Malheur River Subbasin Assessment and Management Plan

For Fish and Wildlife Mitigation

Appendix B: Program Inventory

Malheur Watershed Council

And

Burns Paiute Tribe

May, 2004

Prepared with assistance of:

Watershed Professionals Network, LLC

Malheur River Subbasin Assessment and Management Plan

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Appendix B: Program Inventory

List of Tables

1 INTRODUCTION

The Malheur River Subbasin Assessment and Management Plan for Fish and Wildlife Mitigation is comprised of several documents. Because of the size of the documents the primary documents are further divided into sections for the purpose of saving as electronic files.

The Management Plan (of which this is an appendix), provides a summary of the assessment and inventory and describes the strategies needed to protect and restore fish and wildlife habitats within the subbasin.

This document provides a description of existing programs and projects to protect and restore wildlife habitats within the Malheur River Subbasin. This document is Appendix B to the Malheur River Subbasin Assessment and Management Plan submitted to the Northwest Power Planning and Conservation Council.

An additional attachment to this document is the inventory questionnaire.

The document is organized into five sections.

- **Section 2.1. Existing Legal Protection**.

- **Section 2.2: Existing Land Management and Fish and Wildlife Plans**. Many governmental initiatives include the word "*plan*" in the title, however these plans are included in the "*program*" section when the initiative is being implemented through specific regulations, funding or on-the-ground projects.

- **Section 2.3: Existing Management Programs**.

- **Section 2.4: Existing Restoration and Conservation Practices Inventory**. This section summarizes existing activities that are being implemented with the last five year time horizon.

- **Section 2.5: Gap Assessment of Existing Plans and Programs**.

What is not included in this Chapter? Broadscale laws and regulations or programs that require further step down implementation at the Malheur Subbasin scale will not be further described. Refer to the "Present Subbasin Management" section of the Malheur Subbasin Summary (BPT 2002) for a description of general programs for such entities as Bonneville Power Administration, Columbia Basin Fish and Wildlife Authority, National Marine Fisheries Service, Northwest Power Planning Council, U.S. Army Corps of Engineers, U. S. Fish and Wildlife Service, and U.S. Environmental Protection Agency.

2 INVENTORY OF EXISTING ACTIVITIES

2.1 Existing Legal Protection

2.1.1 Malheur County Zoning and Comprehensive Plan

Malheur County Zoning Ordinance designates zoning uses and locations as Exclusive Farm Use, Exclusive Range Use, and Exclusive Farm-Forest Use Zones. Goals and policies are established within these zones. The policy for Exclusive Farm Use is "to preserve and maintain the agricultural land in the county for agricultural purposes. Policies address protection of agricultural lands classified by the NRCS as being in Capability Class I through VI. Urban growth boundaries and farm use assessment are the major tools used to protect agricultural lands. The county will work with Malheur County SWCD, OSU Extension, and Malheur Basin Watershed Council (formerly Water Resource Committee) to improve conservation methods and water quality.

2.1.2 Instream Water Rights, Oregon Department of Water Resources

The Oregon Water Resources Department (OWRD) regulates water use in the subbasin. Guidelines for water appropriation (ORS 537) determine the maximum rate and volume of water that can legally diverted as defined in the Malheur Basin Program and its amendments. OWRD acts as trustee for instream water rights issued to the state of Oregon and held in trust for the people of the state.

2.1.3 Forest Practices Act, Oregon Department of Forestry

The ODF enforces the Oregon Forest Practices Act (OFPA) regulating commercial timber production and harvest on state and private lands. The OFPA contains guidelines to protect fish bearing streams during logging and other forest management activities. These guidelines address stream buffers, riparian management, road maintenance, and construction standards.

2.1.4 Dredge and Fill Regulations, Oregon Division of State Lands

Oregon Division of State Lands regulates the removal and filling of material in waterways. Permits are required for projects involving 50 cubic yards or more of material. Permit applications are reviewed by the ODFW and may be modified or denied based on project impacts on fish populations. The Oregon Division of State Lands also owns and manages State School Lands in the southern portion of the watershed. These lands are primarily leased for grazing.

2.1.5 Oregon Department of Fish and Wildlife

Oregon Department of Fish and Wildlife is responsible for protecting and enhancing Oregon's fish and wildlife and their habitats for present and future generations. ODFW co-manages fishery resources in the Subbasin with the Burns Paiute Tribe. Management of fish and wildlife and their habitats is guided by ODFW policies, collaborative efforts with affected tribes, and federal and state legislation. Direction for ODFW fish and wildlife management and habitat protection is based on the amendments and statutes passed by the Oregon Legislature and associated Administrative Rules that are developed as a result of legislative direction. For example, Oregon Administrative Rule (OAR) Chapter 635 Division 07 – *Fish Management and Hatchery Operation* sets forth policies on general fish management goals, the Natural Production Policy, the Native Fish Conservation Policy, and other fish management policies. OAR Chapter 635 Division 8 – *Department of Fish and Wildlife Lands* sets forth management goals for each State Wildlife Area, OAR Chapter 635 Divisions 50, 51. 52, 53, 54, 55, 60, 65, 66, 67, 69, 71, 73, 75, and 78 set furbearer, upland gamebird, waterfowl, and game mammal seasons, and OAR Chapter 635 Division 100 – *Wildlife Diversity Plan* sets outlines wildlife diversity program goals and objectives, identifies species listings, establishes survival guidelines, and creates other wildlife diversity policy. OAR Chapter 635 Division 400 – *Instream Water Rights Rules* provides guidelines for inflow measurement methodologies, establishes processes for applying for instream water rights, and sets forth other instream water rights policies. OAR Chapter 635 Division 415 - *Fish and Wildlife Habitat Mitigation Policy* establishes mitigation requirements and recommendations, outlines mitigation goals and standards, and provides other mitigation guidelines. Another pertinent ODFW policy is the Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.

2.1.6 Bull trout angling closure, Oregon Department of Fish and Wildlife

ODFW management actions include the closure of bull trout fishing since spring of 1991. The closure was preceded by a cooperative campaign between the Malheur National Forest and the BLM begun in 1990, to encourage angler release of bull trout using educational signs and pocket picture cards to aid in identification of bull trout. Enforcement of the angling closure on bull trout is a high priority for Oregon State Police year round and especially during the fall spawning season (Mary Hanson, ODFW, pers. comm. 2001).

2.1.7 Fish stocking restrictions, Oregon Department of Fish and Wildlife

In addition, stocking of hatchery rainbow trout has been curtailed in all streams used by bull trout (upstream of Warm Springs and Beulah Reservoirs) to reduce competition and incidental hooking mortality on bull trout. Brook trout are no longer stocked in high lakes that overflow or have to potential to overflow into the stream system.

2.1.8 Fish and Wildlife Enforcement, Oregon State Police

The Fish and Wildlife Division of the Oregon State Police (OSP) is responsible for enforcement of fish and wildlife regulations in the State of Oregon. The Coordinated Enforcement Program

(CEP) ensures effective enforcement by coordinating enforcement priorities and plans by and between OSP officers and ODFW biologists.

2.1.9 Wilderness and Wild and Scenic River Protected Areas

Protected areas have been established on a small percentage of lands within the Malheur Subbasin, as follows:

Most of the headwaters of the Upper Malheur River are protected within the Strawberry Mountain Wilderness of Malheur National Forest. No logging, or motorized equipment is permitted in the Strawberry Mountain Wilderness and the area does not include any grazing allotments. Table Rock Wilderness protects about 5000 acres primarily in the Little Malheur River drainage. Forest Service roadless areas, such as the Glacier Mountain roadless area inhabited by bull trout (Hanson et al. 1990), were protected by Clinton's Roadless Area administrative policy, which now has an uncertain future.

There are no congressionally designated Wilderness Areas on BLM lands in Oregon. In 1980, the BLM designated Wilderness Study Areas in Oregon. In 1989, the BLM completed the Wilderness Study Report and Final Wilderness EIS that recommended Wilderness designation for some of these areas and adjacent BLM and non-BLM land (if acquired). In the Malheur Resource Area (including portions of the Malheur and Owyhee Subbasins), the BLM recommended 9 Wilderness Study Areas for designation, for a total of 119,031 acres considered and 155, 199 acres released from further consideration. In 1992, the President submitted his Wilderness recommendations to Congress (the same as BLM's recommendations). Until Congress acts, WSAs are managed in accordance with BLM's Interim Management Policy (BLM 2002).

