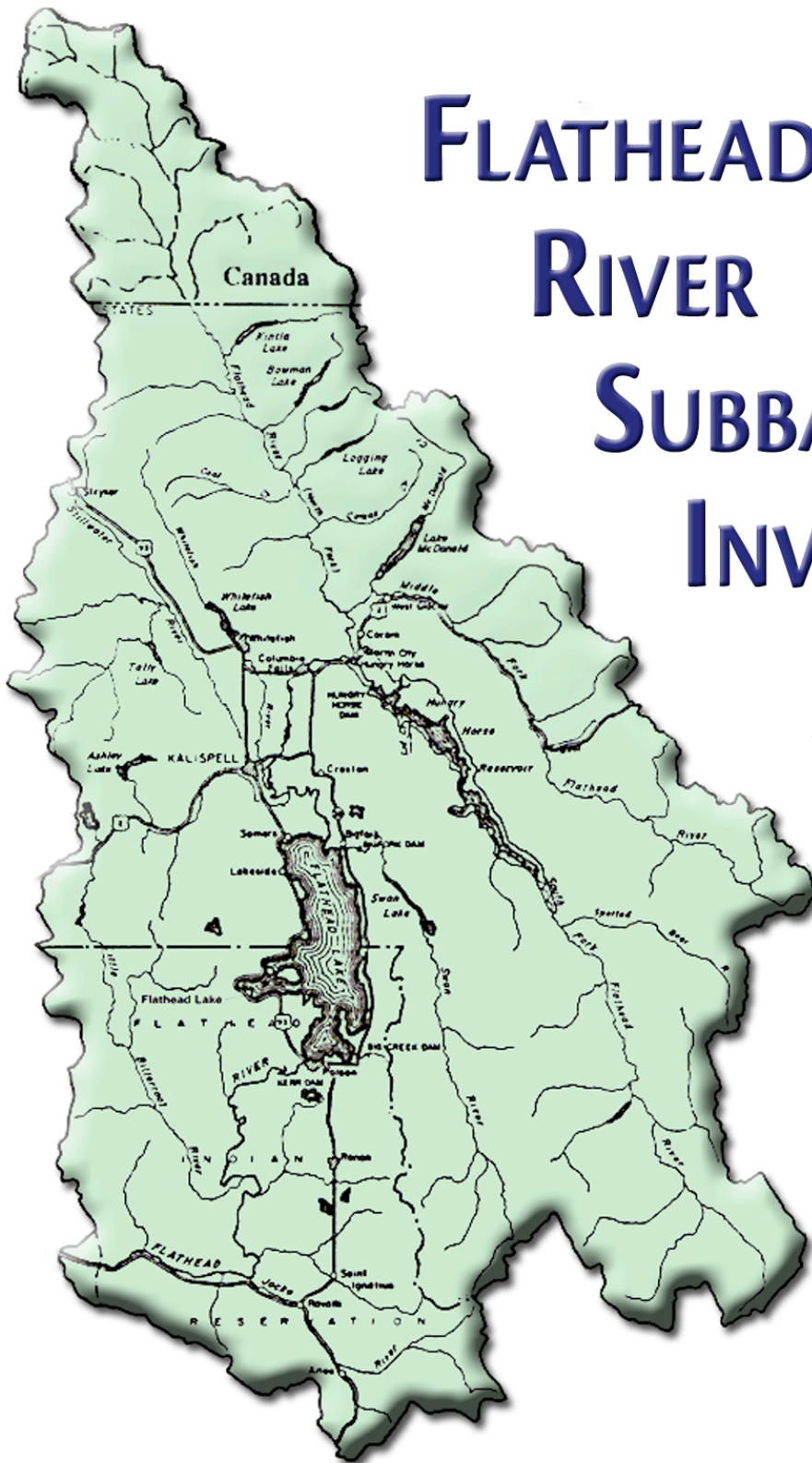


# FLATHEAD RIVER SUBBASIN INVENTORY



A Report prepared  
for the Northwest  
Power and  
Conservation  
Council

An inventory of past and present management plans and restoration and conservation plans, programs, and projects

## **RESERVATION OF RIGHTS**

A number of governments and agencies participated in the development of this Flathead Subbasin Plan, Part I (Assessment Volume), Part II (Inventory Volume), and Part III (Management Plan Volume), its appendices, and electronically linked references and information (hereafter Plan). The primary purpose of the Plan is to help direct Northwest Power and Conservation Council funding of projects that respond to impacts from the development and operation of the Columbia River hydropower system.

Nothing in this Plan, or the participation in its development, is intended to, and shall not be interpreted to, compromise, influence, or preclude any government or agency from carrying out any past, present, or future duty or responsibility which it bears or may bear under any authority.

Nothing in this Plan or the participation in its development constitutes a waiver or release of any rights, including the right to election of other remedies, or is intended to compromise, influence, or preclude any government or agency from developing and prosecuting any damage claim for those natural resource impacts identified in the Plan which are not directly and exclusively resulting from, or related to, the development and operation of the Columbia River hydropower system.

Nothing in this Plan or the participation in its development is intended to, and shall not be interpreted to, waive any rights of enforcement of regulatory, adjudicatory, or police powers against potentially responsible parties for compliance with applicable laws and regulations pertaining to natural resource damages throughout the Flathead Subbasin whether or not specifically identified in this Plan.

This Plan is the result of a group effort. Nothing in it or the participation in its development should be interpreted as constituting unqualified acceptance or endorsement of the Plan, its appendices, or any electronically linked reference or information by any party.

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# INTRODUCTION

This is an inventory of past (within the last five years) and present management plans and restoration and conservation plans, programs, and projects. It constitutes the second step in the development of a subbasin plan, which will be reviewed and eventually adopted as part of the Northwest Power and Conservation Council's Columbia River Basin Fish and Wildlife Program. The primary purpose of the plan will be to help direct Bonneville Power Administration funding of projects that protect, mitigate, and enhance fish and wildlife that have been adversely impacted by the development and operation of the Columbia River federal hydropower system.

The purpose of the inventory is to see how well recent and ongoing work is addressing limiting factors identified in the Assessment, which is Part I of the Subbasin Plan. To complete the inventory, we surveyed a large number of agencies, organizations, and individuals involved directly or indirectly in fish and wildlife activities in the subbasin. We then compared these projects to the limiting factors identified in the assessment and assessed how well they are addressing the limiting factors.

The Flathead River Subbasin Plan Technical and Planning Teams express their gratitude for the assistance of the cooperating agencies.

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## 9 INVENTORY

### 9.1 Current Management Activities

#### 9.1.1 Existing Protection

Protections for fish and wildlife habitats in the Flathead Subbasin come in many forms and can include Federal or Tribal Wilderness designations, National Parks, Wild and Scenic River designations, wildlife management and conservation areas, natural areas, or various special fisheries or wildlife designations. Appendix 1 lists specific protections for fish in the Flathead Subbasin. Table 9.1 summarizes the data in Appendix 1 by 4<sup>th</sup>-code HUC. The MFISH website maintains a database of the protection status of streams in the subbasin and has additional information (see the links column).

*Table 9.1 Miles of stream with protective status in the Flathead Subbasin (does not include wilderness, park or natural area designations).*

4th-Code HUC	Miles with Protection
North Fork	252.7
Middle Fork	144.3
South Fork	243
Flathead River to and Including Flathead Lake	31.7
Stillwater	159.6
Swan	163.4
Lower Flathead	55.2
<b>Total</b>	<b>1049.9</b>

Federal regulations that protect westslope cutthroat trout and bull trout habitat in the subbasin include the Clean Water Act (including Sections 401 and 404 permits), which regulates discharge or placement of dredged or fill material into waters of the United States; the Federal Land Management Protection Act (FLPMA); and internal agency management guidelines and policies, such as National Forest Management Plans. All activities that may affect the two focal species on Federal and Tribal lands will continue to undergo review under the National Environmental Protection Act (NEPA) and may thus be modified, when necessary, to minimize adverse effects on these species. National Park Service policies for Glacier National Park preclude modification of westslope cutthroat trout and bull trout habitat and the introduction of nonnative species.

#### LINKS

*The MFISH website maintains a database of the protection status of streams in the subbasin and has additional information on protective status. To query the protection status of a specific stream or 4<sup>th</sup>-code HUC, go to: <http://maps2.nris.state.mt.us/scripts/esrimap.dll?name=MFISH>*

**Click Here**

*Appendix 1 shows specific protections for fish beyond those shown in figure 9.1.*

**Click Here**



The Inland Native Fish Strategy (INFISH), adopted by the U.S. Forest Service in 1995, amended National Forest Plans and Regional Guides to include interim direction for riparian management objectives, standards and guidelines, and monitoring in the Columbia River basin (USFS 1995). Among other things, INFISH requires that 300-foot buffers be maintained along all streams. INFISH standards, which can only be modified following a watershed analysis or site-specific evaluation, are being implemented on U.S. Forest Service lands to minimize or eliminate present or potential destruction of westslope cutthroat trout and bull trout habitat and other aquatic resources. The June 10, 1998 listing of bull trout in the Columbia River basin as a threatened species under the Endangered Species Act (63 FR 31647) has further strengthened protections for focal species habitat.

Confederated Salish and Kootenai Tribal (CSKT) regulations that protect fish and wildlife habitats on the Flathead Indian Reservation include: Ordinance 76A-Tribal Water Planning Ordinance, Ordinance 79A-Mission Mountains Tribal Wilderness Guidelines and Policies, Ordinance 87A-Aquatic Lands Conservation Ordinance, Ordinance 89B-Water Quality Management Ordinance, Ordinance 78B-Natural Resources Department Ordinance, and Ordinance 44D-Tribal Hunting and Fishing Conservation Ordinance.

The CSKT have established forestry Best Management Practices (BMPs) on tribal land to reduce logging impacts on water quality and are currently developing and implementing grazing BMPs. In 2001, the Tribes and EPA began inventorying stormwater discharge into Flathead Lake.

