone-Paiute proposals for FY2000. Since that time elements of some of these proposals have been funded; but a comprehensive management plan that encompasses all fish, wildlife and habitat projects is still lacking. The subbasin plans for the Owyhee and Bruneau/Jarbidge will together contribute to the comprehensive management of the DVIR.

Table 3.6. Summary of biological objectives and strategies for ongoing and proposed fish & wildlife projects sponsored by the Shoshone-Paiute Tribes.

PROJECT/OBJECTIVES	STRATEGIES
ONGOING BPA-FUNDED PROJECTS	
PROJECT 200302600 Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation	
1. Develop and implement terrestrial habitat and wildlife monitoring plan for the Duck Valley Indian Reservation.	a. Research, Monitoring &Evaluation (RM&E) – develop a terrestrial habitat and wildlife monitoring plan; conduct habitat Analysis of DVIR using Landsat Thematic Mapper satellite image taken of reservation; groundtruthing; and delineation of habitat types and area extent. Incorporate habitat data into monitoring plan in subsequent iteration of plan; conduct habitat evaluation (HEP methodology), b. Conduct wildlife monitoring: (1). Spotted frog presence/absence surveys; (2). Sage grouse lek surveys; (3). Waterfowl production surveys; (4). Bat surveys; (5) Raptor surveys; (6). Point counts for avian species; (7). Small mammal surveys; (8). Amphibian and reptile surveys; (9). Big game surveys; (10). White-faced ibis surveys; (11). Pygmy rabbit survey.
PROJECT 199701100 Enhance and Protect Habitat and Riparian Areas on the DVIR	
1. Protect specific springs from	a. Cooperative management/Research – identify,

PROJECT/OBJECTIVES	STRATEGIES
livestock impacts – based on revision of list of springs in proposal. 2. Protect specific streams from livestock impacts –In coordination with Project 2000-079 and field observations. 3. Conduct fishery and habitat surveys	prioritize and locate springs in need of protection (priority to suspected redband trout streams), b. Habitat Restoration – implement protective measures of springs (minimum of 6 springs per year); implement protective measures (fencing riparian areas/fixing road crossings) on streams and/or headwaters (appr. 6-10 miles of fence, troughs, culverts, etc). c. Research, Monitoring & Evaluation (RM&E) – implement PFC assessment; conduct population estimates, size structure, condition, locations (GPS) in coordination with Project 2000-079.
PROJECT 199505703 Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes	
1. Identify parcels for acquisition or conservation easement 2. Identify sites for habitat enhancement activities 3. Protect 2500 HUs of wildlife habitat and associated aquatic habitat through fee-title acquisition or conservation easement 4. Protect 500 HUs of wildlife habitat and associated aquatic habitat through habitat enhancement activities	a. Research, Monitoring &Evaluation (RM&E) – perform broadscale habitat analysis of province using GIS data from ICDC, NNHP, NRCS, GAP Analysis; conduct baseline HEP treatment/enhancement areas; conduct baseline survey of property (GPS fences, habitat extents, aerial photos, noxious weed survey); conduct baseline aquatic resources evaluation (PFC at minimum); conduct baseline wildlife surveys b. draft property management plan that details O&M and M&E. c. Coordinate enhancement efforts -- consult with state and federal agency biologists, the Nature Conservancy, USFS, IDFG, Nature Conservancy, Northeastern Nevada Stewardship Group, Owyhee Initiative work group, local sage grouse work groups to identify high priority species/areas. d. Land/easement acquisition – negotiate with willing land owners to buy easements and/or fee-titles. e. Cooperative Co-management -- Identify cost-sharing opportunities, develop enhancement plan, conduct NEPA compliance, and develop necessary MOUs – with cooperating agency(ies) f. Land/easement Acquisition – acquire fee title or easement to appropriate parcels of land. g. Habitat Restoration – control noxious weeds;construct/repair/maintain fencing; conduct stream protection activities (water troughs, etc.); rehabilitate/restore habitat by planting native seed stock or by transplanting native plants; manipulate vegetation (seeding, prescribed burns, chaining) to achieve enhancement objectives.
PROJECT 199501500 Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)	
1. Protect shoreline and inlet	a. Habitat restoration – plant native trees/willows and

PROJECT/OBJECTIVES	STRATEGIES
streams from degradation. 2. Disseminate information to public. 3. Work with Owyhee Schools on volunteer projects. 5. Stock Lake Billy Shaw with Sterile rainbow trout 6. Update and review Operations and Maintenance and Monitoring and Evaluation Plan	grasses along shoreline and tributaries to Lake Billy Shaw b. Control grazing impacts – install water troughs/stock ponds to keep stock away from reservoir/fences c. Education & public outreach – monthly newspaper articles/quarterly to city paper; update & maintain signs to alert public to new fishing facility; have students aid in planting trees/willows/grasses. d. Fishery Management – manage put-and-take fishery in Lake Billy Shaw – stock fish in reservoir during spring and fall as temperatures and conditions warrant and set fishery seasons. e. Monitor & evaluate – collect and summarize data on biological and economic aspects of Lake Billy Shaw fishery.