Twelve miles of the Upper Malheur River, completely on Malheur National Forest land, are designated under the federal Wild and Scenic Rivers Act (Malheur National Forest 1992). 3,758 acres are within this designated corridor. Six miles of the designated reach have a wild classification and six miles have a scenic classification. No dams are permitted along designated rivers, which are managed to protect their outstanding natural area values.

The North Fork Malheur River includes a 22.9 mile length designated as scenic under the Wild and Scenic Rivers Act (Malheur National Forest 1992). 7,034 acres are within this designated corridor. Vale District, BLM has listed about 50 additional eligible miles of streams and rivers in the Malheur Subbasin (BLM 2003). They have proposed 3.6 miles, encompassing 996 acres of the North Fork, as Wild in their preferred alternative (C) in the *Draft EIS for the Southeast Oregon Resource Management Plan* (BLM 1998). In their *Three Rivers Resource Management Plan*, the Burns District proposed designation of a 5.4 mile reach of the Upper Malheur River and Bluebucket Creek, adjacent to the Malheur National Forest, as a Wild River (BLM 1992).

Both the Vale District and Burns District of BLM have proposed other types of land protection as part of their resource management plans, including Areas of Critical Environmental Concern and Special Recreation Management Areas (BLM 1992, 2002).

2.2 Existing Plans

2.2.1 Malheur Basin Action Plan, Malheur Watershed Council

The *Malheur Basin Action Plan* (MOWC 1999) identifies goals, objectives, and strategies related primarily to management of private lands. The general goals addressed seven natural resource issues:

1. Achieve Proper Functioning Condition (PFC) in streams and waterways.
2. Reduce soil loss from croplands.
3. Remove streams/waterways from the 303(d) list.
4. Improve rangeland condition.
5. Control noxious weeds.
6. Resolve Drewsey (Middle Fork Malheur River) water spreading issue.
7. Meet standards for urban runoff (Ontario Storm Water Master Plan).

The plan targets water quality issues, however many of these issues address other basic resource issues such as soil and vegetation quality that are necessary for the essential functioning of fish and wildlife habitats.

2.2.2 Burns Paiute Tribe Strategic Plan

The Tribal Council of the Burns Paiute Tribe adopted the five-year strategic plan in 2003. The plan (BPT 2003) outlines policy, mission, vision and goals for fourteen areas of interest. The guidelines for Natural Resources are:

Policy

The Tribal Council shall take steps to preserve water, air, land and aboriginal resources. The Council shall actively assert Tribal interests in protecting, restoring and operating environmental projects. Projects may include fish and wildlife restoration, preservation of water and water rights development and operations of geothermal mineral and other energy resources plus any matter of historic or cultural significance.

Mission

The Burns Paiute Fish and Wildlife Department was created to protect and enhance fish and wildlife, to prevent further resource loss that impact Tribal members, and to provide training and employment opportunities for Burns Paiute Tribal members.

Vision

1. To be actively preserving water, air, land, and cultural resources on acquired properties and federal and state lands lying within the Burns Paiute Tribe's aboriginal territory.

Goals

1. Creation and implementation of Natural Resources Policies.

- Develop hunting and fishing rights and ceremonial use policy.
- Work out a controlled hunt for tribal members (elk/deer at Jones property).

2. Expand, enhance, and utilize mitigation and other Natural Resources land base.
   - Work towards salmon restoration on Malheur River.
   - Pursue acquiring lands of tribal interest.
   - Pursue land acquisition for fish and wildlife mitigation projects.
   - Maintain and enhance existing mitigation programs.
3. Creation and implementation of Natural Resources cultural use of mitigation lands.
   - Develop a program to interact with youth to instill importance of natural resources – notice for volunteers.
   - Reintroduction of traditional foods and food plants.

The policy for Lands also applies to natural resource issues. The policy for Lands states, "The Tribal Council shall adopt a land acquisition and land planning policy to guide the purchase of lands located within the Malheur Reservation and surrounding aboriginal territories. Tribal Council shall identify and target the purchase of lands which have economic, cultural, archeological, and historic significance".

2.2.3 Malheur Basin Fish Management Plan, Oregon Department of Fish and Wildlife

The *Malheur Basin Fish Management Plan* (Hanson et al. 1990) provides the management framework for trout and warmwater fisheries in the basin. The plan describes the habitat, fisheries resources, and habitat concerns for five management areas based on the fisheries capability.

- Malheur River headwaters and tributaries.
- Malheur River upstream of Warm Springs Reservoir and South Fork
- Malheur River and North Fork mainstems – Reservoirs downstream to Namorf Dam
- Lower Malheur River
- Reservoirs

The plan identifies policies, objectives, and problems and recommended actions within each management area.

2.2.4 Statewide Wildlife Management Plans, ODFW

Statewide Wildlife Management Plans are developed with the intent to guide management programs for specific species or groups of species through time. Most plans are revised every 5 years so that changes in public attitudes and new biological information can be incorporated into management. Following are plans that are currently in effect. Additional plans involving turkey,

sage grouse, and statewide wildlife conservation are in the process of being developed and should become available within the next two to three years. Refer to the Subbasin Summary (BPT 2002) for a description of these programs.

- Elk Management Plan (ODFW 2003)
- Mule Deer Management Plan (ODFW 2003)
- Bighorn Sheep & Rocky Mountain Goat Management Plan (ODFW 2003)
- Cougar Management Plan (ODFW 1993)
- Black Bear Management Plan (ODFW 1993)
- Migratory Game Bird Program Strategic Management Plan (ODFW 1993)
- Oregon Wildlife Diversity Plan (ODFW 1993)

2.2.5 Malheur River Basin Agricultural Water Quality Management Area Plan, Oregon Department of Agriculture

The Malheur River Basin Agricultural Water Quality Management Area Plan was completed by Oregon Department Agriculture in 2001 to implement SB1010. Oregon adopted SB1010 to give agriculture a way to meet the requirements of the federal and state clean water regulations. The plan provides an implementation strategy outlining education, conservation planning, and performance criteria to meet resource and water quality objectives. The plan currently contains no specific implementation measures and relies solely on existing agricultural programs and voluntary compliance.

2.2.6 Snake River Hells Canyon Total Maximum Daily Load, Oregon Department of Environmental Quality

Water Quality Management Plan. The Water Quality Management Plan describes general Implementation Plans and the Designated Management Agencies for land use categories. Site specific implementation plans are to be completed within 18 months of EPA approval of the TMDL.

TMDL. The Snake River Hells Canyon Total Maximum Daily Load (TMDL) (ODEQ 2003) was developed jointly by the Oregon Department of Environmental Quality and Idaho Department of Environmental Quality to address the contributing watersheds on both sides of the Snake River. TMDL targets were established to meet both State water quality standards. Water quality targets and associated load allocations applicable to the Malheur River are summarized in the table below.

Table 1. Malheur River water quality targets and load allocations.

Pollutant Category	Pollutant/Allocation	Target
Nutrients, Nuisance Algae, and Dissolved Oxygen.	Chlorophyll *a* Total phosphorus	Less than 14µ/L Less than 0.07 mg/L

Pollutant Category	Pollutant/Allocation	Target
	Load Allocation Percent Reduction	61 kg/day 72 %
Sediment	Total Suspended Solids	Less than 50 mg/L
	Load Allocation	42, 062 kg/day
Temperature	7-day average of the maximum temperature	Less than 17.8 degree C
	Load Allocation	Total anthropogenic loading less that 0.014 degree C at River Mile 409
Pesticides	DDT DDD DDE Dieldrin	Less than 0.024 ng/L Less than 0.83 ng/L Less than 0.59 ng/L Less than 0.07 ng/L
Mercury	Deferred until 2006	

2.2.7 Malheur River Total Maximum Daily Load (Planned for 2007.)

The Snake River Hells Canyon TMDL allocates pollutants at the mouth of the Malheur River to address tributary impacts on the Snake River. A separate TMDL is scheduled to address pollutants within the Malheur River Basin starting in 2007. This TMDL will target bacteria, chlorophyll a and pesticides.