On Montana State Forests, forestry Best Management Practices (BMPs) are being implemented to maintain water quality and reduce sediment input; audits of forestry practices indicate a high degree of compliance. Grazing BMPs have also been developed and are being implemented on state grazing lands.

Montana has several laws and regulations directed toward protection of aquatic habitats that, if properly applied and enforced, reduce threats to resident salmonids throughout the state. The Montana Stream Protection Act requires a permit for any project that may affect the natural and existing shape and form of any stream or its banks or tributaries; the Streamside Management Zone Law permits only selective logging and prohibits clear cutting and heavy equipment operation within 50 feet of any lake, stream, or other body of water; the Montana Natural Streambed and Land Preservation Act requires private, non-governmental entities to obtain a permit for any activity that physically alters or modifies the bed or banks of a perennially flowing stream; and the Montana Pollutant Discharge Elimination System requires permits for all discharges to surface water or groundwater, including discharges related to construction, dewatering, suction dredges and placer mining. Before permits allowing activities covered under these

regulations are issued, applications are reviewed by Montana FWP, Montana Department of Natural Resources and Conservation, and the Montana Department of Environmental Quality (Montana DEQ). Recommendations to limit impacts to westslope cutthroat trout and bull trout and their habitat are mandated through the permitting process.

In 1997, the Montana Legislature passed House Bill 546, which strengthened the state's authority to develop Total Maximum Daily Loads (TMDLs) for Montana waters. Under this legislation, Montana DEQ is directed to identify impaired water bodies, identify the causes of impairment, and develop corrective actions. Montana DEQ's goal is to correct all impairments within the next 10 years. Such corrective actions will improve water quality in many streams and should result in enhancement of habitat for focal species.

## 9.1.2 Existing Plans

### British Columbia

In British Columbia, the Flathead watershed falls under the jurisdiction of various Kootenay area planning documents and initiatives.

### Kootenay-Boundary Higher Level Plan Order

#### *Ministry of Sustainable Resource Management*

The higher level plan order for the Kootenay Boundary came into effect on January 31, 2001. It establishes new Resource Management Zones and Objectives and cancels the previous order. The following elements of the Kootenay Boundary implementation strategy are established in the Kootenay Boundary higher level plan order:

- In addition to old forest retention targets, there are mature forest retention targets.
- Measures to address caribou, regional connectivity and important avalanche tracks for grizzly bears are included.
- Green-up will be reduced while maximum patch size has been increased in accordance with the natural forest disturbance patterns.
- Enhanced resource development zones for timber are confirmed.
- Restoration of fire-maintained ecosystems.
- Some increased protection for streams within domestic watersheds.
- Establishment of scenic areas.

**LINKS**

The B.C. Province's main planning webpage is: <http://srmwww.gov.bc.ca/rmdl/>

**Click Here**

The Kootenay planning webpage is: <http://srmwww.gov.bc.ca/kor/>

**Click Here**

For the Kootenay-Boundary Higher Level Plan Order, go to: <http://srmwww.gov.bc.ca/kor/rmdl/>

**Click Here**

For the Southern Rocky Mountain Management Plan (2003), go to: <http://srmwww.gov.bc.ca/kor/srmmpl/srmmpl.htm>

**Click Here**

## Resource Management Plan (RMP) For The Kootenay Boundary Region 2001 — 2005

*Ministry of Environment, Lands and Parks (MELP) Ministry of Forests (MoF)*

The purpose of the plan is to:

- Identify forest management resource objectives and priorities;
- Recommend investment opportunities in support of Forest Renewal British Columbia (FRBC) strategic objectives;
- Identify funding requirements for ministries' objectives and resource priorities not eligible for FRBC funding.

The RMP is a compendium of all resource management objectives and priorities, determined by the MoF, MELP, forest licensees, TFL holders and other stakeholders that provide the basis for funding agency investment decisions. The ministry RMP is directed at linking resource management objectives from higher level planning to "on the ground" accomplishments. The RMP recommendations are anticipated to form the core component of the FRBC Forest and Environment Investment Plan (FEIP). The FEIP is a component of FRBC's overall Regional Investment Plan (RIP) which will be submitted to the Forest Renewal Board of Directors in December 2000 for approval. FRBC will then proceed to establish which proponents will deliver the approved priority projects, and set multi-year and annual investment and employment allocations.

## Southern Rocky Mountain Management Plan (2003)

*Ministry of Sustainable Resource Management*

The Southern Rocky Mountain Management Plan (SRMMP) covers the Flathead, Wigwam, the east side of the Bull River and the west side of the Elk River drainages in the southeast corner of British Columbia. The intent of the plan is to facilitate sustainable economic development. The plan balances economic, social and environmental values for the long-term health of the economy, communities and ecosystems. Considerable significant, new technical work has gone into preparation of the SRMMP. New ungulate winter range mapping and guidance are based on the extensive work of the East Kootenay Ungulate Winter Range Committee. The emphasis has shifted from species management to habitat management, and from cover requirements to forage availability. A totally new approach to wildlife connectivity has been developed, through interaction with scientific and technical experts. The emphasis has shifted from definition of wide corridors to utilization of a matrix approach, in which specific ecological elements (e.g., ungulate habitats, grizzly bear avalanche tracks, riparian zones, old growth and mature forest areas, and inoperable forest) are managed in a coordinated

manner. Riparian management for the Flathead River and its major tributaries is based on floodplain mapping (“enhanced riparian zones”) as opposed to strict numerical setbacks. The Recreation Management Strategy provides access management direction for various outdoor recreational activities, based on stakeholder negotiations.

### East Kootenay Land Use Plan (1995)

*Province of BC - Land Use Coordination Office*

The land-use plan delivered by the government of British Columbia in March 1995, the East Kootenay Land Use Plan, builds on the work in the Kootenays and other areas of British Columbia. It is intended to help provide the stability needed to ensure a more sustainable economy and environment for the region. The provincial land use plan clearly defines the land available for resource development, as well as the region’s important wilderness areas that will be protected. It also includes an economic strategy and identifies the East Kootenay as a priority for the government’s Forest Renewal Plan.

### LINKS

*For the East Kootenay Land Use Plan, go to: <http://livinglandscapes.bc.ca/cbasin/socio/ekplan.htm>*

**Click Here**

### Kootenay-Boundary Land Use Plan Implementation Strategy (1997)

*Kootenay Inter-Agency Management Committee*

The main objectives of the provisions contained in this KBLUP Implementation Strategy are to: (1) contribute to environmental, social and economic sustainability; (2) reduce the potential for disruptive land use conflicts; (3) help provide a secure and certain basis for long-term public and private planning and investment in resource management and community development; (4) integrate the March 1995 government KBLUP decision with the Forests Practices Code and other government strategic policy guidance dealing with land and resource management, such as the Provincial Grizzly Bear Conservation Strategy, emerging policy on managing mountain caribou and access, the Mineral Exploration Code, the Forest Sector Strategy, the Regional Biodiversity Benchmark Project, and the Invermere Enhanced Forest Management Pilot Project, as well as socioeconomic transition, and; (5) provide a strategic context and workable direction for more detailed, operational levels of land and resource planning and day-to-day administrative decision-making.

*For the Kootenay-Boundary Land Use Plan Implementation Strategy, go to: <http://srmwww.gov.bc.ca/kor/rmd/kblup/toc.htm>*

**Click Here**

**LINKS**

For the Glacier Park General Management Plan, go to: <http://www.nps.gov/glac/plans.htm>

**Click Here**

For the Flathead National Forest Plan, go to: <http://www.fs.fed.us/r1/wmpz/publications/>

**Click Here**

For the Hungry Horse Biological Opinion, go to: [www.r1.fws.gov/finalbiop/Summary.PDF](http://www.r1.fws.gov/finalbiop/Summary.PDF)

**Click Here**

## Federal Plans

### Glacier National Park General Management Plan (1999) and Miscellaneous Wildlife Management Plans (2000-Continuing)

*Glacier National Park, National Park Service*

The Park's General Management Plan was completed in 1999 setting the general management philosophy and direction for the next 20 years. In the last 5 years Glacier Park has updated or developed management plans for bald eagles, grizzly and black bears, and mountain lions. We have taken significant action to protect these species through these plans and taken other actions to protect harlequin ducks, grey wolves, and bull trout. This is beyond the normal protection afforded by National Park status. We also finally banned lead for use in fishing gear except for large sinkers. Monitoring is ongoing.

### Flathead National Forest Plan (Updated 2001 to include Amendments 1 through 23)

*Flathead National Forest, USFS*

The Forest Plan guides all natural resource management activities and establishes management standards for the Flathead National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management. The purpose of the Forest Plan is to provide long-term (10-15 year) direction for managing the Flathead National Forest. The plan provides two levels of direction: general Forest-wide management direction and specific direction for each management area. Direction is described in terms of management goals, objectives, and Forest-wide and Management Area Standards. This update incorporates Amendments 1 through 23. The forest also has management plans for the Bob Marshall, Mission Mountains, and Great Bear Wilderness Areas and Wild and Scenic Rivers that tier off this umbrella plan.

### Hungry Horse Biological Opinion on Federal Columbia River Power System Operations (2000)

*USFWS, BOR, USACOE, and BPA*

The Fish and Wildlife Service developed its biological opinion as part of consultations with the U.S. Army Corps of Engineers and the Bureau of Reclamation, which operate the Federal dams, and the Bonneville Power Administration, which sells the electricity generated at the dams. Hungry Horse Dam was among the 14 dams included in the Service's biological opinion. Impacts to bull trout resulted in recommended changes in operations of Hungry Horse to minimize adverse effects.

The Service and the action agencies reached agreement on changes in operations that will minimize the adverse effects of the facility on bull trout. For example, USFWS reached agreement on the need for minimum flows and summer and winter ramping rates at Hungry Horse dam. The opinion also includes implementation of a modified flood control operation (VARQ) at Hungry Horse Dam that will provide more water for listed resident fish and salmon.