PROJECT/OBJECTIVES	STRATEGIES
PROJECT 198815600 Implement Fishery Stocking Program Consistent With Native Fish Conservation	
1. Provide subsistence put-and-take trout fisheries for tribal and sport fishery for non-tribal members at various reservoirs on the Duck Valley Indian Reservation.	a. Fishery Management – manage put-and-take fisheries at suitable times & reservoirs (Mountain View Reservoir, Lake Billy Shaw, and Sheep Creek Reservoir) on the Duck Valley Indian Reservation to maximize survival and harvestable production (within one year) and minimize the impact on native resident fish populations. b. Monitor and Evaluation (M&E) – monitor seasonal reservoir conditions such as temperature and dissolved oxygen – to schedule trout stocking in order to optimize growth rates, catch rates, and harvest rates of hatchery trout. c. Monitor and Evaluation (M&E) – monitor native redband trout populations (presence/absence in reservoirs and influent/effluent streams – to minimize impact by hatchery trout. c. Monitor and Evaluation (M&E) – monitor cost & benefits of put-and–take fisheries.
Project 2000079 Assess Resident Fish, E. Fork Owyhee Subasin	
1. Conduct resident fish assessment, including genetic survey of redband trout	a. Research, Monitoring & Evaluation (RM&E) quanytitative assessment of fish population species composition, distribution and abundance. (b) genetic survey of redband trout
PREVIOUSLY PROPOSED AND APPROVED BY NWPCC, BUT UNFUNDED BPA PROJECTS	
Project Proposal 20040 Develop a Fish & Wildlife Management Plan for the Owyhee Basin, DVIR	
Develop a comprehensive Fish & Wildlife Management Plan for the Owyhee Subbasin Basin, DVIR portion.	Integrated fish, wildlife and habitat planning.
Project Proposal 20041 Develop a Fish & Wildlife Conservation Law Enforcement Plan, DVIR	
Develop a fish & wildlife Conservation Law Enforcement Plan for the DVIR	Enhance Law Enforcement to protect fish, wildlife and habitats.
Project Proposal 20094 Assess Resident Fish Stocks Of The Owyhee Basin, DVIR	
Assess the resident fish stocks of the Owyhee Subbasin, DVIR portion.	Research, Monitoring & Evaluation (RM&E) of fish populations, including genetic assessment of native trout.
Project Proposal 20093 Evaluate the Feasibility for Anadromous Fish Reintroduction in the Owyhee	
Conduct a study to evaluate the	Reintroduction of extirpated anadromous fish

PROJECT/OBJECTIVES	STRATEGIES
feasibility for anadromous fish reintroduction in the Owyhee River system.	species.
Project Proposal 200007900 Assess Resident Fish Stocks Of The Owyhee/Bruneau Basin, D.V.I.R.	
Conduct a systematic resident fish species inventory & genetic stock assessment in the Owyhee/Bruneau River Basin, DVIR component.	Research, Monitoring & Evaluation (RM&E) of fish populations,
Project Proposal 32001 Evaluate the Feasibility Artificial Production Facility DVIR	
To provide a sustenance fishery for the Tribal members of the DVIR	Feasibility, Construction, and Operation of an Artificial Production Facility.

3.3.3 BPA Projects For Non-Tribal Entities

The Shoshone-Paiute Tribes have initiated and sponsored most of the BPA-funded projects in the Owyhee Subbasin. Since the beginning of the Council's Fish & Wildlife Program, only one Project has been funded for work in the Owyhee Subbasin by an entity other than the Tribes – i.e., the ongoing Native Salmonid Assessment Project sponsored by IDFG beginning in 1998. This project (BPA # 199900200), however, is not exclusively focused on the Owyhee Subbasin – it covers the Middle and Upper Snake Provinces in Idaho. The objectives of Idaho's salmonid assessment project are to:

- assess the current status of native salmonids in the Middle and Upper Snake Provinces in Idaho (Phase I);
- identify factors limiting populations (Phase II); and
- develop and implement recovery strategies and plans (Phase III).

The amount of Fish & Wildlife habitat in the Oregon portion of the Owyhee is relatively low (quantity and quality) compared to that in Idaho and Nevada. Although Nevada Department of Wildlife (NDOW) manages a very significant proportion of the fish & wildlife resources of the Owyhee Subbasin, no BPA funding has been provided to Nevada to date.

3.3.4 Actual Expenditures for Past Projects and Estimated Budgets (current and outyear) of Ongoing BPA Funded Projects

3.3.4.1 Budgets for Past BPA Funded Projects for the Owyhee Subbasin

The Shoshone-Paiute Tribe has received relatively little mitigation and enhancement funding from BPA to date, i.e., about $4.0 million from 1984 to 2004 (Table 3.4). About

half of the total (2.0 million) has been obligated during the most recent five years. From 1984 to 1998 the Duck Valley Resident Fish Project (198815600) was the central fish mitigation activity. The strategy was simple -- purchase rainbow trout from the U.S. Fish & Wildlife Service and stock them into two productive reservoirs (Mountain View and Sheep Creek) to sustain a put-and-take fisheries for tribal members and non-tribal fishers. Beginning in 1995, the strategy of developing productive reservoir fisheries was elaborated on – with the feasibility study of the construction of another dam and reservoir – expressly for native trout fisheries. The Lake Billy Shaw dam and reservoir construction project was completed in 1998(?). The development of the Lake Billy Shaw fishery is ongoing to present.

Projects based on fish & wildlife habitat restoration strategies were initiated in 1996. The need for concurrent research, monitoring and evaluation (RM&E) of DVIR fish populations, wildlife populations and their habitats is now apparent. A RM&E strategy for DVIR was recently funded by BPA as a prerequisite for ongoing funding of habitat restoration projects. Concurrently, we are developing a RM&E plan for the Owyhee Subbasin Plan which is consistent with the DVIR habitat M&E Plan.

Table 3.7. Review of Shoshone-Paiute Tribes' fish & wildlife projects funded by BPA since the inception of the NWPCC Fish & Wildlife Program amendment in 1984 (Source BPA Web site 2004).

FY	Project (click for detail)	BPA authorized	BPA obligated
1988	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$59,000	$59,000
1989	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$0	$76,370
1990	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$0	$50,000
1991	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$100,000	$85,000
1992	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$85,000	$85,000
1993	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$70,515	$129,019
1994	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$0	$100,000
1995	(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)	$110,000	$224,766
1995	DUCK VALLEY RESIDENT FISH PROJECT (198815600)	$100,000	$0
	1995 Total	**$210,000**	**$224,766**
1996	(PHASE IV) BILLY SHAW RES DEV PHASE 1	$485,000	$0

		(199501500)				
1996		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$100,000		$100,012
			1996 Total	**$585,000**		**$100,012**
1997		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$3,796,015		$0
1997		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$105,160		$105,160
1997		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$184,663		$608,000
			1997 Total	**$4,085,838**		**$713,160**
1998		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$3,764,015		$0
1998		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$110,000		$53,643
1998		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$240,000		$240,000
			1998 Total	**$4,114,015**		**$293,643**
1999		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$887,392		$0
1999		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$109,997		$0
1999		DUCK VALLEY RESIDENT FISH STOCKING (198815601)		$0		$110,000
1999		LAKE BILLY SHAW O&M (199501506)		$0		$215,000
1999		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$293,000		$222,767
			1999 Total	**$1,290,389**		**$547,767**
2000		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$221,550		$0