2.2.8 Oregon Plan for Salmon and Watersheds, Oregon Watershed Enhancement Board

Passed into law in 1997 by Executive Order, the *Oregon Plan for Salmon and Watersheds* and the *Steelhead Supplement to the Oregon Plan* outlines a statewide approach to ESA concerns based on watershed restoration and ecosystem management to protect and improve salmon and steelhead habitat in Oregon. On January 14, 1999, Governor Kitzhaber expanded the Oregon Plan for Salmon and Watersheds (Oregon 2001) to include all at-risk wild salmonids throughout the State through Executive Order 99-01, expanding the scope to include bull trout.

2.2.9 Land Management Plans, Bureau of Land Management

BLM has completed three major landscape planning efforts. Since these plans are significantly directing implementation of management activities on the ground they will be described further in Section 2.3, Existing Management Programs.

1. The *Three Rivers Resource Management Plan*, completed by the Burns District of BLM in 1992, addresses management on 1,709,918 acres of public land administered by the District (BLM 1992). The Burns District includes about one-half of the total BLM ownership in the Malheur Subbasin.

2. The *Southeast Oregon Resource Management Plan and Record of Decision* (BLM 2002) completed by the BLM Vale District for managing 6.3 million acres. The planning area involves the Malheur, Jordan, and Andrews Resource Areas in the Burns and Vale Districts, and is bounded on the north by the Three Rivers Resource Area.
3. The Bully Creek Landscape Area Management Project (BLM 2000) completed by the BLM Vale District. This plan provides detail management direction for implementation in 200,000 acres.

Other Landscape Area Management Projects are in the planning stage to implement the broad scale *Southeast Oregon Resource Management Plan* at the mid-scale ecosystem level. The North Fork Landscape Area Management Project is nearly completed at the writing of this document.

2.2.10 Malheur National Forest Plan

The Malheur National Forest Land and Resource Management Plan was adopted in 1990 (Malheur National Forest 1990). The Forest Plan is a programmatic document that identified the following top level goals in the preferred alternative:

- Maintain visual character of the Forest through use of uneven-aged management on up to 30% of the suitable timber acreage.
- Maintain big-game habitat in providing for animal populations at or near state management objective levels.
- Provide a timber supply (or harvest level) and livestock production at or near recent levels.
- Provide for a high level of anadromous fish production and riparian protection throughout all streamside zones.
- Provide old growth and mature tree habitat above the Management Requirement (MR) levels.
- Intensify timber management activities where severe insect and disease conditions have resulted.
- Maintain the amenity attributes in most roadless areas that have had strong public interest regarding those features.
- Provide for production of ponderosa pine over time by converting potential pine sites from mixed conifer composition.
- Provide for a mix of unroaded, roaded, and closed road dispersed recreation that is compatible with other resource objectives.
- Maintain community stability by providing for the physical, biological, economic and social environment of the Forest's area of influence.
- The Forest Plan adopted in 1990 was intended to establish long range direction for a period of 10 to 15 year. Given the programmatic nature and age of the plan it is

difficult to determine the relationship of the document to current fish and wildlife habitat management programs and activities.

2.2.11 North Fork Malheur Scenic River Management Plan

Twenty-three miles of the North Fork Malheur River were designated as scenic river with the passage of the Omnibus Oregon Wild and Scenic Rivers Act of 1988 (P.L. 100-557). The North Fork Malheur Scenic River Management Plan (Malheur National Forest 1992) establishes management direction for the 7,034 acres in the scenic river corridor. The outstandingly remarkable values for this river are scenery, geology, wildlife habitat, and fisheries. The values were identified by Congress and/or confirmed through a resource assessment process.

Wildlife habitat of the corridor is unique and important because of relatively undisturbed conditions and high quality habitat components. It is also important because of its location, providing connectivity between the Blue Mountains and Great Basin physiographic provinces, and between adjacent lands above the canyon rims. The river is an important producer of native fish populations, and it provides a significant recreational trout fishery. A limited stocking program managed by the Oregon Department of Fish and Wildlife supplements the recreational fishery at certain points of high recreation use.

The goal of the plan is to "Protect and enhance the outstandingly remarkable scenic, fisheries, geologic and wildlife habitat values of the river corridor. Preserve the free-flowing conditions of the river. Provide facilities for recreation use and access which do not detract from the recreation opportunity settings provided. Provide for improvements in water quality and native fish habitat. Use the corridor for interpreting area history and natural history to visitors."

2.2.12 Malheur Wild and Scenic River Management Plan

The Malheur River Wild and Scenic Management Plan (Malheur National Forest 1992) establishes management direction for the 3,758 acres in the scenic river corridor. The designated river is 12 miles long, with six miles wild classification and six miles scenic classification. The outstandingly remarkable values for this river are scenery, geology, wildlife habitat and history. These values were identified by Congress and/or confirmed through a resource assessment process.

Wildlife habitat of the corridor is unique and important because of relatively undisturbed conditions, the high quality habitat components, and its location which provides connectivity between the Blue Mountains and Great Basin physiographic provinces and between adjacent lands above the canyon rims. The goal of the plan is the same as for the North Fork Scenic River Plan described above.

2.2.13 Malheur Headwaters Watershed Analysis, Malheur National Forest

David Evans and Associates, Inc. and the Prairie Ranger District of the Malheur National Forest completed the *Malheur Headwaters Watershed Analysis* (USFS 2000). This analysis covers only the headwaters of the Upper Malheur River. The Forest Service and consulting team used the

approach and methods recommended in federal guidelines for conducting watershed analysis, including developing key issues and questions, an evaluation of reference and existing conditions, synthesis, and site-specific recommendations. The report evaluates changes in plant communities, aquatic and terrestrial species and habitats, and human-uses. Site-specific and synthesized recommendations are provided for protection and restoration of ecosystems and human uses impaired by a history of intensive road building, timber harvest, livestock grazing, and fire suppression.

2.2.14 Draft Bull Trout Recovery Plan, US Fish and Wildlife Service

Bull Trout Recovery Plan: A Bull Trout *Salvelinus confluentus* Draft Recovery Plan, Chapter 14, Malheur Recovery Unit (U.S. Fish and Wildlife Service, 2002) was prepared with input from the local Malheur Recovery Unit Team. The overall goal for bull trout in the Malheur Recovery Unit is to ensure the long-term persistence of self-sustaining, complex interacting groups of bull trout distributed throughout the species' native range so that the species can be delisted. Four objectives dealing with distribution, abundance, habitat, and genetics are established to accomplish this goal.

1. *Maintain the current distribution of bull trout within the core area and reestablish bull trout in previously occupied habitats in the Upper Malheur River and tributaries and the North Fork Malheur River and tributaries.*
2. *Maintain stable or increasing trends in abundance of bull trout in the Malheur Recovery Unit.*
3. *Restore and maintain suitable habitat conditions for all bull trout life history stages and strategies.*
4. *Conserve genetically diverse populations of bull trout within the Malheur Recovery Unit. This can be best be achieved by ensuring connectivity between the North Fork Malheur and the Upper Malheur River.*

Seven categories of Recovery Actions are identified:

1. Protect, restore and maintain suitable habitat conditions for bull trout.
2. Prevent and reduce negative effects of nonnative fishes and other nonnative taxa on bull trout.
3. Establish fisheries management goals and objectives compatible with bull trout recovery, and implement practices to achieve goals.
4. Characterize, conserve, and monitor genetic diversity and gene flow among local populations of bull trout.
5. Conduct research and monitoring to implement and evaluate bull trout recovery activities.
6. Use all available conservation programs and regulations to protect and conserve bull trout and bull trout habitats.
7. Assess the implementation of bull trout recovery by recovery units, and revise recovery unit plans based on evaluations.

2.3 Existing Management Programs

2.3.1 Malheur Soil and Water Conservation District (MSWCD)

Malheur County SWCD's mission is to conserve and enhance all the natural resources for the economic and environmental benefit of present and future generations of Malheur County. Seven locally elected board members, appointed associate board members and trained staff conserve resources by helping set the local natural resource priorities for the Natural Resource Conservation Service (NRCS) and implementing conservation projects. The SWCD / NRCS partnership is succeeding by promoting voluntary conservation by landowners, providing technical assistance, promoting watershed enhancement projects, and providing incentive cost share programs for a wide variety of projects. In the Malheur Watershed the team of Malheur, Grant, Harney, and Baker Valley SWCD's are continually working to improve all the resources in Eastern Oregon. State wide 45 SWCD's are positively changing conservation throughout Oregon.