### Bull Trout Draft Recovery Plan (Chapter 3: Clark Fork, which includes the Flathead Subbasin) (2003)

#### USFWS

This draft Federal Recovery Plan was required under the Endangered Species Act. It is currently under revision to Final. Includes recovery criteria, recovery tasks, estimated costs, and implementation schedule. The plan will become the official guidance document for Federal bull trout recovery efforts, once final is approved (expected late 2004 or early 2005).

#### LINKS

*For USFWS reports and information on bull trout, go to: <http://http://pacific.fws.gov/bulltrout/>*

[Click Here](#)

### Draft Bull Trout Critical Habitat (Proposed Rule) (2001)

#### USFWS

Proposed Critical Habitat developed as a result of litigation and settlement agreement that legally delineates important drainages for bull trout and bull trout recovery efforts. The proposed rule includes 520 miles of 57 streams in the Flathead Lake drainage and 140,449 acres of 21 associated lakes and reservoirs; 132 miles of 17 streams in the Swan Lake drainage and 3,813 acres of 3 associated lakes and reservoirs; and 209 miles of 16 streams in the South Fork Flathead River drainage and 24,679 acres of 3 associated lakes and reservoirs; representing approximately 10 percent of the total stream distance in the U.S. portions of the Flathead River drainage (1:100,000 map coverage). It will become official guidance document for Federal bull trout recovery efforts, once the final rule is issued (expected late 2004 after Economic Analysis is issued and public comment concludes).

### Lynx Conservation Assessment and Strategy (Second Edition, 2000)

*USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Missoula, MT.*

The Lynx Conservation Assessment and Strategy was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the conterminous United States. The USDA Forest Service, USDI Bureau of Land Management, and USDI Fish and Wildlife Service initiated the Lynx



## LINKS

For recovery plans and related documents, go to: [http://montanafieldoffice.fws.gov/Endangered\\_Species/Recovery\\_and\\_Mgmt\\_Plans.html](http://montanafieldoffice.fws.gov/Endangered_Species/Recovery_and_Mgmt_Plans.html)

[Click Here](#)

Conservation Strategy Action Plan in spring of 1998. The conservation measures presented in this document were developed to be used as a tool for conferencing and consultation, as a basis for evaluating the adequacy of current programmatic plans, and for analyzing effects of planned and on-going projects on lynx and lynx habitat.

### Grizzly Bear Recovery Plan (1993)

*USFWS*

The Federal Grizzly Bear Recovery Plan, required under the Endangered Species Act, includes a description of the current status, habitat requirements and limiting factors, recovery objectives, recovery priorities, recovery criteria, and actions needed.

### Montana Bald Eagle Management Plan (1994)

*US Bureau of Reclamation*

This plan is a revision of the 1986 Montana Bald Eagle Management Plan. It is intended to provide landowners and resource managers with information on the biology of bald eagles to facilitate informed decisions about land use and to promote the conservation of the species and its habitat. It includes information on biology and management guidelines.

### Northern Rocky Mountain Wolf Recovery Plan (1987)

*USFWS*

The Northern Rocky Mountain Wolf Recovery Plan outlines steps for the recovery of the gray wolf (*Canis lupus*) populations in portions of their former range in the Northern Rocky Mountains of the United States. The recovery plan is intended to provide direction and coordination for recovery efforts. State responsibility for many plan items is proposed because the Endangered Species Act of 1973, as amended, provides for State participation/responsibility in endangered species recovery. The plan is a guidance document that presents conservation strategies for the Northern Rocky Mountain wolf.

### Hatchery And Genetic Management Plan for the Creston National Fish Hatchery (2000)

*USFWS*

This document describes in some depth the hatchery program including: funding, purpose, justification, performance standards and indicators, relationship of hatchery to other program objectives, ecological interactions, facilities water source, broodstock origin and identity, incubation, rearing, and release.

## Tribal Plans

### Flathead Indian Reservation Comprehensive Resources Plan (1994)

#### *Confederated Salish and Kootenai Tribes*

The purpose of this plan is to guide natural resource management and development on the Flathead Indian Reservation. It presents a profile and assessment of the condition of natural resources on the Reservation as of 1994, identifies Tribal goals for each natural resources, explores a series of integrated alternatives for management and defines policies and processes that to guide future resource management on the Reservation. Plans that tier off the Comprehensive Plan include: the Lower Flathead River Corridor Management Plan, the Mission Mountains Tribal Wilderness Management Plan, the Wilderness Buffer Zone Management Plan and the Forest Management Plan, which is described below.

### Flathead Indian Reservation Forest Management Plan (2000)

#### *Confederated Salish and Kootenai Tribes*

The Confederated Salish and Kootenai Tribes forest management plan covers forested acres owned by the Confederated Salish and Kootenai Tribes and allottees (trust lands) on the Flathead Indian Reservation. The plan sets long and short-term goals and objectives for all forest resources from timber to fish and wildlife.

### Kerr Project Fish and Wildlife Implementation Strategy (2000)

#### *Confederated Salish and Kootenai Tribes*

The Fish and Wildlife Implementation Strategy (FWIS) is a requirement of Article 63 of the Federal Energy Regulatory Commission's June 25, 1997, order as amended, approving the mitigation and management plan for the Kerr Project (No. 5-021). The FWIS includes:

- A monitoring program to assess Kerr Project compliance with required project operations.
- Specifically quantified fish and wildlife program goals.
- A monitoring program to assess FWIS progress and compliance.
- A monitoring program to assess the ongoing effects of the Kerr Project on fish, wildlife, and aquatic resources.
- A fish stocking, supplementation, and reintroduction plan.
- A detailed habitat acquisition and restoration plan, including quantification of habitat values and acreages.
- A program to evaluate the regeneration of deciduous riparian vegetation communities and to address potential conditions of little or no willow or cottonwood regeneration.



- A program to monitor the vegetative and habitat recovery rate of land that was in the varial zone under previous operations, but is not affected by baseload operations.

### **Kerr Project Revised Fish Stocking, Supplementation, and Reintroduction Plan (2002)**

#### *Confederated Salish and Kootenai Tribes*

The language in Article 64 Federal Energy Regulatory Commission's Kerr Project Order as amended states that fishery losses would be mitigated using several adaptive approaches outlined in the FWIS that include, but are not limited to, restoration of native fish species' spawning habitat and enhancement of native fish species' rearing habitat. The Fish, Stocking, Supplementation, and Reintroduction Plan document identifies a series of strategies and methods to achieve Kerr Project fishery mitigation goals.

### **Wetland/Riparian Habitat and Bull Trout Restoration Plan (2000)**

#### *Confederated Salish and Kootenai Tribes*

In 1998, ARCO agreed as part of a legal settlement to pay the Confederated Salish and Kootenai Tribes \$18.3 million to restore, replace, and/or acquire the equivalent of Tribal treaty-protected resources of the Upper Clark Fork River Basin that were injured by the release of hazardous substances. The Wetlands and Riparian Habitat and Bull Trout Restoration Plan provides long-term guidance for restoring the resources and services injured by the release of hazardous materials from mining and ore-processing activities. The plan contains policies for making restoration decisions and describe methods for implementing restoration activities.

### **Jocko River Master Plan (2004)**

#### *Confederated Salish and Kootenai Tribes*

The goals of the Jocko River Master Plan, which tiers off of the Tribes' Wetland/Riparian Habitat and Bull Trout Restoration Plan, are to characterize the Jocko River's existing condition and potential future condition, propose restoration opportunities and restoration treatments to achieve potential condition, develop channel and floodplain design characteristics appropriate for the restored system, prioritize project reaches, and lay out construction planning for priority reaches

### **Tribal Fisheries Management Plan (1993)**

#### *Confederated Salish and Kootenai Tribes*

This plan includes policy statements governing fisheries management on the Reservation, classifies streams throughout the reservation, and identifies management units, each unit has management goals and techniques.

### **Flathead Indian Reservation Grizzly Bear Management Plan (1982)**

#### *Confederated Salish and Kootenai Tribes and Bureau of Land Management*

This plan designates grizzly bear management zones and units, a recreational closure of the McDonald Peak area during the summer months when the bears congregate there to feed on army cutworm moths, seasonal restrictions on grazing, and limitations on road construction activities.

### **Wetlands Conservation Plan for the Flathead Indian Reservation, Montana (1999)**

#### *Confederated Salish and Kootenai Tribes*

The purpose of the wetlands conservation plan is to provide direction to Tribal programs for the protection and restoration of wetlands and riparian areas on the Flathead Indian Reservation. The plan provides the framework linking and coordinating Tribal programs with wetland or wetland-related duties so all function together as a comprehensive wetlands protection and restoration program. The plan assesses wetland and riparian status and trends, examines issues affecting Reservation wetlands, and articulates Tribal goals and objectives for wetlands and riparian areas.

### **Kerr Project Habitat Acquisition and Restoration Plan (2000)**

#### *Confederated Salish and Kootenai Tribes*

This plan is written under Article 65 of the Federal Energy Regulatory Commission's Kerr Project Order as amended. Its purpose is the protection and development of aquatic and riparian habitat for the south half of Flathead Lake and protection and development of aquatic and riparian fish and wildlife resources in and along the lower Flathead River. The plan proposes methods for acquiring acres of habitat on the Reservation as required by Article 67, as amended; identifies areas that are suitable for restoration, creation, and/or enhancement of Reservation fish and wildlife habitat; and establishes priorities and a schedule and plan for acquisition.

### Annual Tribal Wildlife Management Program Plan (2004)

#### *Confederated Salish and Kootenai Tribes*

These annual plans govern wildlife management on the Flathead Reservation on a yearly basis. They list goals, objectives, projects, and activities for the fiscal year.

### State Plans

#### Montana Department of Natural Resources and Conservation (DNRC) (State Lands) Habitat Conservation Plan (HCP)

##### *State of Montana and U.S. Fish and Wildlife Service*

This plan, which is currently under development, covers State lands in the subbasin. It uses the Plum Creek Native Fish HCP as a template, but will also cover terrestrial species. No additional information is available at this time.