2000		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$119,903		$0
2000		DUCK VALLEY RESIDENT FISH STOCKING (198815601)		$0		$119,903
2000		LAKE BILLY SHAW O&M (199501506)		$0		$218,601
2000		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$294,722		$294,722
		2000 Total		**$636,175**		**$633,226**
2001		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$221,550		$0
2001		ASSESS RESIDENT FISH-OWYHEE BASIN-DUCK VALLEY IR (200007900)		$0		$195,299
2001		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$138,307		$26,631
2001		DUCK VALLEY RESIDENT FISH STOCKING (198815601)		$0		$119,903
2001		LAKE BILLY SHAW O&M (199501506)		$0		$218,601
2001		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$300,000		$294,722
		2001 Total		**$659,857**		**$855,156**
2002		(PHASE IV) BILLY SHAW RES DEV PHASE 1 (199501500)		$229,082		$0
2002		DUCK VALLEY RESIDENT FISH PROJECT (198815600)		$143,009		$0
2002		DUCK VALLEY RESIDENT FISH STOCKING (198815601)		$0		$146,534
2002		SHOSHONE-PAIUTE HABITAT ENHANCEMENT (199701100)		$310,200		$0
		2002 Total		**$682,291**		**$146,534**

Grand Total	**$12,578,080**		**$4,098,653**

During 1999-2000 the Shoshone-Paiute Tribes began to develop a more comprehensive and integrated approach for enhancement and mitigation projects. This integrated approach was supported by the Independent Scientific Review Panel (ISRP); however, funding limitations in year 2000 forestalled its implementation.

Shoshone-Paiute 3-Year Projected Budget 2005-2007

3.3.4.2 Projected Three Year Budgets for Ongoing BPA Funded Projects

Table 3.8. Fiscal year 2004 and outyear (2005-2007) budget projections for Shoshone-Paiute fish & wildlife projects on the Duck Valley Indian Reservation funded by Bonneville Power Administration.

PROJECT NUMBER / TITLE	PROJECT PHASE	2004	2005	2006	2007
SPT200302600 Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation	MONITORING AND EVALUATION	$120,010	$ 23,869	--	--
	TOTAL OUTYEAR BUDGETS	**$120,010**	**$ 23,869**	--	--
SPT199701100 Enhance and Protect Habitat and Riparian Areas on the DVIR	PLANNING AND DESIGN	$ 10,000	$ 10,000	$ 10,000	$ 10,000
	CONSTRUCTION/IMPLEMENTATION	$140,000	$145,000	$150,000	$155,000
	OPERATIONS AND MAINTENANCE	$100,000	$105,000	$110,000	$120,000
	MONITORING AND EVALUATION	$110,000	$115,000	$120,000	$125,000
	TOTAL OUTYEAR BUDGETS	**$360,000**	**$375,000**	**$390,000**	**$410,000**
199505703 Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes	PLANNING AND DESIGN	$171,347	$178,201	$185,329	$192,741
	CONSTRUCTION/IMPLEMENTATION	$570,000	$1,704,000	$600,800	$1,709,000
	OPERATIONS AND MAINTENANCE	$ 60,000	$100,000	$104,000	$144,000
	MONITORING AND EVALUATION	$ 30,000	$ 35,000	$ 40,000	$ 45,000
	TOTAL OUTYEAR BUDGETS	**$831,347**	**$2,017,201**	**$930,129**	**$2,090,741**
199501500 Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)	PLANNING AND DESIGN	$ 55,000	$ 60,000	$ 40,000	$ 40,000
	CONSTRUCTION/IMPLEMENTATION	$ 65,000	$ 67,000	$ 70,000	$ 80,000
	OPERATIONS AND MAINTENANCE	$ 74,000	$ 79,000	$ 84,000	$ 89,000
	MONITORING AND EVALUATION	$ 50,000	$ 55,000	$ 60,000	$ 65,000
	TOTAL OUTYEAR BUDGETS	**$244,000**	**$261,000**	**$254,000**	**$274,000**
198815600 Implement Fishery Stocking Program Consistent With Native Fish Conservation	CONSTRUCTION/IMPLEMENTATION	$150,000	$155,000	$160,000	$160,000
	OPERATIONS AND MAINTENANCE	$ 25,000	$ 27,000	$ 29,000	$ 32,000
	MONITORING AND EVALUATION	$ 34,000	$ 36,000	$ 38,000	$ 45,000
	TOTAL OUTYEAR BUDGETS	**$209,000**	**$218,000**	**$227,000**	**$237,000**
TOTAL – ALL PROJECTS		**$1,764,357**	**$2,895,070**	**$1,801,129**	**$3,011,741**

Table 3.9. Outyear (2005-2007) budget projections for Shoshone-Paiute fish & wildlife projects on the Duck Valley Indian Reservation funded by Bonneville Power Administration.

PROJECT	3-YEAR TOTAL 2005-2007
200302600 Wildlife Inventory and Habitat Evaluation of Duck Valley Indian Reservation	**$23,869**
199701100 Enhance and Protect Habitat and Riparian Areas on the DVIR	**$1,175,000**
199505703 Southern Idaho Wildlife Mitigation - Shoshone-Paiute Tribes	**$5,038,071**
199501500 Lake Billy Shaw Operations and Maintenance and Evaluation (O&M, M&E)	**$789,000**
198815600 Implement Fishery Stocking Program Consistent With Native Fish Conservation	**$682,000**
TOTAL 3-year budget for five ongoing projects:	**$7,707,940**

Restoration projects funded by BPA are summarized in Table 3.10.

Table 3.10 Inventory of -BPA-funded projects in the Owyhee Subbasin.