2.3.2 USDA Natural Resource Conservation Service

The Natural Resource Conservation Service provides technical assistance to agricultural landowners in the subbasin and distributes federal cost-share funds to improve environmental practices and increase agricultural production, and technical support to the Malheur SWCD. NRCS assists in developing conservation plans, provides technical field-based assistance including project designs, and encourages the implementation of conservation practices to improve water quality and fisheries habitat. The main NRCS landowner cost-share program used in the subbasin is the Environmental Quality Incentives Program. Other programs include Conservation Reserve Program, Public Law 566 (Small watershed program), River Basin Studies, Forestry Incentive Program, Wildlife Habitat Improvement Program and Wetlands Reserve Program.

2.3.3 USDA Farm Services Agency (FSA)

FSA is a department within the U.S. Department of Agriculture that ensures the well-being of American agriculture, the environment, and the American public through efficient and equitable administration of farm commodity programs, farm ownership, operating and emergency loans, conservation and environmental programs, emergency and disaster assistance, domestic and international food assistance and international export credit programs. Conservation program payments that FSA administers include Conservation Reserve Program (CRP) and the Environmental Quality Incentives Program. Technical assistance for these programs is provided by NRCS. Delivery of programs is completed through the county office.

2.3.4 OSU Malheur Agricultural Experiment Station and Extension Service

The Malheur Experiment Station and Extension Service are off-campus facilities staffed by Oregon State University employees. Members of the faculty provide the local clientele with research based knowledge. Agricultural extension is a bottom-up system driven by local

problems which result in extensive educational programs and research projects. The Malheur Agricultural Experiment Station is a part of Oregon State University's College of Agricultural Sciences. Scientists at the Malheur Station specialize in research important to row crops, small grains, and alfalfa. Sugar beets, onions, and potatoes are major crops in Malheur County, generating a farm gate income of $160 million for producers. Alfalfa has high value because it is transformed into meat products by cattle and dairy producers. The Malheur Experiment Station is a leader in development of best management practices with an emphasis on water conservation practices and nutrient management for protection of surface and groundwater. The Station works directly with local producers in developing economically sound management practices.

2.3.5 Malheur County Weed Control District

Malheur County is designated as a weed control district, formed under authority of Oregon Statute ORS 570.505. Its purpose is to contain, control and eradicate noxious weeds within Malheur County. The Malheur County Weed Program is managed by the County Weed Board. The Board developed a Draft Management Plan in 2003 (Malheur County Weed Advisory Board 2003) and is implementing the Malheur County Noxious Weed Strategy (Malheur County Court 2002).

The County Noxious Weed Strategy outlines a specific weed control plan for the whole county with an emphasis on Class A invaders. The strategy also stresses the importance of integrated pest management techniques, including chemical, cultural and biological control methods. The Malheur County Weed Management Area will follow these recommendations, but will work especially hard to increase the use of biological controls. While each member agency is ultimately responsible for weed control on their respective jurisdictions, all members agree to seek new partnerships and strengthen established cooperative relationships.

2.3.6 Oregon Watershed Enhancement Board

The Oregon Watershed Enhancement Board (OWEB) facilitates and promotes coordination among state agencies, administers a grant program, and provides technical assistance to local Watershed Councils and others to implement the Oregon Plan through watershed assessments; restoration action plans and grant opportunities. These grants are in two forms. Small OWEB Grants are handled by the local committee and Large Grants are handled by the Regional and State Committees.

2.3.7 Oregon Department of Transportation

The Oregon Department of Transportation (ODT) maintains highways that cross streams in the subbasin. Under the initiative of the Oregon Plan for Salmon and Watersheds, efforts to improve protection and remediation of fish habitat impacted by state highways are ongoing.

2.3.8 Department of Environmental Quality

With oversight from the US Environmental Protection Agency, DEQ is responsible for implementing the 1972 Clean Water Act and enforcing water quality standards for protection of

aquatic life and other beneficial uses. Primary legal mechanisms used by DEQ are the Oregon Water Quality Standards, the National Pollutant Discharge Elimination System permit program, and the development of TMDLs to control nonpoint source pollution. Oregon Department of Agriculture has the lead enforcement role in agricultural water quality violations and implementation of TMDLs.

2.3.9 Bureau of Land Management

Since the BLM manages the largest blocks of land within the subbasin (49%) their completed management plans and programs provide a significant effect on fish and wildlife habitat protection and restoration. We will describe these plans in greater detail since there are many components of the BLM plans that will help us organize this subbasin management plan around.

2.3.10 Southeast Oregon Resource Management Plan, BLM Vale District

The *Southeast Oregon Resource Management Plan and Record of Decision* (BLM 2002) Management's (BLM's) describes the plan (program) for managing the public lands within the Malheur and Jordan Resource Areas of the Vale District during the next 20 years and beyond. The Southeast Oregon Resource Management Plan (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. The SEORMP contains resource objectives, land use allocations, management actions and direction needed to achieve program goals. The major plan components that address fish and wildlife habitat are listed in the table below.

Table 2. BLM Vale District Resource Management Plan major components.

Plan Component	Summary of Plan Direction for the Component
Fire	Recognize and utilize fire as a critical natural process to protect, maintain, and enhance resources.
Vegetation Management	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.
Sagebrush Community	Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife
Weed Control	Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits
Conifer Community	Manage ponderosa pine, Douglas fir, and western larch communities to emphasize forest health.
Juniper and Aspen	Manage western juniper and aspen woodlands to restore and promote productivity and biodiversity
Riparian & Wetlands	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.
Aquatic Habitat	Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms
Wildlife Riparian Habitat	Manage riparian areas so they provide diverse and healthy habitat conditions for wildlife.
Wildlife Upland Habitat	Manage upland habitats so that the forage, water, cover, security and structure necessary for wildlife are available on public land.
Livestock Grazing	Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.
Local Economy	Manage public land and pursue partnerships to provide social and economic benefits to local residents, businesses, visitors, and future generations

At a broad scale the plan addresses management issues in three major vegetation cover types – upland management, riparian areas and wetlands, and forest and woodlands – and the role of fire in restoration.

Vegetation Management

Vegetation will be managed to provide for biological diversity at the landscape level, to protect and restore native perennial and desirable nonnative perennial species, and to provide for consumptive uses and nonconsumptive values, including visual quality and watershed condition.

The SEORMP includes provisions for plant maintenance, watershed protection and stability, and wildlife habitat; and will provide for livestock, wildlife, and wild horses.

Riparian Areas, Floodplains, and Wetlands

Riparian areas, floodplains, and wetlands will be managed to restore, protect, or improve their natural functions relating to water storage, groundwater recharge, water quality, and fish and wildlife values.

Forest and Woodland Management

Land suitable for timber production will be managed on a sustained yield basis. All forestland and western juniper and quaking aspen woodlands will be managed to protect long-term productivity, biological diversity, and watershed values. The BLM will work with county, state, and Federal agencies to monitor the locations and spread of noxious weeds. The BLM will assess land prior to acquisition to determine whether or not noxious weeds are present.

Fire Management

Wildland fire, as a critical natural process will be integrated into land and resource management planning to assist in the attainment of resource management objectives. The use of surface-disturbing equipment to suppress wildland fires will be restricted in areas such as WSAs and areas containing significant cultural or paleontological values, except when needed to protect human life or property. Public land affected by fire will be managed in accordance with multiple use objectives.

Plan Implementation

The SEORMP is implemented through a number of procedures:

1. Establishing goals for riparian/wetland areas. First, attaining Proper Functioning Condition (PFC), then establishing and meeting the Desired Range of Future Condition (DRFC).
2. Establishing Riparian Conservation Areas (RCA) and Riparian Management Objectives (RMOs).
3. Livestock Allotment Management. The Malheur Resource Area of Vale District administers livestock grazing within 123 allotments. The SEORMP assessed each allotment, and established a process to improve browse and wildlife habitat conditions over time.
4. Identification of management actions to restore sagebrush habitats for meeting wildlife habitat needs.
5. Description of Best Management Practices (BMPs) to implement the plan as management actions occur.
6. Specification of standard implantation procedures for rangeland improvement. For example, specifications address modifications of projects that could affect any T&E species, minimizing surface disturbing activity, specifying methods for seeding and woody species control projects, specifying methods for water development, etc.