#### Final Bull Trout Restoration Plan (2000)

##### *Montana Fish, Wildlife & Parks*

In 1993, the Governor of Montana appointed the Bull Trout Restoration Team to produce a plan that maintains, protects, and increases bull trout populations. The team appointed a scientific group (Montana Bull Trout Scientific Group) to provide the restoration planning effort with technical expertise. The scientific group wrote 11 basin-specific status reports and 3 technical, peer-reviewed papers about the role of hatcheries (MBTSG 1996d), the suppression of nonnative fish species (MBTSG 1996c), and land management (MBTSG 1998). A draft restoration plan that defined and identified strategies for ensuring the long-term persistence of bull trout in Montana was released for public comments in September 1998 (MBTRT 1998). In June 2000, the final restoration plan was issued (MBTRT 2000). The plan synthesizes the scientific reports and provides recommendations for achieving bull trout restoration in western Montana. It focuses activities on 12 restoration/conservation areas and was designed to complement and be consistent with this recovery plan. The Montana Restoration Plan relies on voluntary actions, promoted by watershed groups, but has no legislative or legal authority beyond existing State law. Implementation of the Montana Restoration Plan has not officially begun; it is expected to mesh with implementation of the USFWS Bull Trout Recovery Plan.

## Memorandum Of Understanding And Conservation Agreement For Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*) in Montana

### *Montana Fish, Wildlife & Parks*

This Memorandum of Understanding and Conservation Agreement was developed to expedite implementation of conservation measures for westslope cutthroat trout (*Oncorhynchus clarki lewisi*) in Montana as a collaborative and cooperative effort among resource agencies, conservation and industry organizations, resource users, and private land owners. Threats that warrant consideration of westslope cutthroat trout as a Species of Concern by the State of Montana, a Sensitive Species by the U.S. Forest Service, a Species of Special Concern by the Bureau of Land Management, and as Species of Special Management Concern by the U.S. Fish and Wildlife Service should be significantly reduced or eliminated through implementation of this Agreement.

## Nutrient Management Plan and Total Maximum Daily Load for Flathead Lake, Montana (2001)

### *Montana Department of Environmental Quality*

The purpose of this document is two-fold: 1) to fulfill the requirements of Section 303(d) of the Federal Clean Water Act and Montana Water Quality Act (Chapter 75, Part 7) regarding Total Maximum Daily Loads (TMDL); and 2) to provide a prioritized nutrient management plan for Flathead Lake. This document addresses those probable causes related to nutrients (i.e., nutrients, noxious aquatic plants, organic enrichment/low DO, and algal growth/chlorophyll a). Additionally, siltation and suspended solids will be addressed as a secondary outcome of this process. Phosphorus, in particular, is strongly associated with soil particulate matter (Reckhow et al. 1980). As a result, reducing non-point source phosphorus loads will, in many cases, involve employing measures to minimize sediment delivery to Flathead Lake and/or its tributaries. The probable causes of PCBs, metals and mercury appeared on the 303(d) list for the first time in 2000. Therefore, these probable causes are scheduled to be addressed by 2010.

## Five-Year Update of the Programmatic Environmental Impact Statement, the Grizzly Bear in Northwestern Montana (1993)

### *Montana Fish, Wildlife & Parks*

This documents outlines Fish, Wildlife & Parks' goals to manage for a recovered grizzly bear population, to maintain distribution in defined management areas, and seeks to maintain the habitat in a condition suitable to sustain the population at an average density between 1 grizzly bear per 15-30 square miles outside of Glacier National Park.

### Management of Black Bears in Montana (1994)

*Montana Fish, Wildlife & Parks*

The plan defines a statewide management strategy for managing black bear populations and their harvest in Montana.

### Management of Mountain Lions in Montana (1996)

*Montana Fish, Wildlife & Parks*

The plan defines a statewide management strategy for mountain lions including objectives for determining carrying capacities for mountain lions and their prey; monitoring populations; regulating harvest; improving public understanding of lion biology, habitat requirements and management; and public policies that deal with mountain lion conflicts with people and livestock.

### Deer Population Objectives and Hunting Regulation Strategies (1998)

*Montana Fish, Wildlife & Parks*

The plan outlines objectives and strategies designed to manage for the long-term welfare of Montana's deer resource and provide recreational opportunities that reflect the dynamic nature of deer populations.

### Montana Gray Wolf Conservation And Management Plan (2003)

*Montana Fish, Wildlife & Parks*

The plan outlines a balanced approach to sustain wolves as a native species in Montana while balancing their presence with the costs and impacts on those people most directly affected by the presence of wolves.

### Wildlife Mitigation Program for Libby and Hungry Horse Dam, Five-Year Operating Plan (2003)

*Montana Fish, Wildlife & Parks*

The plan outlines the history of the wildlife mitigation program for Libby and Hungry Horse Dams, changes in the current wildlife mitigation program, past accomplishments, and priorities for the next 5 years. Current priorities are to maintain and monitor the investments made in wildlife habitat enhancement and conservation over the last 30 years. Other available revenue is directed to new projects benefiting wetland/riparian habitats, grizzly bears, terrestrial furbearers, bighorn sheep and Palouse prairie/Columbian sharp-tailed grouse.

### **Columbian Sharp-tailed Grouse Mitigation Implementation Plan for Western Montana (1991)**

*Montana Fish, Wildlife & Parks*

The plan outlines management objectives to accomplish the goal of improving the current status of Columbian sharp-tailed grouse in western Montana by protecting existing populations and habitats and by establishing additional populations in areas of suitable habitat.

### **Statewide Elk Management Plan (1992)**

*Montana Fish, Wildlife & Parks*

The plan provides guidance to wildlife managers, land managers and other parties responsible for planning and policy decisions that affect wildlife resources and wildlife-related recreation in Montana.

### **Hungry Horse and Libby Riparian/Wetland Habitat Conservation Implementation Plan (1996-2006)**

*Montana Fish, Wildlife & Parks*

The purpose of this plan is to describe the means by which MFWP will implement the riparian/wetland habitat conservation program. It includes goals, objectives, strategies, rationales, and project areas outlined in the final decision notice. It defines the criteria for project selection, the review and decision-making processes and other supporting technical information.

## **State-Tribal Plans**

### **Flathead Lake and River Fisheries Co-Management Plan (2000)**

*Montana Fish, Wildlife & Parks and Confederated Salish and Kootenai Tribes*

This co-management planning document addresses the fisheries of Flathead Lake, the Flathead River and its tributaries upstream to its forks, the Swan River downstream from Bigfork Dam, the South Fork downstream from Hungry Horse Dam, the Middle Fork and tributaries, and the North Fork and tributaries upstream to the Canadian Border. The final management plan will set co-management direction for the period 2000-2010. It will include monitoring, annual reporting to the public, and a 5-year mid-term check and evaluation.

### **Hungry Horse Dam Mitigation Plan (1991)**

*Montana Fish, Wildlife & Parks and Confederated Salish and Kootenai Tribes*

The Hungry Horse Dam Mitigation Plan contains the Northwest Power and

Conservation Council-approved loss statement for fisheries impacts attributable to construction and operation of Hungry Horse Dam. The plan lists losses and overall strategies for Hungry Horse mitigation opportunities.

### Hungry Horse Dam Implementation Plan (1993)

*Montana Fish, Wildlife & Parks and Confederated Salish and Kootenai Tribes*

The Hungry Horse Dam Implementation Plan details actions for implementation of the mitigation plan and includes a decision pathway for carrying out the actions to mitigate dam impacts.

### Other Plans and Agreements

#### South Fork Flathead Conservation Agreement (1997)

*MWFP, USFWS, BPA, BOR, USFS, and CSKT*

The objectives of the South Fork Flathead Conservation Agreement—signed in 1997 by Montana Fish, Wildlife and Parks, U.S. Fish and Wildlife Service, Bonneville Power Administration, U.S. Bureau of Reclamation, U.S. Forest Service, and Confederated Salish and Kootenai Tribes—are to: (1) ensure proactive involvement in addressing factors affecting bull trout; (2) facilitate interagency communication and coordination; and (3) provide a fishable population of bull trout in the South Fork Flathead River drainage. As monitoring of the bull trout population continues, criteria will be developed to determine the conditions under which a fishing season for bull trout may be reestablished.

## LINKS

For information on Plum Creek's Native Fish Habitat Conservation Plan, go to:  
<http://www.plumcreek.com/environment/fish.cfm>

**Click Here**

#### Native Fish Habitat Conservation Plan (HCP) (2000-2030)

*Plum Creek Timber Co., U.S. Fish and Wildlife Service and NOAA Fisheries*

This plan, which covers Plum Creek Timber Co. lands basin-wide, is a collaborative effort between private timber company and Federal agencies to protect native fish while providing business certainty and ESA assurances to the timber company. Monitoring is conducted by the US Fish and Wildlife Service monitoring team as well as internal corporate monitors. Chief accomplishments include ongoing research, monitoring and evaluation, and extending the existing baseline and implementing changes to forest practices to protect native fish. The plan puts in place a flexible and adaptive process. It represents a cutting edge effort at a cooperative agreement between government and private industry in Montana.

### Swan Valley Grizzly Bear Conservation Agreement

*U.S. Fish and Wildlife Service, MT DNRC, Flathead National Forest, and Plum Creek Timber Co.*

The agreement provides for coordination of the cooperators activities in relation to roads and road use as well as protection of critical spring habitat for grizzly bears. It is presently undergoing revision to provide protection for linkage zones in the Swan Valley to allow passage of grizzlies and other species between the Mission and Swan Mountain Ranges. The revised agreement would also attach deed restrictions to properties sold out of the Plum Creek inventory. The deed restrictions would focus on limiting human food habituation and mortality risk to grizzly bears. The current agreement is in one-year self-renewal increments; the revised document would provide for a five-year period with automatic yearly self renewals thereafter.

### Bigfork Hydro FERC Relicensing (In Progress)

*PacifiCorp*

This document, which is not final, will relicense the hydropower plant on the Swan River at Bigfork, Montana (< 5 megawatt). The new license will set minimum flows on the Swan River below the dam. The process is not yet final.