Project Title/ Duration	**Management Entity/ Funding Source and ID # (BPA # if applicable)**	**Brief Project Description/ Scale of Project**	**Subwatershed Name/**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Assess Resident Fish Stocks of the Owyhee/Bruneau Subbasins	DVIR/ **BPA # 200007900**	access the current status of native salmonids in the rivers and tributaries within the boundaries of the Duck Valley Indian Reservation/ **Rivers and tributaries within the boundaries of the Duck Valley Indian Reservation**		salmonid populations and habitat/ **(1) provide baseline information on genetic variation within and among populations of redband trout within the East Fork Owyhee River and Bruneau River drainage; (2) assess the extent of hatchery introduced rainbow trout introgression within these populations**	**Six of the ten streams scheduled for sampling in 2001 were completed and fin clips are currently being analyzed at a regional genetics laboratory**
Habitat enhancement and protection – Shoshone-Paiute Reservation/ **Ongoing**	Shoshone-Paiute Tribes/ **BPA # 9701100**	Habitat enhancement and protection – Shoshone-Paiute Reservation		Habitat enhancement and protection	
Native Salmonid Assessment Project / **1998-**	IDFG/ **BPA # 199900200**	**a**ssess the current status of native salmonids in the Middle and Upper Snake Provinces in Idaho (Phase I), identify factors limiting populations (Phase II), and develop and implement		Salmonid populations and habitat	

Project Title/ Duration	Management Entity/ Funding Source and ID # (BPA # if applicable)	Brief Project Description/ Scale of Project	Subwatershed Name/	Key Ecological Functions Addressed/ Goal of Project	Results of Project: Accomplishments and failures (Include a Quantitative assessment)
		recovery strategies and plans (Phase III)/ **Middle and Upper Snake Provinces in ID**			
Snake River Native Salmonid Assessment/ **1998-2015**	IDFG/ **BPA # 980002**	assess the status of native salmonids in the Middle and Upper Snake Provinces in Idaho (Phase I), identify factors limiting populations of native salmonids (Phase II), and develop and implement recovery strategies and plans (Phase III)/ **Snake River**		Salmonid populations	**in the first 3+ years of the project, fish and habitat surveys have been made at a total of 757 sites on private and public lands across southern Idaho in nearly all other major watersheds, including the Weiser, Owyhee, Payette, Boise, Goose, Raft, Rock,**

3.3.5 Non-BPA Funded Projects

The Owyhee Subbasin Plan includes some recommended strategies for fish and wildlife protection and restoration that are outside BPA's mandate. In order to aid fish and wildlife managers and the public in implementing this plan, we have attached Appendix 3.4 – which lists a wide array of entities that funding for projects related to natural resources restoration, and that may be alternative sources of future financial support for strategies in this plan.

Past restoration projects in the Owyhee Subbasin not funded by BPA are included in the following inventory of projects derived the Owyhee Watershed Council (OWC) and the Malheur County Soil Conservation Service (source: Jennifer Martin, OWC and Ed Petersen, NRCS; Table 3.11).

Table 3.11 Inventory of non-BPA-funded projects in the Owyhee Subbasin (source: Jennifer Martin, OWC and Ed Petersen, NRCS). .

Project Title/ Duration	Management Entity/ Funding Source and ID #	Brief Project Description/ Scale of Project	Subwatershed Name	Key Ecological Functions Addressed/ Goal of Project	Results of Project: Accomplishments and failures (Include a Quantitative assessment)
California Bighorn Sheep	The Nature Conservancy	Protect and maintain California bighorn sheep populations and their habitats		California bighorn sheep populations and habitats/ **Protect and maintain California bighorn sheep populations and their habitats**	
Fenced off Indian Bathtub in Hot Creek Watershed**/ Completed 1990**	USFWS	Fenced off Indian Bathtub in Hot Creek Watershed			
Groundwater, spring discharge and annual well withdrawals monitoring/ **Ongoing since 1993 (excluding 1997)**	USFWS, USGS				

Project Title/ Duration	Management Entity/ Funding Source and ID #	Brief Project Description/ Scale of Project	Subwatershed Name	Key Ecological Functions Addressed/ Goal of Project	Results of Project: Accomplishments and failures (Include a Quantitative assessment)
Intermittent Streams and Rivers	The Nature Conservancy	Maintain the high quality and diversity of the riparian communities within and along intermittent streams and rivers and prevent the degradation of these systems		Protect riparian communities/ **Maintain the high quality and diversity of the riparian communities within and along intermittent streams and rivers and prevent the degradation of these systems**	
Owyhee County Sage Grouse Working Group		Map locations of all known active and historic sage grouse leks in Owyhee County; Identify and map sage grouse breeding (nesting and early brood) habitat associated with active leks; Identify and map known sage grouse wintering habitat/ **Owyhee County**		Preserve sage grouse populations/ **Preserve and increase sage grouse populations in Owyhee County**	
Project 32012		assessing water quality standards attainment and meeting grazing, fisheries and terrestrial objectives			

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Rangewide surveys for all geothermal springs/ **Ongoing (every 2-3 years) since 1993**	USFWS, ISU				
Redband and Bull Trout	The Nature Conservancy	Protect and maintain population strongholds of redband trout by focusing on the protection and enhancement of riparian habitat within the stronghold population's watershed		Protect redband and bull trout populations and habitat/ **Protect and maintain population strongholds of redband trout by focusing on the protection and enhancement of riparian habitat within the stronghold population's watershed**	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Sage grouse habitat fragmentation study/ **2000-2004**	IDFG and UI	Researchers will monitor sage grouse using radio telemetry to determine sage grouse use of fragmented habitats; examine sagebrush patch size selection, nest site selection, seasonal movements, and seasonal habitat use in fragmented versus continuous habit/ **Jarbidge Resource Area**		Sage grouse populations and habitat	
Sage grouse life history study/ **Data collected in 2000/2001**	IDFG, UI				