7. Areas removed from livestock grazing. Approximately 58,900 acres will have livestock grazing discontinued, and 18,000 acres excluded from livestock grazing.
8. Establishing monitoring procedures to assess progress over time.
9. Developing restoration programs at finer scales called Landscape Area Management Programs. The BLM is developing these areas

2.3.11 The Bully Creek Landscape Area Management Project

The Bully Creek Landscape Area Management Project (LAMP) describes a long-term program to manage 268, 823 acres of public land in the Vale District (BLM 2000). The project incorporates ecosystem management principles to achieve multiple use objectives, which include:

1. Recognize and utilize fire as a critical natural process to protect, maintain, and enhance resources.
2. 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.
3. Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife.
4. 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.
5. Manage western juniper and aspen woodlands to restore and promote productivity and biodiversity.
6. 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.
7. Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.
8. Manage riparian areas so they provide diverse and healthy habitat conditions for wildlife.
9. Manage upland habitats so that the forage, water, cover, security and structure necessary for wildlife are available on public land.
10. Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.

These principles are achieved through an adaptive management process based on landscape specific objectives, criteria, and management actions. Example Management Actions include:

- Mechanical control of sagebrush and juniper.
- Seedings of native grasses, non-native grasses, forbs, and shrubs.

- Prescribed burns and weed control.
- Water developments.
- Manage grazing intensity; adjust grazing based on range readiness, and reduce/increase/suspend AUMs.
- Develop cooperative public/private land grazing systems.
- Periodic deferment or rest rotation.
- Limit utilization on native uplands, seedings, on riparian areas, and improve livestock distribution with fencing.

2.3.12 The Three Rivers Resource Management Plan, Burns

The Three Rivers Resource Management Plan addresses management on 1,709,918 acres of public land administered by the Bureau of Land Management in the Burns District, Oregon (BLM 1992). Implementation of the Plan is projected to: Result in improvement of water quality on 98 miles of stream; decadal timber harvest would be increased to approximately 5.4 million board feet from 7,722 acres of commercial forest land; forage allocations of 150,472 AUMs for livestock annually; improvement in wetland, aquatic, and playa habitats; 5.4 miles of river for inclusion in the National Wild and Scenic Rivers System; and retention of 17,456 acres, and addition of 77,593 acres as Areas of Critical Environmental Concern. Approximately 36,704 acres of public land would be considered for sale or exchange under various authorities over the life of the plan. The Plan is further implemented through area specific plans and amendments, for example the ongoing Andrews Resource Management Plan and the Steens Mountain Cooperative Management and Protection Area.

The 2003 Burns District Rangeland Program Summary Update (part of the BLM annual report) outlines the progress being made in implementing the rangeland management objectives of each Resource Area as identified in current land use plans. Since 1998, BLM has been on a 10-year schedule to complete National Environmental Policy Act (NEPA) analyses on all 10-year grazing permits, and to do an assessment of each allotment to see if they are in conformance with the "Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon/Washington (dated August 12, 1997)." In accordance with the regulations (43 CFR 4180), if these assessments identify one or more of the five standards not being met, appropriate action is taken that will result in progress toward meeting these Standards and Guidelines.

The District has completed assessments on 119 allotments covering 1,397,310 acres (approximately 43 percent of the total acres complete) since 1998. There have been 17 allotments identified as not meeting one or more of the standards due to livestock and seven allotments due to other uses. Most of the permits issued were analyzed in NEPA documents, however, due to various reasons, some were issued under the Appropriation Act and/or the Administrative Procedure Act.

2.3.13 Burns Paiute Tribe Department of Fish and Wildlife

In 1995, the Burns Paiute Tribe signed a Memorandum of Agreement (MOA) with Bonneville Power Administration to initiate the Tribe's active participation in the Columbia River Basin's Fish and Wildlife Program. The MOA provides the Tribe funding to implement the fish and wildlife program, acquire properties for mitigation, and expand current projects already purchased under the MOA. Tribal leaders and staff developed partnerships with local land management agencies to identify how their participation could help with research, restoration and enhancement activities in the Malheur River Subbasin. In 1997, the Tribe secured a fish research project through the resident fish program and was able to hire their first biologist.

Since then the Tribal Fish and Wildlife Department has developed and continues to grow. Fish and Wildlife staff have aggressively pursued the interests of the Tribe in the Malheur River Subbasin and have expanded tribal relationships throughout the local community and surrounding counties. Currently, the Tribe is considered to be a key player in the management of the Malheur River and its tributaries. In 1998, the Tribe was awarded funding to conduct two major land acquisitions through BPA's Wildlife Mitigation Program – Logan Valley Ranch and Malheur River Wildlife Mitigation Projects. The Department is now implementing management plans for these areas.

Logan Valley Wildlife Mitigation Project (#20090)

The Burns Paiute Tribe acquired 1,760 deeded acres in Logan Valley in 1999 using BPA wildlife mitigation funds and with the assistance of The Nature Conservancy. This acquisition provides for long-term protection and restoration of critical bull trout habitat. The project also aims to protect and restore wetland prairie habitat, which is now rare in Logan Valley and is used by a number of wildlife species, including upland sandpipers.

Malheur Wildlife Mitigation Site (#20137)

In 2000, the Burns Paiute Tribe purchased the Jones Ranch, a total of 6,385.23 deeded acres in three parcels, with additional state and BLM grazing lease lands. The Tribe used BPA wildlife mitigation funds and had the assistance of the Trust for Public Land. This land provides habitat for a resident elk herd of about 70 animals, and includes 9 miles of mainstem Malheur River and associated riparian areas and irrigated meadows, as well as uplands important for sage grouse and other wildlife species.

2.4 Existing Restoration and Conservation Projects

This section describes existing projects being implemented across all land ownerships in the Malheur Basin that relate directly or indirectly to fish and wildlife habitats or watershed processes.

2.4.1 Inventory Procedure

The inventory procedure used an internet-based questionnaire. The questionnaire was based on the learning experience of several other Subbasin planners in requesting information. The questionnaire was e-mailed to agency and stakeholder groups in the subbasin with follow-up e-

mails and telephone calls to increase the response. The questionnaire was designed to use check boxes and radio buttons as much as possible to make it easy to fill out. Links to stream reach maps facilitated the association of the project to the stream reach used in QHA to identify limiting factors. Answers to the questionnaire were incorporated directly into an access database on the host server when the respondent submitted the form electronically. This eliminated the need for manual transfer of data into an electronic database and spreadsheet.

The questionnaire example is shown in Appendix B-1.

The inventory addressed only the last five year time period following the Oregon Specific Guidance for subbasin planning. Although a cut-off period is necessary for collection of information for this plan, it is obvious that projects implemented over the last several decades can have a continued positive effect of fish and wildlife habitats.

In addition to the on-line questionnaire, the project manager spent some time going through agency files and interviewing program managers directly. This was an effective way to increase communication directly with program managers.

Questionnaire Returns

The questionnaire was sent to cooperating agencies and stakeholder groups previously identified by the Malheur Watershed Council. Approximately forty responses were obtained addressing a wide diversity of types of projects, project objectives, and spatial scales. Responses were provided by BLM, NRCS, Malheur Soil and Water Conservation District (MSWCD), Malheur Watershed Council (MWC), Burns Paiute Tribe, and Oregon Department of Fish and Game. The Malheur National Forest did not respond to the questionnaire and therefore no projects are shown, although there are likely restoration projects completed within the national forest boundary.

Summary of Project Implementation

The results of the inventory are summarized by watersheds in four tables; Table 3, Table 4, Table 5, and Table 6. The table provides the following information for each project, although more information was obtained in the questionnaire.

Organization: The entity submitting the information. Many projects have multiple cooperators, these are not shown.

Purpose: General purpose categories are: Fish Habitat, Water Quality, Water Quantity, Upland Habitat, Upland Erosion, Wildlife Habitat, Riparian/Wetland, Other.