## County Plans

### Lake County General Plan and Growth Policy

The Lake County General Plan, adopted in 1988, was Lake County, Montana's first comprehensive land use plan. The General Plan was written in response to the rapid change that was taking place throughout the area. This document is an update to the 1988 General Plan, which is now called a growth policy, in accordance with 76-1-601 Montana Code Annotated. A growth policy is a land use planning document that is designed to guide and facilitate future growth and development in ways that limit the negative impacts of growth. It is not a regulatory document, but instead provides a framework and rationale for developing procedures, policies and working on specific projects that are intended to guide future population growth and development in a cohesive and intelligent manner.

### Flathead County Master Plan and Master Plan Update

This plan sets growth and development policies for the jurisdictional area (Flathead County). Wildlife and wildlife habitats are dealt with as a subdivision development issue. Addendums to the plan include the North Fork Land Use Plan / Flathead River, the Canyon Plan, and the Bigfork Land Use Plan.



## LINKS

For the B.C. Ministry of Sustainable Resource Management, go to: [http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8393&navId=NAV\\_ID\\_-8393](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8393&navId=NAV_ID_-8393)

[Click Here](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8393&navId=NAV_ID_-8393)

For the B.C. Ministry of Water, Land, and Air Protection, go to: [http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8395&navId=NAV\\_ID\\_province](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8395&navId=NAV_ID_province)

[Click Here](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8395&navId=NAV_ID_province)

For the B.C. Ministry of Forests, go to: [http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8385&navId=NAV\\_ID\\_province](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8385&navId=NAV_ID_province)

[Click Here](http://www.gov.bc.ca/bvprd/bcl/channel.do?action=ministry&channelID=-8385&navId=NAV_ID_province)

The B.C. Province's main planning webpage is: <http://srnuwww.gov.bc.ca/rmdl/>

[Click Here](http://srnuwww.gov.bc.ca/rmdl/)

The Kootenay planning webpage is: <http://srnuwww.gov.bc.ca/kor/>

[Click Here](http://srnuwww.gov.bc.ca/kor/)

### 9.1.3 Management Programs

#### British Columbia

##### Ministry of Sustainable Resource Management

This ministry's responsibilities include: sustainable development of land and water resources; effective delivery of integrated, science-based land, resource and geographic information; timely decisions for sustainable land and water allocation and management; and corporate leadership to land and water resource policy, planning and integration.

##### Ministry of Water, Land, and Air Protection

This ministry's responsibilities include: environmental protection of water, land and air quality including climate change and environmental emergencies; environmental stewardship of biodiversity, including wildlife, fish and protected areas; park and wildlife recreation management, including hunting, angling, park recreation, and wildlife viewing; and environmental monitoring and enforcement including the Conservation Officer Service, and State of Environment reporting.

##### Ministry of Forests

This ministry's charge is to: protect, manage and improve the province's forest and range resources; establish performance standards ensuring long-term resource sustainability and health; enforce compliance with the regulations of the *Forest and Range Practices Act*; monitor pricing and revenue requirements for a more competitive forest sector; enhance opportunities to generate wealth from forest and range resources; maintain and expand international markets for B.C. forest products; and ensure the public receives fair value for the use of its forest and range resources.

#### Federal

##### Environmental Protection Agency

In cooperation Flathead Basin Commission, the EPA sponsors a Volunteer Wetlands Survey Program.

##### Natural Resources Conservation Service (NRCS) in Flathead and Lake Counties

Federal programs active through NRCS and the Conservation Districts provide financial incentives, cost sharing, leases, and conservation agreements to

landowners, especially the farming community to improve the use of natural resources. Efforts target improvement of irrigation methods, reduction of sediment runoff and exclusion of cattle from riparian areas to reduce impacts on water quality. Existing projects include:

- NRCS is working with landowners to implement grazing plans and fence off riparian areas to on Dayton Creek to reduce impacts. NRCS is also seeking to better understand stream flows and water use for crops to address the frequent dewatering of Dayton Creek. Efforts focus around organizing a grassroots community/watershed council that can make educated decisions about issues and programs affecting their community
- In collaboration with CSKT and MFWP, NRCS is working with landowners to improve habitat for native fish in Dayton Creek.
- In Post Creek in the Mission Valley, NRCS is beginning work with the rapidly growing community to address water quality and grizzly bear habitat issues. Major NRCS programs include:
  - The Wetlands Reserve Program (WRP) is a voluntary program that provides technical and financial assistance to eligible landowners to restore, enhance, and protect wetlands. Landowners have the option of enrolling eligible lands through permanent easements, 30-year easements, or restoration, cost-share agreements. The program is offered on a continuous sign-up basis and is available nationwide. Landowners can establish at minimal cost long-term conservation and wildlife habitat enhancement practices. WRP has an acreage enrollment limitation rather than a funding limit. Congress determines how many acres can be enrolled in the program and funding is somewhat flexible.
  - The Environmental Quality Incentives Program (EQIP) was reauthorized in the Farm Security and Rural Investment Act of 2002 (Farm Bill) to provide a voluntary conservation program for farmers and ranchers that promotes agricultural production and environmental quality as compatible national goals. EQIP offers financial and technical help to assist eligible participants install or implement structural and management practices on eligible agricultural land. EQIP offers contracts with a minimum term that ends one year after the implementation of the last scheduled

## LINKS

*For the Wetlands Reserve Program, go to: <http://www.nrcs.usda.gov/programs/wrp/>*

**Click Here**

*For the Environmental Quality Incentives Program (EQIP) <http://www.nrcs.usda.gov/programs/eqip/>*

**Click Here**

practices and a maximum term of ten years. These contracts provide incentive payments and cost-shares to implement conservation practices. Persons who are engaged in livestock or agricultural production on eligible land may participate in the EQIP program. EQIP activities are carried out according to an environmental quality incentives program plan of operations developed in conjunction with the producer that identifies the appropriate conservation practice or practices to address the resource concerns. The practices are subject to NRCS technical standards adapted for local conditions. The local conservation district approves the plan.

**LINKS**

For the Grassland Reserve Program (GRP), go to: <http://www.nrcs.usda.gov/programs/grp/>

**Click Here**

For the Wildlife Habitat Incentives Program (WHIP), go to: <http://www.nrcs.usda.gov/programs/whip/>

**Click Here**

For the Conservation Reserve Program (CRP), go to: <http://www.nrcs.usda.gov/programs/crp/>

**Click Here**

- The Grassland Reserve Program (GRP) is a voluntary program offering landowners the opportunity to protect, restore, and enhance grasslands on their property. Section 2401 of the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) amended the Food Security Act of 1985 to authorize this program. The Natural Resources Conservation Service, Farm Service Agency and Forest Service are coordinating implementation of GRP, which helps landowners restore and protect grassland, rangeland, pastureland, shrubland and certain other lands and provides assistance for rehabilitating grasslands. The program will conserve vulnerable grasslands from conversion to cropland or other uses and conserve valuable grasslands by helping maintain viable ranching operations.
- The Wildlife Habitat Incentives Program (WHIP) is a voluntary program for people who want to develop and improve wildlife habitat primarily on private land. Through WHIP, USDA's Natural Resources Conservation Service provides both technical assistance and up to 75 percent cost-share assistance to establish and improve fish and wildlife habitat. WHIP agreements between NRCS and the participant generally last from 5 to 10 years from the date the agreement is signed. WHIP has proven to be a highly effective and widely accepted program across the country. By targeting wildlife habitat projects on all lands and aquatic areas, WHIP provides assistance to conservation-minded landowners who are unable to meet the specific eligibility requirements of other USDA conservation programs. The Farm Security and Rural Investment Act of 2002 reauthorized WHIP as a voluntary approach to improving wildlife habitat in our Nation. Program administration of WHIP is provided under the Natural Resources Conservation Service.

- The Conservation Reserve Program (CRP) provides technical and financial assistance to eligible farmers and ranchers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The program provides assistance to farmers and ranchers in complying with Federal, State, and Tribal environmental laws, and encourages environmental enhancement. The program is funded through the Commodity Credit Corporation (CCC). CRP is administered by the Farm Service Agency, with NRCS providing technical land eligibility determinations, Environmental Benefit Index Scoring, and conservation planning. The Conservation Reserve Program reduces soil erosion, protects the Nation's ability to produce food and fiber, reduces sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources. It encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover, such as tame or native grasses, wildlife plantings, trees, filterstrips, or riparian buffers. Farmers receive an annual rental payment for the term of the multi-year contract. Cost sharing is provided to establish the vegetative cover practices.

## U.S. Fish and Wildlife Service

The USFWS conducts stream restoration work for protection of native fisheries. Projects include: stabilization (seeding/revegetation), fencing, grazing systems. The main focus is on headwaters, drained wetlands, threatened and endangered species, waterfowl production and protected refugia. Presently, efforts focus outside the Flathead Basin in the Upper Kootenai area. There is however, interest to create projects in the Flathead River, north of Flathead Lake.

The USFWS has several refuges for wildlife protection. Refuges found in the Flathead Basin include: the National Bison Range (18,566 acres), Ninepipe and Pablo Wildlife Refuges (2,062 and 2,542 acres), and the Swan River National Wildlife Refuge (1,568 acres). The refuges include important wetland habitat supporting waterfowl production, osprey and red-necked grebes, among others.

The USFWS has a program to purchase conservation easement in wetlands near the Bison Range and Ninepipe Wildlife Refuge. The Northwest Montana Wetland Management District, established in 1970, is located throughout Lake and Flathead counties in northwestern Montana. Lake County WPAs and Conservation Easements are located from 3 to 9 miles north and northeast of the National Bison Range. Flathead County WPAs are located south and west of the

### LINKS

*For more information about the Northwest Montana Wetland Management District, go to:*  
<http://bisonrange.fws.gov/wmdl>

**Click Here**

Kalispell area. Flathead WPA is along the north shoreline of Flathead Lake at the mouth of the Flathead River. Batavia and Smith Lake WPAs are located in Smith Valley west-southwest of Kalispell. Blasdel WPA is located 12 miles north of Flathead Lake. Lands were acquired for migratory bird use subject to all provisions of the Migratory Bird Conservation Act (16 U.S.C. 715-715r), except the inviolate sanctuary provisions due to the Migratory Bird Hunting and Conservation Stamp Act (16 U.S.C. 718). All WPAs are smaller tracts of wetlands and uplands purchased with funds from the sale of Federal Duck Stamps under the Small Wetlands Acquisition Program. Units that contain habitat for waterfowl are purchased from willing sellers when money and acreage are available. Units are sometimes expanded as opportunities arise. Lake County conservation easements are managed by National Bison Range personnel, and easements in Flathead County are managed by an Assistant Refuge Manager stationed at Lost Trail National Wildlife Refuge. Conservation easements are tracts of land where ownership remain with fee title owner, but the rights to subdivide or develop the tract are purchased by the Service with Land and Water Conservation Funds and Migratory Bird monies.