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Sage Grouse Predator Project/ **2002-2008**	IDFG	six year study that will monitor six sage grouse populations across the state, one of which is in the Sheep Creek drainage west of the Bruneau River/ **Idaho**		Sage grouse populations and predator effects/ **(1) evaluate the effect of predator control on sage grouse nest success; (2) evaluate the effect of predator control on sage grouse survival; (3) document cause-specific mortality of sage grouse eggs, juveniles and adults; (4) evaluate the effect of preda**	
Sage grouse recovery in Elko County	Eastern Nevada Stewardship Group, Inc. (Northeast Nevada 2001)	Rehabilitate annual grasslands to perennial plant communities capable of supporting diverse land uses; Improve water quality and quantity within managed basin; Manage uplands and riparian vegetation to improve systems at risk and nonfunctioning systems/ **Elko County**		Preserve sage grouse populations/ **To manage watersheds, basins, or subbasins in a manner that restores or enhances (as appropriate) the ecological processes necessary to maintain proper function ecosystems inclusive of sage grouse**	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Shoshone-Paiute Tribes Sage Grouse Working Group	tribal members, Wildlife and Parks Department biologists and Tribal Business Council members	**Duck Valley Indian Reservation**		Preserve sage grouse populations/ **To maintain a sustainable sage grouse population on the Duck Valley Indian Reservation, promote healthy ecosystems and preserve traditional and cultural appreciation of the species**	
Shrub Steppe Habitat	The Nature Conservancy	Identify and protect the existing high quality shrub steppe habitat (late seral condition areas), while moving the fair quality shrub steppe (mid seral areas) into late seral conditions		Protect shrub steppe habitat/ **Identify and protect the existing high quality shrub steppe habitat (late seral condition areas), while moving the fair quality shrub steppe (mid seral areas) into late seral conditions**	
Spotted frog surveys/ **ongoing**	USFWS, IDFG, BSU				

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Springs, Spring Creek Systems, and Wetlands	The Nature Conservancy	Maintain or improve the ecological conditions of all springs, spring creek systems, and wetlands so as to be rated in Proper Functioning Condition		Protect springs, spring creek systems, and wetlands/ **Maintain or improve the ecological conditions of all springs, spring creek systems, and wetlands so as to be rated in Proper Functioning Condition**	
Jordan Valley Range Improvement/ **5 years**	NRCS/ **EQIP**	Fencing, livestock water pipe & troughs, range seeding/ **1 Ranch**	**170501090902**	Improving upland function and riparian condition	
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **4 Farms**	**170501102502**	Improving water quality	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **10 Farms**	**170501102501**	Improving water quality	
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **2 Farms**	**170501100104**	Improving water quality	
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **1 Farm**	**170501150303**	Improving water quality	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **1 Farm**	**170501030102**	Improving water quality	
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **1 Farm**	**170501100104**	Improving water quality	
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **1 Farm**	**170501100101**	Improving water quality	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Irrigation Improvement Project/ **5 years**	NRCS/ **EQIP**	Buried mainline, pump, sprinklers, gated pipe, irrigation water management, sediment ponds, grazing management, fencing/ **2 Farm**	**170501170101**	Improving water quality	
Erosion Control Project/ **2 years**	OWC/ **OWEB**	converting from open dirt ditch to pipe/ **1 Ranch**	Jordan	Improve water quality/ **Reduce soil erosion**	
Riparian Protection Project/ **2 years**	OWC/ **OWEB**	Install animal waste management system to prevent animal waste contamination; fencing of riparian area/ **1 Ranch**	Jordan	Improve water quality/ **Elimate any potential animal waste contamination and protect riparian area**	
Rangeland enhancement project/ **2 years**	OWC:BLM/ **OWEB**	**o**ff-site water development and use exclusion from the Owyhee River/ **BLM Allotment**	Lower Owyhee	**I**mprove upland condition and protect riparian areas/ **Improve livestock distribution and minimize livestock impacts on the banks of the Owyhee River**	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Sagebrush Pasture Solar Project/ **2 years**	OWC:BLM/ **OWEB**	off-site water development / installation of a solar pumping system/ **pasture within a BLM allotment (Nyssa Allotment)**	Lower Owyhee	Improve upland condition and function/ **Improve livestock distribution, enhance wildlife habitat, and improve riparian conditions**	
S. Board Mainline Extension/ **2 years**	OWC/ **OWEB**	conversion of cement ditch irrigation system to sprinkler and/or drip system/ **1 Farm**	Lower Owyhee	Improve water quality/ **Reduce irrigation-induced erosion through improved farm irrigation system**	
Irrigation Improvement Project/ **2 years**	OWC/ **OWEB**	off-site water development and reduction of irrigation-induced erosion/ **portion of 1 Farm**	Lower Owyhee	Improve water quality and protect riparian areas/ **Improve riparian condition and reduce irrigation-induced erosion through improved farm irrigation system**	
Range Seeding Project/ **2 years**	OWC/ **OWEB**	**brush control and range seeding/** portion of 1 ranch (approx. 640 acres)	Lower Owyhee	Improve hydrologic function of uplands/ **Improve grazing management for the benefit of livestock and wildlife**	

Project Title/ Duration	**Management Entity/ Funding Source and ID #**	**Brief Project Description/ Scale of Project**	**Subwatershed Name**	**Key Ecological Functions Addressed/ Goal of Project**	**Results of Project: Accomplishments and failures (Include a Quantitative assessment)**
Rangeland enhancement project/ **2 years**	OWC/ **OWEB**	off-site water development / installation of a solar pumping system/ **portion of 1 ranch**	Middle Owyhee	Improve upland condition and function/ **Achieve proper grazing management; provide reliable source of water for livestock/wildlife**	
Rangeland enhancement project/ **2 years**	OWC/ **OWEB**	off-site water development**/ portion of 1 ranch**	Crooked-Rattlesnake	Improve upland condition and function/ **Improve livestock distribution, reduce pressure on riparian areas, achieve proper grazing management**	
Erosion Control Project/ **2 years**	OWC/ **OWEB**	conversion from dirt ditch irrigation system/ poriton of 1 farm	Jordan	Improve water quality/ **Reduce irrigation-induced erosion through improved farm irrigation system**	

Jennifer Martin sent out the project inventory survey questionnaire to a list of contacts developed by the Owyhee Subbasin Planning Team on April 12th 2004. The response to the inventory survey, however, was minimal – only three entities responded to the survey:

- Pam Smolczynski, Idaho DEQ;
- Chuck Slaughter, University of Idaho; and
- Oregon Department of Fish & Wildlife.