Watershed/Reach: Stream reaches are grouped by the six watersheds. Descriptive reach names are used in the table rather than codes.

Project Dimension: Project dimension is described in terms of (acres), or stream length (feet).

Budget/Cost: Budget is shown thousands. This refers to the total cost of the project including private owners' costs and matching labor. The range of values are specified rather than specific amounts to protect private information.

Status: Either completed or ongoing.

Success Rating: This rating is provided by the person submitting the questionnaire. 1 = all goals met, 2 = 75% of goals met, 3 = 50% of goals met, 4 = 25% of goals met, 5 = no goals met.

The inventory provides a snapshot of the diversity of restoration projects occurring on the ground. The projects are diverse from the standpoint of the objectives, the types of projects and the spatial scales at which the projects are being implemented. All of the projects submitted address ecosystem restoration in some manner and will benefit fish and wildlife habitats directly or indirectly.

Project Objectives: Projects are completed for various purposes and often address multiple objectives: Water quality, aquatic habitat, fisheries habitat, upland wildlife habitat, riparian and wetland habitat, reducing destructive wildfire, controlling exotic weeds, reducing juniper expansion, reducing rangeland and cropland erosion, Native American cultural values, monitoring, and research.

Types of Projects. There is a wide diversity of stream, riparian, and upland projects. Projects address water quality objectives by monitoring agricultural sources, changing the irrigation system to save water, reduce or treat irrigation return flows, trap pollutants in catch basins and constructed wetlands, reduce or treat feedlot waste runoff, reduce erosion through soil conservation, improve riparian condition, reduce erosion on uplands, and stabilize streambanks. Projects in upland areas include prescribed fire, juniper reduction, changes to grazing systems, capitol improvements such as developing water sources and fencing, and seeding and planting.

Spatial Scales. Implementation occurs at a diversity of spatial scales from sites of less than 20 acres to entire watersheds. For example, rangeland improvement projects range from 200 acre range improvement projects on private lands to watershed-wide programs being implemented across the entire watershed as with BLM's Bully Creek Landscape Area Management Project.

2.4.2 Projects Occurring in Watersheds

Main Malheur

The Main Malheur refers to the watershed draining into the Malheur River downstream of the South Fork. The lower valley is used for irrigated cropland, pasture and confined animal areas which have an effect on both surface and groundwater quality. Consequently, there is a large ongoing effort by farm operators and agricultural organizations to install management practices that reduce polluted runoff and conserve water. BLM is implementing a large scale landscape project to improve riparian and upland ecosystems. The Burns Paiute Tribe is managing a 6,000 acre parcel (referred to as the Jones ranch) for fish and wildlife habitat.

Middle Malheur

The Middle Malheur encompasses private, BLM, and USFS lands of the Malheur River upstream of the South Fork. BLM Burns District has implemented prescribed fires and juniper cutting to improve upland habitat; and fencing projects to improve riparian condition. The Burns Paiute Tribe acquired property for fish and wildlife habitat improvement in the Logan Valley area. Fish screens have been installed on irrigation diversions on private property.

Willow Creek

Private landowners and land managers are putting a large effort into conservation practices in the Willow Creek watershed. NRCS has invested $700,000 of EQUIP funds to assist growers with conservation systems to reduce irrigation induced erosion and the Malheur SWCD and Malheur Watershed Council are implementing BMPs for irrigation improvements and livestock waste treatment. BLM is implementing a landscape scale project on 98,000 acres to improve water quality, reduce exotic annuals, and improve forage for livestock and wildlife.

Bully Creek

Projects in Bully Creek Watershed focus on upland range improvements. The BLM Bully Creek LAMP is a large scale project (267,700 acres) aimed at improving upland and riparian conditions through changes to grazing systems, prescribed fire, and vegetation treatments. Malheur SCWD and Malheur Watershed Council have completed riparian and rangeland improvement projects in the watershed.

North Fork

The North Fork Watershed includes a mix of private and BLM land in the lower section and headwaters in the Malheur National Forest. BLM is working on resource inventories, fencing, and range management improvement on 91,800 acres. The Malheur Watershed Council has completed a riparian pasture project along 8 miles of the North Fork for water quality, riparian and wetland habitat objectives.

South Fork

BLM completed a fire rehabilitation project in Swamp Creek drainage on 60,100 acres. No private lands projects were reported.

Table 3. Implementation projects in the Main Malheur Watershed.

Organization	Purpose	Watershed/ Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
Main Malheur							
Malheur SWCD	Water Quality	Basinwide	Basinwide	50 to 100	Ongoing	na	Snake R. TMDL Ag Drain Monitoring
Burns Paiute Tribe	Monitoring, Research	Basinwide	Basinwide	300 annual	Ongoing	na	Investigate life history of native salmonids
Malheur SWCD	Water Quantity	MR - mouth to Namorf	1400 acre	50 to 100	Ongoing	4	Rose Creek Juniper Control
Malheur SWCD	Water Quality	MR - mouth to Namorf	20 acre	100 to 500	Complete	1	Luther Constructed Wetland, trap pollutants
Malheur WC	Water Quality	MR - mouth to Namorf	1200 feet	10 to 25	Complete	1	Pooles Pipeline, irrigated ag., fine sediment, weed control
Malheur SWCD	Fish Habitat,Water Quality	MR - mouth to Namorf	2 miles	100 to 500	Ongoing	na	Westfall Ranches Stream Restoration for fish passage, streambank, riparian fencing.
Malheur SWCD	Water Quality	MR - mouth to Namorf	4500 feet	25 to 50	Complete	1	Marchek Drainage System Project. Treats irrigation return water., feedlot
Malheur SWCD	Water Quality	MR - mouth to Namorf	1100 feet	25 to 50	Complete	1	McElroy Pipeline Rehabilitation. Treats irrigation return water, feedlot
Malheur SWCD	Water Quantity	MR - mouth to Namorf	600 acre	100 to 500	Complete	1	Skyline Farms Sustainable Ag. Reduce water use and pollutants from irrigated ag.
Malheur SWCD	Water Quality	MR - mouth to Namorf	200 feet	25 to 50	Complete	1	Alan W. Streambank Stabilization
Malheur WC	Sediment Reduction	MR - mouth to Namorf	not reported	10	Ongoing	na	Irrigation induced erosion reduction. Gated pipe and sediment basins

Organization	Purpose	Watershed/ Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
BLM Vale	Fish, Upland Habitat, Wild Fire And Exotic Annual Weeds	U. Cottonwood Cr.	354,400 acre		Ongoing	4	Main Malheur fencing, brush beating to improve riparian, channel stability, high flow effects, and temperature.
Burns Paiute Tribe	Fish, Wildlife Habitat	MR – Namorf to Warm Springs	6400 acres	320/yr	Ongoing	1	Property Acquisition. Malheur Wildlife Mitigation, fish and wildlife habitat restoration
NRCS	Water Quality	Harper and Bully Creek		100	Ongoing	na	EQIP Program. Conservation systems primarily for irrigation induced erosion.
NRCS	Water Quality	Cairo, Ontario, Oregon Slope		300	Ongoing	na	EQIP Program. Conservation systems primarily for irrigation induced erosion.

Table 4. Implementation projects in the Middle Malheur Watershed.

Organization	Purpose	Watershed/ Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
Middle Malheur							
BLM Burns	Upland Habitat	U. Otis Cr.	1500 acre	25 to 50	Complete	2	Otis Mountain Burn. Improve upland habitat.
BLM Burns	Upland Habitat	U. Otis Cr.	1500 acre	25 to 50	Complete	2	Otis Mountain Burn. Improve upland habitat.
BLM Burns	Upland Habitat	Stinkingwater & Griffin Cr., U. South Fk MR	2000 acre	50 to 100	Ongoing	1	Juniper Cutting. Improve upland habitat.
BLM Burns	Fish, Riparian	Bluebucket, Cottonwood Cr.		10 to 25		1	Fencing. Improve riparian condition, protect rare plants.
ODFW	Fish	U. Summit Cr., MR headwaters		< 1000	Ongoing	1	Bull Trout Spawning Surveys. Monitoring.
ODFW	Fish	U. Summit Cr., MR headwaters		< 1000	Ongoing	1	Bull Trout Spawning Surveys. Monitoring.
Burns Paiute Tribe	Fish & Wildlife	MR -Logan Valley	1760 acre	150/yr	Ongoing	1	Property acquisition. Bull trout & wet prairie habitat
Malheur Watershed Council	Fish & Water Conservation	Middle Malheur	1500 acres	< 1000	Ongoing	na	Water diversions, fish screens

Table 5. Implementation projects in the Willow Creek Watershed.