The USFWS' Private Lands Program finds projects to restore, create or enhance wetlands.

### **Flathead National Forest**

The Flathead National Forest is upgrading several forest roads to comply with Best Management Practices (BMPs), and reduce sediment runoff to water sources. Recent projects include road improvement on Good Creek west of Whitefish, inventory of non-road erosion sources (e.g., skid trails in the Paint and Emory Creek areas in the Hungry Horse Reservoir area), and removal of an old bridge constraining the channel of a small creek located in the Swan Valley. Projects also include efforts to improve habitat for native fish. The Flathead National Forest has protected over 3,000 acres by a combination of outright acquisitions and conservation easements. The Forest Service continues to protect lands within the Wild and Scenic corridor as they become available.

### **Glacier National Park**

In addition to protecting much of the North Fork and Middle Fork of the Flathead valleys through park plans, policies, and guidelines, the National Park Service provides water-quality baseline data for the Flathead Basin Commission Volunteer Nutrient Reduction Program.

## **Bonneville Power Administration**

The BPA funds watershed protection and restoration projects, reconnection of fish migration routes, eradication of hybridized or non-native fish populations, reduction of sedimentation to protection of spawning areas, phosphorous reduction, protect and restore wetland and riparian habitat.

## **Tribal**

### **Confederated Salish and Kootenai Tribes (CSKT), Natural Resources Department**

Tribal water quality regulations apply to the southern half of Flathead Lake and its shoreline. The CSKT conduct research to guide protection and restoration projects for habitat protection and water quality enhancement of Flathead Lake. Research by the tribes focuses on vulnerable groundwater and aquifers, storm water runoff, air pollution, wetlands, fish corridors, and wildlife movements.

The CSKT Focus Watershed Program, funded by the Bonneville Power Administration, assists in fisheries improvement projects. Recent projects have occurred on Dayton Creek, east and south forks of Valley Creek, Marsh, Mission and DuCharme Creeks, and the Little Bitterroot and Jocko Rivers.

Under programs mandated by the Federal Energy Regulatory Commission's Kerr Project Order as amended and a court settlement with the ARCO Corporation, the Tribes are protecting aquatic and riparian habitats and fish and wildlife resources on the south half of Flathead Lake, along the lower Flathead River, and throughout other areas of the Flathead Reservation. Various protection and restoration projects attempt to stabilize stream banks, restore bull trout habitat, reduce nutrient loads and sedimentation, and reclaim river corridors of cultural significance to the tribes. Other efforts include: cattle exclusion from streambanks, replanting of riparian vegetation, acquisition of riparian corridors, and construction of culverts.

## **State**

### **Montana Fish, Wildlife and Parks (MFWP)**

Programs by MFWP focus on monitoring, research and protection of habitat for threatened and endangered species, and other wildlife of special interest to the public. Species of interest in the Flathead Basin include wolves, white-tailed deer, grizzly bears, elk, native fish (bull trout and westslope cutthroat trout) bald eagles, waterfowl and other birds of special interest. Public education is conducted to avoid human/wildlife conflicts. Land acquisition of wetlands has occurred in the Ninepipe area for wildlife habitat protection.

Many efforts by MFWP to protect and restore native fish also include protection of water quality in streams rivers, and lakes critical to native fish. Efforts involve stream bank restoration, removal of culverts, reduction of sediments runoff, and land acquisition. Mitigation funds are used to recover lost wildlife habitat. The River Restoration Program funds stream corridor improvements, including fencing and bank stabilization.

### Counties

#### Lake County Conservation District and Flathead Conservation District

The Flathead and Lake Conservation Districts have grassroots watershed project to improve water quality and fisheries, and also conduct weed control programs. They both have permit programs to review stream crossings. The Flathead Conservation District has on-going watershed projects on Swift, Haskill and East Spring creeks (East Spring Cr. Rehabilitation Project), north of Kalispell. Efforts included improvement of stagnant stream flow, removal of debris, stream bank restoration, springs protection, and riparian habitat improvement. The Lake Conservation District has recently initiated a carbon sequestration program to promote reforestation. County Conservation Districts have handouts with information and management recommendations for water, riparian and wetlands protection and restoration.

#### Lake and Flathead County Planning Offices

The county planning offices are responsible for applying zoning regulations, conducting growth planning, providing permits for land subdivision and new septic systems.

#### Flathead County Regional Development Office and Flathead City County Health Department

Water quality district proposed to conduct research that would help maintain or restore water quality.

### Institutions & Non-profit Organizations

#### Montana Natural Heritage Program

The Heritage Program is Montana's clearinghouse for information on Montana's native species and habitats, emphasizing those of conservation concern. The program collects, validates, and distributes this information, and assists natural



resource managers and others in applying it effectively. Established by the Montana State Legislature in 1983, the program is located in the Montana State Library, where it is part of the Natural Resource Information System. The program has developed a prioritization of ecologically significant wetlands in the Flathead, Swan, Stillwater, Whitefish and North Fork drainages.

### **Flathead Basin Commission**

The Flathead Basin Commission was created to address reduction of nutrient loads to Flathead Lake. Efforts focus on:

- The Voluntary Nutrient Reduction Program (VNRP) is a volunteer program for monitoring water quality on 29 lakes, and streams (Stoner, Wolf, Ashley, Big Creek, and Stillwater).
- The Volunteer Wetlands Survey Program to promote education and stewardship.
- Work with Local Citizen Watershed Groups: Ashley Creek and Stoner Creek.
- Two buffer strip demonstrations on west shore and one on Yellow Bay.
- Discussions with British Columbia over shared concerns in the North Fork area.

### **Flathead Land Trust**

The Flathead Land Trust has purchased conservation easements on private farmland, 40-200 acres in size, in the Lower Kalispell Valley (between Kalispell and Flathead Lake). The primary focus is on the protection of wetlands used by waterfowl.

### **Flathead Lakers**

The Flathead Lakers focus on outreach and education about land and water stewardship, polluted runoff reduction, and opportunities for public participation in public policy and resource management decisions. Other efforts include support for the Flathead water quality monitoring program and promotion of protection and restoration projects. They coordinated the Critical Lands Project, a collaborative effort led by the Flathead Lakers and involving representatives from federal, state, tribal and local agencies and organizations to identify, protect and restore lands critical to the quality of Flathead Lake and its tributaries. The organization also comments on policy initiatives and land and resource management plans.



### **Flathead Resource Organization**

The Flathead Resource Organization has focused their efforts recently on evaluating Montana Department of Transportation proposed expansion of Highway 93, and proposing alternatives. They are concerned with sprawl, habitat and wildlife corridors, amphibians, and pesticides. The organization is also interested in promoting conservation easements along Highway 93 to enhance wildlife corridors (especially on Post and Crow Creek).

### **Lower Flathead Valley Community Foundation**

The Lower Flathead Valley Community Foundation supports community efforts and has been instrumental in several stream restoration projects in Lake County around the Ninepipe Refuge.

### **Friends of the Wild Swan**

Friends of the Wild Swan has advocated TMDL targets for Swan Lake and monitors logging impacts on fish and wildlife habitat in the Swan valley.

### **Montana Land Reliance**

The Montana Land Reliance's goal is to protect 1 million acres of private lands through conservation easements (CE) in all MT by 2010. Presently the land trust has put 400,000 acres in conservation easements, including four round Flathead Lake. The organization has played an active role in the Swan Valley, completing 22 additional conservation easements to protect roughly 2,000 acres. The organization also has a Land Stewardship Program to develop management plans with landowners.

### **Tri-State Water Quality Council**

In response to water quality concerns expressed by citizens within the basin, the U.S. Congress added a section to the 1987 Clean Water Act (Section 525) which directed EPA to conduct a comprehensive water quality study across the three-state watershed (Montana, Idaho and Washington). That study was completed and a watershed management plan was developed by the study's steering committee (comprised of two EPA regions and the state water quality agencies of the three states). The first priority in the management plan was to create a Tri-State Council to carry out the various action items in the plan. The Council first met in October of 1993. The goal of the group is to restore and protect designated beneficial water uses throughout the Flathead and Clark Fork River basins. Objectives include

### **The Montana Nature Conservancy (TNC)**

The Montana Nature Conservancy's goal is to protect unique habitat, areas rich in biodiversity, and areas critical for rare, threatened or endangered species. Their efforts focus on land acquisition and conservation easements. In northwestern Montana, TNC's efforts focus on the North Fork and the Swan River Valley. Along with other conservation groups, the Conservancy has worked with private landowners in the North Fork of the Flathead to conserve more than 2,400 acres of high quality habitat, on tracts critical to maintaining connections between public lands. In 1986 The Nature Conservancy purchased 392 acres in the Swan Valley, creating the Swan River Oxbow Preserve. The oxbow is home to a variety of wetland communities, many species of birds and numerous rare plants including the threatened *Howellia aquatilis*.

TNC has also just completed a major planning process for the Canadian Rocky Mountains (CRM) Ecoregion, which encompasses northwestern Montana. The main products of this ecoregional plan are: (1) a portfolio of sites that collectively conserve biological diversity in the Canadian Rocky Mountains ecoregion; (2) thorough documentation of the planning process, portfolio design methods, and data management, so that future iterations can efficiently build upon past work; (3) an assessment of multi-site threats and priorities for conservation action; (4) a summary of the lessons learned during the planning process and any innovative practices that came out of the exercise and; (5) identification of obvious portfolio design limitations and important data gaps that would improve the comprehensiveness and quality of the next iteration.