Only, ODFW had an additional restoration projects to report (Appendix 3.4). The pertinent information on this project follows:

- **Project Title**: Fish Population monitoring

- **County**: Malheur
- **Stream Names**: Owyhee River, Dry Creek, N. F. Owyhee River, West Little Owyhee River
- **Project Type**: Monitoring
- **Land Owner**: BLM
- **Funding Source**: State of Oregon
- **Start Date & End Date:**1951-present
- **Status:** on-going
- **Limiting Factor/Environmental Process Addressed**:
    - Fish habitat
    - Water quality
    - Water quantity
    - Upland habitat
    - Riparian/wetland habitat
- **Brief Description**: Normal inventory of fish populations

3.3.5.1 Watershed Protecting Transformations in Malheur County Farming Practices 1980-2004[2]

The full text of the research paper provided by Clinton Shock et al. (May 2004) is presented in Appendix 3.5. Malheur County, Oregon includes portions of the Owyhee and Malheur Subbasins, and its primary irrigation water source is the Owyhee River – delivered by the Owyhee Irrigation District.

Notes on the Implementation of New Practices

The primary method of water application for Treasure Valley crops is furrow irrigation. Furrow irrigation is a method that is fairly easy to use, has been used for many years, and has some large advantages associated with it when applied to certain crops. In the past hundred years, large investments have been made in the effort to improve furrow irrigation. The use of field leveling, control structures, and water conveyance techniques, are just a few examples of the progress that has been made and is being made.

Many BMPs have been implemented in the Northern Malheur County GWMA that are protective of groundwater quality. Some of this progress is documented in the Ontario Hydrologic Unit Area (HUA) Final Report 1990 - 1997 (73).

Major changes in agricultural practices have occurred since groundwater contamination was identified in the Malheur River area in the late 1980s. The method of nitrogen application in this area has been changed. Reduced nitrogen loading has been accomplished by changes in the timing and the application of nitrogen as well as the rate of application. Plant tissue and soil sampling have also played a major role in modifying

[2] This section is derived from a research paper written by Clinton C. Shock, Herb Futter, Lynn B. Jensen, Jim Nakano, Vince Gaona, and Ray Dunten (May 2004).

practices for the application of nitrogen and other nutrients, enabling producers to apply only the amount of nutrient needed and only when that nutrient is needed. Changes in irrigation management practices have also occurred that increase the protection of groundwater quality.

Table 3.12 identifies the extent of specific implemented practices between 1990 and 1997 for groundwater protection, surface water protection, erosion protection, irrigation water management, and animal waste management through SWCD and NRCS programs. Other improvements have occurred before and after this time. Activities conducted exclusively through private efforts are not included.

Table 3.12 Extent of implementation of Best Management Practices in Malheur County, Oregon (Source Shock et al. 2004).

Best Management Practice	Extent of Implementation
Conservation Cropping Sequence	27,5764 acres
Grasses & Legumes in Rotation	1,231 acres
Irrigation Water Management	46,891 acres
Pasture / Hay Land Management	676 acres
Pasture / Hay Land Planting	285 acres
Nutrient Management	44,010 acres
Waste Utilization	1,670 acres
Soil Testing	35,595 acres
Fertilizer Application Timing	21,324 acres
Tissue Analysis	19,098 acres
Split Application of Nitrogen	15,125 acres
Banding of Nutrients	7,625 acres
Surge Irrigation	160 acres
Irrigation Scheduling	18,053 acres
Sprinkler Irrigation	6,737 acres
Filter Strip	618 acres
Tail Water Recovery System	16 systems
Irrigation Land Leveling	1,587 acres
Straw Mulching	5,490 acres
Polyacrylamide (PAM)	16,725 acres
Sediment Basins	8 basins
Irrigation Water Conveyance – Ditches	117,646 feet
Irrigation Water Conveyance - Pipe	373,178 feet
Structures for Water Control	330 structures
Weed screens	386 structures
Waste Management System	11 systems
Waste Storage Structure	4 structures
Waste Treatment Lagoon	2 lagoons
Waste Storage Pond	5 ponds

Number of Producers Adopting Farm Plans

Water quality farm plans are viewed as a set of progressive steps utilizing BMPs that lead to implementation of a Resource Management System. Plans are periodically reviewed and updated to include the newest BMPs available. Nearly all water quality plans written in the HUA include irrigation water management, nutrient management, and pesticide

management as basic plan recommendations. Additional practices are included on a case-by-case basis and plans are tailored to individual farm requirements.

The number of water quality farm plans completed through the seven-year period of the HUA project and beyond indicates continued interest and involvement by the local growers. The total number of plans completed is as follows:

- 9 plans by 1991,
- 39 plans by 1992,
- 69 plans by 1993,
- 98 plans by 1994,
- 121 plans by 1995,
- 146 plans by 1996, and
- 156 plans by 1997.

The 157 plans completed by 1997 represent approximately 44,000 acres, or about 28% of the total irrigated acres in the GWMA. From 1997 through 2000, 65 new water quality farm plans were completed (averaging 12 to 15 per year) – for a total of 222 plans.

Shortage of Federal Support for Farm Plans

Numerous growers seek cost share support for adoption of farming practices with positive environmental effects. Although approximately 70 and 170 applications were filed in Malheur County during the last two years, less than 10 percent of growers seeking cost share support have garnered support. It is probable that even more producers would apply if the probability of success were greater. Both profitability of agricultural production and scarcity of public resources currently limit the adoption of new farming practices.

3.3.5.2 Goals, Objectives and Strategies of the USDA Natural Resources Conservation Service (NRCS)

Goal: Enhance natural resource productivity to enable a strong agricultural and natural resource sector.

- Maintain, restore, or enhance wetland ecosystems and fish and wildlife habitat.
- Deliver high quality services to the public to enable natural resource stewardship.

3.3.5.3 Goals, Objectives and Strategies of the Nature Conservancy

Goals:

- Shrub-steppe habitat – Identify and protect the existing high quality shrub-steppe habitat (late seral condition areas), while moving the fair quality shrub-steppe (mid seral areas) into late seral conditions.