Organization	Purpose	Watershed/ Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
Willow Creek							
BLM Vale	Water quality, Reduce threat of wildfires, Livestock production	Willow Cr. - below Brogan	98,800 acre	> 500	Ongoing	4	Willow Creek Management for multiple aquatic and upland goals. Herbicide spray on exotic annuals.
Malheur SWCD	Water quality, Upland Erosion	Willow Cr. - below Brogan	200 acre	50 to100	Ongoing	na	Willow Cr Water Quality Enhancement Project. Irrigation management and riparian fencing.
Malheur SWCD	Water Quality, Education	Willow Cr. - below Brogan	watershed wide	50 to 100	Ongoing	na	Willow Cr Demo and BMP Implementation. Irrigated cropland improvement, monitoring.
Malheur SWCD	Water Quality, Wildlife Habitat	Willow Cr. - below Brogan		100 to 500	Ongoing	na	Willow Creek Feedlots. Treats livestock wastes.
Malheur SWCD	Water Quality	Willow Cr. - below Brogan	25,000 acre	10 to 25	Complete	1	Willow Cr E. coli reduction.
Malheur SWCD	Water Quality, Wildlife Habitat	Willow Cr. - below Brogan	2000 feet	100 to 500	Complete	1	Maag-VOID Pipeline and Collection Ponds. Direct irrigation return flows away from livestock wastes.
Malheur WC	Water quality, quantity, erosion	Willow Cr. - below Brogan	315 acres	100 to 500	Complete	1	OWEB funding. Irrigation and livestock management. 3200 ft pipeline and land leveling.
Malheur WC	Water quality, quantity, erosion	Willow Cr. - below Brogan	1500 feet	50 to 100	Complete	1	OWEB funding. Sediment ponds, off-stream watering, riparian planting, 1500 feet fencing.
NRCS	Water Quality	Willow Creek and Vale area		700	Ongoing	na	EQIP. Conservation systems irrigation induced erosion.

Table 6. Implementation projects in the Bully Creek, North Forth Fork Malheur, and South Fork Malheur Watersheds.

Organization	Purpose	Watershed/Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
Bully Creek							
Malheur SWCD	Riparian Wetland, Wildlife Habitat	Clover Cr.	6000 acre	50 to100	Complete	2	Clover Creek Riparian & Upland Enhancement Project. Rangeland improvements.
Malheur SWCD	Upland Erosion	Clover Cr.	200 acre	10 to 25	Complete	2	McElroy Range Rehabilitation
BLM Vale	Fish,Water,Juniper, Weeds, Fire, Recreation.	Bully Cr. Watershed	267,700 acre	> 500	Ongoing	3	Bully Creek LAMP for multiple aquatic and upland goals. Brush beating, prescribed fire, juniper cut, grazing system modification.
North Fork							
BLM Vale	Fish,Water, Juniper, Exotic Weeds, Recreation, Native American Values	N. Fk. Malheur, mouth to above Beulah Res.	91,800 acre	5 to10	Ongoing	4	North Fork Malheur River for multiple aquatic and upland goals. Inventories, fencing, range management.
Malheur Watershed Council	Riparian Wetland,Water Quality	N. Fk. Malheur, below Agency Valley Dam	8 miles	50 to100	Complete	1	Flag Prairie Riparian Pasture. Improving riparian, channel stability, habitat, fine sediment.
ODFW	Fish	Crane Cr., N. Fk. Upstream of Elk Cr.		< 1000	Ongoing	1	Bull Trout Spawning Surveys

Organization	Purpose	Watershed/Reach	Project Dimension	Budget ($ in 1,000s)	Status	Success Rating	Project Description
South Fork							
BLM Vale	Upland Habitat	Swamp Cr.	60,100 acre	5 to10	Complete	2	South Fork Malheur Fire Rehab. Exclosure fencing.

2.5 Gap Assessment of Existing Protections, Plans, Programs and Projects

An assessment of the wide diversity of current programs and projects being implemented in the Malheur Subbasin will be very qualitative. We consider the gap to be assessed is the difference between the needs for fish and wildlife restoration (and protection) and the current ability of the programs to address those needs. The gap in existing programs may be considered from many different aspects. Specifically, we considered the following categories of programmatic gaps in protection or restoration.

1. **The adequacy of existing legal protection**.
   This refers to regulatory and enforceable provisions of local, state or federal law. State fish and wildlife regulations provide basic protection of wildlife from excessive harvest. The Endangered Species Act and the Clean Water Act contain regulatory authority that comes into play when other societal programs fail to protect habitats and water quality. There is a great deal of debate centered on these federal laws regarding their ability to protect fish and wildlife populations and habitats. The assessment and inventory in the Malheur Subbasin is focused on the primary goal of protection/restoration of tributary habitat as identified as a priority in the paper titled, "A Review of Strategies for Recovering Tributary Habitat", by the Independent Science Advisory Board, (ISAB 2003). Our project emphasis is focused on identifying opportunities for protection/and restoration, not on critiquing existing legal protection mechanisms for which this plan will have little influence. The existing legal mechanisms for protection have been summarized above.

2. **The availability of the types of programs needed or the delivery mechanism**.
   This is the category over which local agencies and organizations have the most experience and influence. Programmatic gaps may be further subdivided into:

   a. Program availability,
   b. Delivery mechanisms, and
   c. Adequate funding.

There is a wide diversity of programs currently in place that address fish and wildlife habitats, soil and water conservation, and water quality. Funding programs occur as described in Section 2.3 and are associated with the State, e.g. OWEB, and with federal programs, such as EQUIP. There are many existing programs; these existing programs offer many opportunities for improving fish and wildlife habitat. The issue is not of a need for new programs, but rather the ability of agencies to secure funding and provide the technical assistance to apply these projects on the ground.

Delivery mechanisms differ between public and private lands and between federal and tribal entities. Federal land management agencies have sufficient authority and the mission to enhance habitat on public lands. The delivery of these services on public lands is a function of agency management direction, staffing, and funding, which is in turn influenced directly by current administrative policy and annual program appropriation established by Congress. In general, we can observe that federal land management agencies in the subbasin have qualified staff and the

mission to improve fish and wildlife habitat. Annual variation in staffing and funding will be a primary determining factor in how much habitat improvement can actually be accomplished.

More important than specific projects is the ability of federal land managers to apply the principles of ecosystem management to make fundamental changes in the health of these ecosystems. One of the largest land managers in the subbasin, the BLM Vale District, has embarked on a long term restoration program to improve ecosystem functions for fish and wildlife habitat, water quality and livestock forage. The BLM Vale District management plans provide a vision and approach for this long-term improvement. The other two major federal land managers, the Burns BLM District, and the Malheur National Forest, have older management plans with various amendments. We could not determine from a cursory review of these documents whether these plans provide the needed fundamental basis for recovery of ecosystems. This may be as much a function of the time allotted for review of the documents as an issue with the plans themselves. It does appear that there more effort is required on the part of these land management agencies to communicate what their existing programs are doing for fish and wildlife habitat.

The Burns Paiute Tribe's Fish and Wildlife Program is a small program compared to other tribes, but it has been effective at addressing gaps in fisheries research, monitoring, and protection of critical habitats in the Subbasin. The tribal program provides an avenue to address types of projects that other entities do not have the mission or funding to accomplish.

Program delivery on private farm and ranch lands in the Malheur Subbasin is a function of adequate technical assistance, outreach, and cost share. The Malheur agricultural community is active in soil and conservation measures as evident in the example projects listed in the project tables. Projects on private land have been primarily focused on soil and water conservation and water quality goals, but these projects also often benefit fish and wildlife habitat. The Burns Paiute Tribe has initiated a Fish and Wildlife program in the Malheur Subbasin. . The NRCS and Malheur SWCD staff report that there are more willing operators that apply for programs than the technical staff can handle. The ability to provide adequate levels of technical assistance appears to be a significant road block to implementation of existing private lands programs.