### **Montana Watercourse, Inc.**

Montana Watercourse, Inc. works with the Flathead Basin Commission to train volunteers and assist with the organization of local watershed groups in the Flathead Basin.

### **Montana Wilderness Association (MWA)**

MWA is working to create the Transboundary Flathead International Conservation Reserve, to protect the North Fork from mining and urban development impacts.

### **Pacific Rivers Council**

The Pacific Rivers Council conducts research to assess aquatic biodiversity areas in Northwest Montana. It has proposed an aquatic biodiversity network of protected areas.

### **Swan Valley Ecosystem Center**

The Swan Valley Ecosystem Center is a local citizen's group helping to develop TMDL targets for Swan Lake. This group is concerned with water quality issues and wildlife education in the Swan Valley. With the assistance of the Flathead Basin Commission they are training volunteers to monitor water quality.

### **University of Montana Flathead Lake Biological Station**

The Biological Station has been monitoring water quality of Flathead lake since 1977. The data has helped develop TMDL (Total Maximum Daily Loads) targets for the lake. Other research conducted by the Biological Station has led to a better understanding of the Green Aquifer, the Flathead alluvial aquifer, and the Nyack floodplain, among others.

### **Yellowstone-to-Yukon Initiative (Y-to-Y)**

The Y-to-Y initiative compiles data on critical areas for wildlife corridors (fish, birds and herbivores) at the landscape level. It has created a common Geographic Information database between Canada and the USA.

### **Corporate Initiatives**

Plum Creek Timber Company and the Montana Logging Association (MLA) Plum Creek and MLA have promoted increased application of voluntary Best Management Practices, which guide road maintenance and construction, burning and logging practices and the application of a special management zones to reduce sedimentation of rivers and streams. The Grizzly Bear Conservation Agreement was signed in 1995 to reduce risks to bear mortality caused by human activities in Swan Valley, and prevent isolation of the Mission Mountain grizzly bear population. The Native Fish Habitat Conservation Plan was signed in 1996 to reduce forestry impacts on streams (temperature changes, sediments, fragmentation) critical for bull trout and other salmonids.

### **Local Watershed Initiatives**

#### *Ashley Creek Watershed Group*

The Ashley Creek group focus is public education related to watershed issues and promoting public involvement in planning process The group received an MDEQ grant, together with MDNRC, to fund watershed initiatives.

*Swift Creek Coalition*

This is a coalition of city and agencies working to review efforts around Whitefish Lake and Swift Creek

*Swan River Corridor*

This group's focus is to purchase PacifiCorp non-project land holdings to prevent development and maintain public access.

*Dayton Creek Watershed Council*

This group from the farming community meets with NRCS, CSKT and Lake County Conservation District to address issues related to ranching and development impacts on Dayton Creek.

*Stoner Creek watershed group*

These community members meet monthly with the Flathead Basin Commission to discuss water quality issues.

*Lake Mary Ronan Group*

These community members meet to discuss water quality issues and concerns for Lake Mary Ronan.

## 9.2 Restoration and Conservation Projects

### 9.2.1 BPA-funded

#### Umbrella Project Descriptions

##### 1 (U). Hungry Horse Mitigation

*Montana Fish, Wildlife & Parks*

*Funded by BPA (Project Number 199101903)*

Hungry Horse Dam, completed in 1952, impounded the South Fork of the Flathead River creating the 30-mile Hungry Horse Reservoir. A Flathead Basin habitat and fish passage plan was updated in 1997 that guides our watershed restoration efforts. Fish passage projects reconnect access to blocked spawning and rearing habitat. Habitat projects in stream, lake, and reservoir environments emphasize passive restoration with conventional, biotechnical, and experimental approaches. Offsite projects, particularly lake rehabilitations, have been successful in creating genetic reserves for native fish, drastically improving fisheries, and/or eliminating source populations for further illegal fish introductions. A specific monitoring strategy, including pre- and post-treatment sampling, is designed for each restoration action to improve cost-effectiveness. For the proposal and reviews of the project go to:

<http://www.cbfwa.org/cfsite/ResultProposal.cfm?PPID=MC2002199101903>

##### 2 (U). Stocking of Offsite Waters for Hungry Horse Mitigation

*Creston National Fish Hatchery, USFWS*

*Funded by BPA (Project Number 199101904)*

We employ hatchery fish production of up to 100,000 westslope cutthroat trout and 100,000 rainbow trout to mitigate for Hungry Horse Dam hydro-related losses of 415,000 salmonids annually from Flathead Lake. In order to partially offset lost angler opportunity and reduce pressure on native stocks, hatchery fish are stocked annually into small offsite closed-basin lakes within the Flathead Basin. For the proposal and reviews of the project go to:

<http://www.cbfwa.org/cfsite/ResultProposal.cfm?PPID=MC2002199101904>

##### 3 (U). Research, Monitor, and Restore Native Species

*Confederated Salish and Kootenai Tribes*

*Funded by BPA (Project Number 199101901)*

This project seeks to determine how habitat changes, species shifts, and the consequent dominance of new species—factors that have the potential to limit the success of mitigation measures—have affected native species. The project has

### LINKS

For general information on the Mountain Columbia Province and general documents associated with Bonneville Power Administration funded projects, go to: <http://www.cbfwa.org/cfsite/ReviewCycle.cfm?ReviewCycleURL=FY%202002%20Mountain%20Columbia>

[Click Here](#)

For proposals and reviews of individual projects, see the web links that follow each project description.

been: (1) documenting trends in westslope cutthroat trout and bull trout populations as well as changes in the populations of several other major species through standardized gillnetting surveys; (2) conducting creel surveys that have defined the baseline condition of the Flathead Lake fishery in 1992-1993 and 1998-99 (Evarts et al. 1994; Hansen et al in press); (3) examining the competitive interactions with lake trout and *Mysis relicta*, and the possible absence of such species as white sturgeon; and (4) conducting basic research into foodweb interactions and factors controlling lake trout abundance (the predatory influence of lake trout on native species is high). This work includes cooperation with state management agencies and two universities. We have learned that this basic research is necessary to successfully mitigate losses of adfluvial trout in Flathead Lake. For the proposal and reviews of the project go to:

<http://www.cbfwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024019>

#### 4 (U). Riparian Habitat Protection: Weaver Slough and McWinegar Slough

*Flathead Land Trust*

*Funded by BPA (Project Number 200204200)*

This project acquired purchased easements from five landowners on tracts crucial to protecting the mainstem Flathead River corridor. The trust's recent easements protecting the Weaver and McWinegar Sloughs will total 1,400 acres. Sites supplement other protected lands to achieve protection from subdivision on a major portion of riparian lands in the mainstem Flathead north of Flathead Lake. This is vital habitat for migratory waterfowl, part of the Pacific Flyway, and supports a variety of bird, mammal, and amphibian species which require riparian habitats. The project areas include two major sloughs—Weaver Slough and McWinegar Slough—and a third tract on Flathead River which includes a substantial wetland. The project preserves habitat types which otherwise are decreasing in the Flathead Basin as a result of operations of Hungry Horse Dam. Private land conservation is absolutely necessary to supplement public lands in an ecosystem scenario which recognizes the political liability of public landownership in a region where the majority of land (more than 70 percent) is already in state and federal ownership. Yet, riparian lands have a disproportionately low representation in public holdings. Preservation of private lands thus becomes essential to preserving the overall health of the ecosystem. Projects demonstrate the strength of a partnership of farmland and habitat protection to achieve multiple-benefit landscape-scale preservation goals. For the proposal and reviews of the project go to:

<http://www.cbfwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024012>

## 5 (U). Secure and Restore Critical Habitats

*Confederated Salish and Kootenai Tribes*

*Funded by BPA (Project Number 200200300)*

Fish migrations have been blocked by road culverts, dewatered stream reaches, and irrigation diversions. Channelization, road fill, bank armoring and other encroachments along stream segments have narrowed channels and limited meanders inside floodplains. These developments and others have led to a severe decline in the range and abundance of two native trout species. Bull trout were recently listed under the Endangered Species Act and westslope cutthroat are a species of special concern in the state of Montana. This project addresses these problems by enhancing habitats to maximize their value to fish and wildlife and utilizing a balanced system-wide, watershed approach to reverse the downward trends in native species and protect healthy populations. For the proposal and reviews of the project go to:

<http://www.cbfwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024018>

## Specific 100%-BPA-Funded Restoration and Mitigation Projects

### 6. Fish Passage Improvement Project on Paola Creek (1999)

*Montana Fish, Wildlife & Parks*

Completed a fish passage improvement project on Paola Creek, a major spawning tributary on the Middle Fork of the Flathead. A culvert barrier was removed and baffles were installed to allow fish passage.

### 7. Reconstruction of the Lower Emery Creek (1999)

*Montana Fish, Wildlife & Parks*

Initiated a contract for stream survey and design work with Land and Water Consulting to reconstruct the lower 1.6 km of Emery Creek, a major spawning tributary to Hungry Horse Reservoir.

### 8. Dayton Creek Improvements (1999)

*Confederated Salish and Kootenai Tribes & Montana Fish, Wildlife & Parks*

Established livestock management agreements and eliminated point sediment/nutrient sources (e.g., fencing and streambank stabilization) in Dayton Creek.

## 9. Sekokini Springs Natural Rearing Facility (1999)

### *Montana Fish, Wildlife & Parks*

Pursued land acquisition and developed preliminary channel-and-pond-complex designs for Sekokini Springs Natural Rearing Facility. The water source proved to promote impressive growth and condition factor of westslope cutthroat trout.

## 10. Westslope Cutthroat Trout Hybridization Risk Assessment (1999)

### *Montana Fish, Wildlife & Parks*

Started a westslope cutthroat trout hybridization risk assessment in the mainstem of the Flathead River in addition to stepping up the commitment to remove compromising genetic material from high-elevation lakes in the North, Middle and South Fork drainages.