- Springs, spring creek systems, and wetlands: Maintain or improve the ecological conditions of all springs, spring creek systems, and wetlands so as to be rated in Proper Functioning Condition.
- River terrace communities: Maintain the existing condition and quality of all A and B ranked big basin sagebrush/basin wildrye river terrace communities along the South Fork of the Owyhee, and identify and protect similar river terrace communities throughout the Owyhee Canyonlands.

Strategies:

- Develop community supported plans for conservation of key ecological values that also take into account economic and cultural values.
- Direct resources to highest priority projects within the subbasin as identified using a science-driven ecoregional planning process.
- Emphasize protection of existing high quality habitats for a wide range of species and maintain existing areas of undisturbed shrub-steppe habitat.
- Work with willing landowners and land managers to protect priority conservation lands through acquisitions, conservation easements, land exchanges, and management agreements.

3.3.5.4 Goals, Objectives and Strategies for Sage Grouse Enhancement – Funded by Various Entities

Entity – Owyhee County Sage Grouse Working Group (Selected objectives and strategies)

Goal: Preserve and increase sage grouse populations in Owyhee County.

- Develop maps that identify sage grouse habitat for high priority protection from wildfire.
- Implement sagebrush restoration projects in historic sage grouse habitat.
- Prioritize sites for juniper control activities.

3.4 Gap assessment of existing protections, plans, programs and projects.

The Technical Guide for Subbasin Planners says that the inventory sections of subbasin plans should identify the gaps between actions that have already been taken or are underway and additional actions that are needed. This perspective can help determine whether ongoing activities are appropriate or should be modified and leading to new management activity considerations.

3.4.1 Analysis of Existing and Ongoing Actions Taken

Most of the BPA-funded fish & wildlife restoration projects in the Owyhee Subbasin since early 1980's have been sponsored by the Shoshone-Paiute Tribes and implemented on the Duck Valley Indian Reservation (DVIR). For the past two decades of the Council's Fish & Wildlife Program, no projects in the Owyhee Subbasin have been sponsored and implemented by the state agencies in Oregon or Nevada. Only one (regional) project has been implemented by IDFG in the Owyhee Subbasin, i.e., native fish assessment in the Snake River Basin. Corresponding objectives and strategies from the management plan that address these needs are referenced. The main focus in the Owyhee Subbasin at this time should be on native fish & wildlife assessment, riparian habitat improvement work, and Adaptive Management via monitoring & evaluation.

In the Owyhee Subbasin, outside the DVIR, many habitat restoration projects have already been implemented by non-BPA funding sources. While these projects have been beneficial for fish and wildlife, they have been mostly small projects not directly targeting fish & wildlife objectives and strategies.

3.4.2 Gaps Between Actions Taken and Actions Needed

Tables 3.13 and 3.14 provide a summary of the needs that were identified through the inventory and technical assessments. A large unmet need for basic scientific information needed to manage fish & wildlife populations. Starting in 2004, a comprehensive M&E Plan is being implemented for the riparian restoration projects sponsored by Shoshone-Paiute Tribes on the Duck Valley Indian reservation. A parallel M&E framework plan has been developed for the Owyhee Subbasin Plan. Funding is also needed for restoration efforts to conserve and enhance vulnerable redband trout populations and habitats. There are numerous objectives and strategies in the management plan that address the need for habitat evaluation, protection, and restoration.

Table 3.13. Summary of objectives and strategies from the management plan that address unmet Owyhee Subbasin strategic needs.

Identified Needs	Examples of management plan objectives and strategies that address needs
Habitat Restoration	Potential fish habitat restoration in the Owyhee Subbasin -- prioritize by determining the amount of usable fish habitat available to pure genetic strains of native species.
Reservoir fishery management plans	Develop fish management plans for Owyhee Subbasin reservoirs that emphasize native fish conservation, e.g., Wildhorse, Sheep Creek, Mountain View, and Lake Billy Shaw reservoirs.
Increased enforcement	Mid-Snake Province objective – Provide additional enforcement and education to protect native trout.
Research	Fully quantify losses to native resident fish & wildlife associated with the construction and inundation of the federal Columbia River hydropower system and Bureau of Reclamation Projects. Subbasin Objective: Conduct a loss assessment for native resident fish & wildlife associated with the operation of the Federal Columbia River Hydropower system and Bureau of Reclamation Projects.
Monitoring & Evaluation	The Owyhee Subbasin M&E Plan – described in Chapter 4 §4.6. The M&E Plan for the Duck Valley Indian Reservation is presented in Appendix 4.5.
Implementation of identified projects	Subbasin Objective -- Based on the loss assessment, restore native redband trout populations & resident wildlife to pre-project levels by addressing limiting factors. Subbasin Objective -- Based on the operational and secondary impacts loss assessment, mitigate for operational and secondary impacts to native resident fish & wildlife by an established date.

There is a need for a comprehensive evaluation of fish passage barriers in Owyhee Subbasin, based on the numerous reaches with “obstructions” as limiting factors in the QHA. The Owyhee Subbasin management plan addresses this need in Objective x

Integrated watershed planning and native fish habitat restoration strategic planning has been implemented by one project on the Duck Valley Indian Reservation. This strategic approach has not been implemented on the remaining portions of the Owyhee Subbasin in Nevada, Idaho and Oregon. The subbasin needs to develop a fisheries co-management plans for the Owyhee Reservoir, and other irrigation dams and reservoirs constructed by the Bureau of Reclamation. The Shoshone-Paiute Tribe plans to develop an integrated management approach for Sheep Creek Reservoir, Mountain View Reservoir, and Lake Billy Shaw. The Tribe also needs to coordinate with NDOW regarding the co-management of Wildhorse Reservoir fisheries.

The provincial management plan addresses this need through a proposed strategy that says, “develop technical and policy working groups that meet regularly to identify problems and implement solutions.”

Illegal harvest or habitat alteration may be a problem that is causing depressed redband trout populations in some portions of the Owyhee Subbasin – the extent of this potential problem is not known. Two of the current the current BPA-funded projects sponsored by the Shoshone-Paiute Tribe involve education and outreach and none provide enforcement protection. The managers believe that the current fishing regulations are adequate as long as compliance is high. Education and outreach are needed to increase compliance with fishery and habitat regulations.