3. **Adequate technical procedures for restoration**.
Using proven methods to address fish and wildlife habitat restoration is at the core of the debate over how to improve fish and wildlife populations. The NWPCC and the independent science teams have directed the development of subbasin scale amendments to the Columbia Basin Fish and Wildlife Program in part to assure that funded projects address the appropriate limiting factors. Currently, the Fish and Wildlife Program identifies recovery of tributary habitat (within the context of salmon recovery) as a primary goal.

The Malheur Subbasin Plan addresses the issue of identifying appropriate methods by examining current condition at fine scales (stream reaches, watersheds, and terrestrial habitat units), identifying the limiting factor, and then developing general strategies to solve the problem. The methods to improve aquatic habitats are generally understood and have been summarized in various documents. These methods are reviewed as Strategies and Projects in the Management Plan. There is less agreement on the availability and feasibility of methods to improve wildlife habitats in the arid sagebrush steppe community (Allen 1995, Roundy 2004). Methods to

reclaim rehabilitate or restore these altered plant communities, such as cheat grass stands, may not be currently feasible.

In summary, we believe that there are sufficient methods that can be used to address many of the habitat limiting factors along streams, riparian, and wetland habitats. Other obstacles may prevent their application but the tools exist to effect habitat protection and restoration. The restoration of upland habitats in these arid landscapes is less certain and in areas that can be restored still depends to a large degree on climatic patterns over which land managers have no control. For specific identified existing conditions, e.g. cheat grass communities in shrub steppe, successful restoration techniques are currently not available and are a subject of research. In these areas cooperative programs that address restoration methods and demonstration projects are more appropriate.

4. **Community interest and evidence of participation.**

Where existing programs and delivery mechanisms exist, a third component of enhancing fish and wildlife habitats is local community involvement. The involvement of stakeholders in the Malheur SWCD and the Malheur Watershed Council provide a positive indication of the high level of participation of private operators in conservation. As previously described, agricultural programs experience high levels of participation, and within the last several years, the number of operators signing up for conservation programs has outpaced the technical services and funding available.

The Malheur Watershed Council (formerly Malheur Owyhee Watershed Council) provides a barometer of the local community interest in conservation activities. The Malheur Watershed Council developed the Malheur Basin Watershed Action Plan (Malheur Owyhee Watershed Council 1999) using technical assistance from local state and federal agencies. The Action Plan focused on clean water as the primary motivation, but more broadly recognized the need for an ecosystem restoration strategy. The Council has subsequently been successful at developing water quality monitoring programs and assisting growers and ranchers in applying conservation measures. These programs are primarily funded by OWEB grants.

At this point in time the focus of the SWCD and the Council has been on decreasing water quality pollution through agricultural best management practices. The groundwork has been laid for increased participation in programs aimed more directly at fish and wildlife habitat improvement. The aquatic assessment indicates a greater need for improvement of riparian areas throughout the subbasin, and therefore a shift in focus and funding to these limiting factors.

Summary

The Inventory of existing projects demonstrates the range of goals, objectives, and projects being implemented within the Malheur Subbasin. Projects address multiple objectives and combine a variety of practices, which demonstrates the ongoing application of ecosystem restoration principles. The BLM Vale District, a major land manager in the subbasin, is implementing a recent land management plan to improve sagebrush steppe ecosystems, and stepping the plan down to more specific landscape area projects.

Existing programs managed by local service delivery organizations on private lands, such as NRCS and Malheur SWCD, provide an adequate set of tools in most situations to address fish and wildlife habitat needs. Much of the effort has focused on soil and water conservation, and water quality goals. Community growers and ranchers actively participate in the watershed council and in these agricultural programs.

Our qualitative assessment of these programs combined with the outcome of the assessment of current conditions, leads to the following observations on program gaps:

1. A greater emphasis is needed on improving riparian condition throughout the basin, both in cropland areas and in range and pasture lands. The current emphasis on water quality improvement needs to be maintained and complemented by an increased emphasis on specific fish and wildlife objectives.

2. Programs should capitalize on the strengths of both the private and public lands programs by focusing on opportunities in the private and public lands interface. These areas have a high potential for improvement, because of the synergy that can occur when projects take advantage of complementary programs within a concentrated geographic area.

3. Use of existing federal programs specifically targeted at habitat improvement can be used to target fish and wildlife habitats. For example, the NRCS WHIP program, and many grant habitat programs administered by US Fish and Wildlife Service. Currently, these programs appear to be underutilized in the subbasin.

4. An increase in program delivery requires an increase in staffing for farm service agencies, if our assumption that staffing is a limiting factor is correct, to meet the needs of increasing activity in restoration of habitats on private lands.

5. As with any program, expanding funding and decreasing the administrative burden associated with grants will increase access to these programs. Grant proposal procedures and staff availability to pursue grants is a stumbling block to further use of existing programs.

3 REFERENCES

All references are included in a separate document

4 APPENDIX B-1

Malheur SubBasin Existing Activities Survey Survey Help

Please fill out the following information once for **each** project your group is working on. Fields with an * asterisk need to be provided.

For more assistance, please click on Survey Help at the top of the page or email Steve Bauer.

Name of Organization*

Type of Organization*

- ☐ Federal
- ☐ State
- ☐ Local Government
- ☐ Watershed Council
- ☐ Private
- ☐ Tribe
- ☐ Other

Project Title*

Contact Information

Your Name*

Phone* **Email***

Project Information

Reach Numbers* Please refer to the MAP for reach labels. When clicked, a new browser window will open which you can enlarge as needed. Load times may be long. This survey window will remain open.

First reach Next reach Next reach Next reach

Type of Project*

- ☐ Irrigated cropland improvements
- ☐ Other agricultural improvements
- ☐ Rangeland improvements
- ☐ Fish passage improvements
- ☐ In-stream flow restoration
- ☐ Off-stream water
- ☐ Water source development
- ☐ Native vegetation plantings
- ☐ Wildlife forage plantings
- ☐ Exotic plant removal
- ☐ Prescribed burns
- ☐ Streambank restoration
- ☐ Riparian fencing
- ☐ Road abandonment/restoration
- ☐ Bird nesting structures
- ☐ Beaver introduction/management
- ☐ LWD recruitment
- ☐ Upland habitat enhancement
- ☐ Wetland/riparian enhancement
- ☐ Monitoring
- ☐ Other

Land Owner*

- ☐ BLM
- ☐ USFS
- ☐ Other Federal
- ☐ City
- ☐ County
- ☐ Private
- ☐ Private Non-Profit
- ☐ State
- ☐ Tribal
- ☐ Other

Funding Source* ☐ Federal ☐ State ☐ Local ☐ Private ☐ OWEB ☐ ODFW ☐ Other

Budget* ○ less than $1000 ○ $1000 - $5000 ○ $5000 - $10,000 ○ $10,000 to $25,000 ○ $25,000 - $50,000 ○ $50,000 - $100,000 ○ $100,000 - $500,000 ○ greater than $500,000

Project Start Month* (numeric - e.g., June is 6)

Starting Year*

Ending Month* (numeric)

Ending Year* (projected if necessary)

Area, Length or Size of Project*

Units* ○ Acres ○ Feet ○ Miles ○ Other

Status* ○ Complete ○ Not Started ○ On-Going

Aquatic Limiting Factor Addressed* ☐ Riparian condition ☐ Channel stability ☐ Habitat diversity ☐ Fine sediment ☐ High flow ☐ Low flow ☐ Oxygen ☐ Low temperature ☐ High temperature ☐ Pollutants ☐ Obstructions ☐ Other

General Purpose* ☐ Fish Habitat ☐ Water Quality ☐ Water Quantity ☐ Upland Habitat ☐ Upland erosion ☐ Wildlife habitat ☐ Riparian/wetland habitat ☐ Other

Results* Rate project success on a scale of 1 to 5 where 1 = all goals met; 2 = 75% of goals met; 3 = 50% of goals met; 4 = 25% of goals met; 5 = no goals met.

○ 1 ○ 2 ○ 3 ○ 4 ○ 5

Optional Comments

Submit Form Reset