In the past five years, worthwhile project proposals have been developed by the Shoshone-Paiute Tribes, approved by CBFWA, and recommended by the ISRP— that have not been funded. Tribal fish and wildlife managers in the Owyhee feel that there is a need for continuing funding existing projects and evaluating their effectiveness with a comprehensive M&E Program prior to funding new projects.

The management plan reflects the concern about lack of information in the objectives and strategies. BLM has conducted extensive PFC assessments and redband trout surveys on public lands, however, the QHA analysis indicated a lack of assessment-based information on private lands. The OSP M&E framework adopts a step-wise process where objectives and strategies can be re-evaluated on an iterative basis with respect to identified limiting factors.

As described in the Owyhee Management Plan, the Owyhee Subbasin offers opportunities for native redband trout restoration and mitigation of irrigation dam project impacts. There are also opportunities in the Owyhee Subbasin for mitigating losses caused by the federal hydropower system – within a broader Mid-Snake Province perspective, through enhancement of other resident fish & wildlife species.

3.4.3 Lack of Information and Critical Uncertainties

One of the most serious fish and wildlife management issues in the Owyhee Subbasin is the lack of basic information needed to scientifically manage the fish & wildlife resources. A critical need exists to implement a comprehensive Monitoring & Evaluation Plan for the Owyhee Subbasin (refer to Chapter 4, § 4.6). Additional fish and wildlife assessments are needed; including assessments on private lands if voluntary participation by landowners can be achieved. Once adequate fundamental scientific monitoring information is gathered, projects can be developed with a more valid basis and then implemented with ongoing monitoring of specific project effectiveness. At present, there are disconnects between identification of problems, prioritization of strategies, design and development of projects, implementation, and evaluation of effectiveness; however a comprehensive M&E plan is being developed for Shoshone-Paiute Projects on the Duck

Valley Indian Reservation (refer to Appendix 4.5) – that will be implemented during the spring-summer of 2004.

During the Qualitative Habitat Assessment (QHA), it became apparent that:

(1) little was known about the redband trout habitat in many river reaches due to the nature of the remote country and lack of easy access,
(2) although most of the land area of the Owyhee Subbasin is in public ownership, a significant proportion of the prime stream/riparian habitat is under private ownership and/or control via access, and
(3) much of the stream and riparian habitats with little or no assessment data are on the privately controlled stream reaches.

The confidence ratings (0= speculative; 1.0= expert opinion; 2= well documented) assigned to specific stream reaches in the QHA analysis of current habitat conditions provides a measure of information availability and uncertainty. If a specific stream reach has a confidence score less than 1.0, it indicates that little quantitative data exist and the rating is somewhat speculative (Table 3.14).

Table 3.14. List of stream reaches evaluated in the Qualitative Habitat Assessment with confidence scores less than 1.0 for the current habitat rating – for all portions of the Owyhee Subbasin – Idaho, Nevada, and Oregon.

4th Field HUC/ Reach Name	Description	Confidence Score <1
Idaho Portion of the Owyhee		
HUC 17050108		
Jordan Cr.-1	Jordan Cr. From OR Boundary to BLM boundary section	0.5
Jordan Cr.-3	Rail Cr. Confluence to BLM boundary	0.5
Jordan Cr.-4	BLM boundary near Buck Cr. to BLM boundary	0.5
Jordan Cr.-5	BLM boundary section line to BLM boundary upstream of Louse Cr.	0.5
Jordan Cr.-6	BLM boundary upstream of Louse Cr. To BLM boundary section	0.5
Jordan Cr.-7	BLM Boundary to state land section boundary	0.5
Jordan Cr.-8	State line lands boundary to headwaters of Jordan Cr.	0.5
Williams Cr.	Including Pole Bridge Cr. And West Cr.	0.5
Old Man Cr.	All	0.5
South Mountain Creek	Lower BLM upper put state includes Howl Cr. Coyote Cr.	0.5
Flint Cr.1	Lower	0.5
Upper South Boulder Creek	Mill Creek confluence to headwaters	0.5
Indian Cr.	Bogus Cr. (Lower) - confluence with South Fork Boulder to Section 10	0.5
Rock Cr.-2	From Meadow Creek to BLM	0.5
Rock Cr.-3	BLM portion in Section 26	0.5
Rock Cr.-4	From BLM/PVT boundary in Sec. 26 to above Triangle Reservoir.	0.5
Rock Cr. 6	From Sheep Creek/private boundary to headwaters	0.5
Meadow Cr.	Headwaters to confluence with Rock Cr.	0.5
HUC 17050107		
Juniper Cr. 2	From the start of the private up to the headwaters	0.5
Lone Tree Cr.	From Oregon State line to headwaters	0.5
Squaw Cr. 2	From the start of private in section 14 to the BLM in the northwest corner of section 31	0.5
Squaw Cr. 3	From private to headwaters	0.5

4th Field HUC/ Reach Name	Description	Confidence Score <1
HUC 17050106 – none <1		
HUC 17050105 – none <1		
HUC 17050104		
Shoofly Cr.-3	Bybee Reservoir to headwaters	0
Battle Cr.-2	Section 10 to above state section 36	0
Dry Cr.-1	confluence to reservoir	0
Nevada Portion of the Owyhee		
HUC 17050104		
Boyle Cr	Starts in NV and enters Owyhee in ID	0.5
S.F of Boyle Cr		0.5
Skull Cr		0.5
N.F. of Skull Cr		0.5
E.F. of Skull Cr		0.5
Reed Cr		0.5
Summit Cr		0.5
Jones Cr		0.5
Granite	probably fishless	0.5
HUC 17050105 – none		
Oregon Portion of the Owyhee		
HUC 17050108		
Cow Creek	Mouth to State Line	0.5
HUC 17050107		
Middle Fork	Idaho Segment	0

Many of the specific reaches with low confidence scores are on streams under private control where state and federal fish & wildlife agencies are unable to conduct fish and habitat assessments.

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