## 11. Riparian Fencing Lower Hay Creek (1999)

### *Montana Fish, Wildlife & Parks*

Completed a riparian fencing project in lower Hay Creek to exclude cattle in conjunction with a USFS grazing allotment modification.

## 12 (U). Project-Specific Monitoring and Evaluation (1999)

### *Montana Fish, Wildlife & Parks*

Completed project-specific monitoring and evaluation of ongoing and completed projects throughout the Flathead River drainage (i.e., Taylor's Outflow, seven Hungry Horse Reservoir tributaries, Crossover Wetland Area, Hay Creek, Griffin Creek, and area lakes).

## 13. Rose Creek Stream/Pond Project (1999)

### *Montana Fish, Wildlife & Parks*

Completed a site evaluation, feasibility analysis, constant flow rate and water quality tests, and landowner scoping for Rose Creek stream/pond project.

## 14. Watershed-Level Population Surveys, Streambed Coring, Redd Counts, and Gillnetting (1999)

### *Montana Fish, Wildlife & Parks*

Monitored watershed-level fish and habitat parameters in cooperation with fish management staff and other agencies. Efforts included population surveys, streambed coring, redd counts, and gillnetting (ongoing since 1991).



**15. Flathead River Instream Flow Incremental Methodology Study (1999)**

*Montana Fish, Wildlife & Parks*

Initiated an Instream Flow Incremental Methodology study (IFIM) in cooperation with Miller and Associates (Fort Collins, CO) on the Flathead River. The study targets size-classes of native bull trout and westslope cutthroat trout.

**16. Flathead Lake Creel Survey (1999)**

*Confederated Salish and Kootenai Tribes*

Completed the 1998-99 Flathead Lake Creel survey.

**17. Dayton Creek Riparian Fence and Corral (1999)**

*Confederated Salish and Kootenai Tribes*

Constructed over 7,000 feet of riparian fence and 200 feet of livestock exclusion corral panels in cooperation with landowners and MFWP to exclude livestock from the riparian area along the mainstem of Dayton Creek.

**18 (U). Various Habitat Improvement Projects (1999)**

*Confederated Salish and Kootenai Tribes*

Constructed 200 feet of livestock exclusion corral panels in cooperation with a landowner and MFWP to exclude livestock from the riparian area; constructed 5.6 km of riparian fence on the Middle and East forks of Dayton Creek in cooperation with Plum Creek; constructed 2.7 km of riparian fencing along Valley Creek; constructed 800 feet of livestock-exclusion fence along DuCharme Creek; completed habitat restoration projects on the Redhorn Range Unit; and wildlife habitat improvements through prescribed burning in the Boulder and Ferry Basin areas.

**19 (U). Land Acquisitions for Grizzly Bears (1999)**

*Confederated Salish and Kootenai Tribes*

Made land acquisitions along the Mission Front and constructed fences to deter grizzly bear conflicts.

## 20 (U). South Fork Flathead Watershed Westslope Cutthroat Trout Conservation Program (Mountain Lakes Program) (2000 - 2016)

### *Montana Fish, Wildlife & Parks*

In 1999 MFWP stepped up its commitment to westslope cutthroat conservation in the South Fork Flathead by proposing a plan that would remove non-native trout from lakes that were genetically contaminating downstream populations and risked hybridizing with pure populations throughout the South Fork drainage. The objective of this project is to protect the existing genetically pure populations of westslope cutthroat trout in the South Fork Flathead drainage. To accomplish this objective, it will be necessary to remove all of the non-native trout from lakes and their associated streams. There are two issues that complicate completely removing all fish from the outflow streams. First, the rugged terrain makes access to some outflow streams difficult, and second the fact that federally endangered bull trout reside in the lower portions of many of the outflow streams requires safeguarding them from any fish removal project. For these reasons, we will remove as many of the non-native trout as possible from each stream and rely on genetically pure fish stocked in the headwater lakes to repopulate the stream systems and move them toward a genetically pure state.

## 21. Development of Methodology to Determine Stream Origins of Wild Trout (2000 - 2002)

### *Montana Fish, Wildlife & Parks*

Completed the first phase in the development of an innovative, non-lethal technique to determine the stream of origin of wild trout. This technique uses laser ablation coupled with plasma mass spectrometry for micro-elemental analysis of westslope cutthroat trout scales to distinguish stock structure and understand life history. This information, combined with stream water chemistry, should allow us to determine where a given fish was hatched and reared during its early life. If successful, these results combined with DNA genetic analysis of fin clips, will help fish managers protect critical habitats, direct restoration actions, and monitor program success.

## 22. Limiting Factors for Rainbow Trout and WCTxRBT Range Expansion in the Flathead River (2000 - 2002)

### *Montana Fish, Wildlife & Parks*

MFWP and the University of Montana (Missoula) completed a two-year graduate research project to determine the limiting factors for rainbow trout and WCTxRBT range expansion in the Flathead River system and assess the

vulnerability of westslope cutthroat trout populations to hybridization with nonnative rainbow trout. Results will be submitted for publication in the Canadian Journal of Fisheries and Aquatic Sciences in 2002.

**23. Habitat Suitability Data Collection for Native Salmonids (2000 - 2002)**

*Montana Fish, Wildlife & Parks*

Completed the habitat suitability data collection for native bull trout, westslope cutthroat trout, and mountain whitefish in the Flathead River for the Instream Flow Incremental Methodology (IFIM) study. This information will be used to identify and quantify the availability of critical habitat at various flow regimes to develop successful streamflow and habitat management programs that balance the needs of native fish and power and flood control demands in the river system.

**24. Juvenile Bull Trout Habitat Use and Movement Study (2000 - 2002)**

*Montana Fish, Wildlife & Parks*

Completed the juvenile bull trout habitat use and movement study in the Flathead River downstream of Hungry Horse Dam. The manuscript was accepted for publication in the North American Journal of Fisheries Management (2002). Results indicate that resource managers who wish to protect overwintering habitat features preferred by juvenile bull trout in the Flathead River should employ natural flow management strategies that maximize and stabilize channel margin habitats at night.

**25. Abbot Creek Permanent Fish Passage Barrier (2000 - 2002)**

*Montana Fish, Wildlife & Parks*

Contracted Water Consulting (Whitefish, MT) to design a permanent fish passage barrier in Abbot Creek to preclude hybrid adult fish (WCTxRBT) from using the stream as a spawning area. The structure will be installed during summer 2002.

**26. North Fork Juvenile Bull Trout Movements and Habitat Use (2000 - 2002)**

*Montana Fish, Wildlife & Parks*

Collected data on juvenile bull trout movements and habitat use in the North Fork during spring and summer 2000 and 2001.

27. Timing And Location of Spawning of Native Westslope Cutthroat Trout And Nonnative Rainbow Trout (2000 - 2002)

*Montana Fish, Wildlife & Parks*

Continued to investigate the timing and location of spawning of native westslope cutthroat trout and nonnative rainbow trout in the Flathead River system during 2000 and 2001. Results will identify mechanisms responsible for genetic introgression and identify streams containing hybrids for removal or suppression programs by the Hungry Horse Mitigation Program.

28. Population Estimates For Rainbow and CPU Estimates For Westslope Cutthroat Trout And Bull Trout (2000 - 2002)

*Montana Fish, Wildlife & Parks*

Completed winter mark-recapture population estimates for rainbow trout and catch-per-unit estimates for westslope cutthroat trout and bull trout in the main stem Flathead River during 2000 and 2001. This information will provide managers the proper long-term information to determine the success of westslope cutthroat trout enhancement projects employed by the Hungry Horse Mitigation Project.

29. Dayton Creek Off-Stream Stockwater Development (2000 - 2002)

*Confederated Salish and Kootenai Tribes*

Completed an off-stream stockwater development along Dayton Creek that consisting of a gravity fed pipeline and two stocktanks.

30. Ronan Creek Failing Road Crossing (2000 - 2002)

*Confederated Salish and Kootenai Tribes*

CSKT in cooperation with the Lake County Road Department replaced a failing road crossing on Ronan Creek with a bottomless arch culvert. This project eliminated a fish migration barrier, restored a degraded reach of stream, and removed a high-risk source of sediment.

31 (U). Flathead Lake and River Fisheries Co-Management Plan (2000 - 2002)

*Confederated Salish and Kootenai Tribes & Montana Fish, Wildlife & Parks*

Completed the Flathead Lake and River Co-Management plan.

**32. Dayton Creek Irrigation System Replacement (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

In cooperation with NRCS and a local landowner, replaced leaky, inefficient, wheel lines with a center pivot and irrigation schedule to irrigate lands adjacent to Dayton Creek.

**33. Marsh Creek Restoration (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

Restored Marsh Creek, a tributary to Post Creek, to its historic channel. Marsh Creek was placed in an artificial channel to facilitate irrigation.

**34. Marsh Creek Riparian Fencing Project (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

CSKT, with cost share from the USFWS and a local landowner, completed a riparian fencing project along Marsh Creek to remove livestock access to the stream.

**35. In-channel Dam Removal from DuCharme Creek (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

CSKT, in cooperation with a local landowner, removed an in-channel dam from DuCharme Creek. The stream was restored to its historic condition to the greatest extent possible.

**36. Hewolf Creek Road Removal (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

In cooperation with the Tribal Forestry Program, removed approximately 8,000 feet of streamside road along Hewolf Creek, a tributary to Valley Creek.

**37. Centipede Creek Culvert (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

In cooperation with the Tribal Forestry Program, removed a failing culvert and several vertical feet of fill from Centipede Creek, a tributary to DuCharme Creek.

**38. Centipede Creek Riparian Fence (2000 - 2002)**

*Confederated Salish and Kootenai Tribes*

With cooperation and cost-share from a local landowner, placed a riparian fence along Centipede Creek to remove livestock access from portions of the stream. A

gravity-fed, off-channel livestock watering system consisting of a pipeline and two tanks was installed to allow livestock to access water.

### 39. Gooderich Bayou Fish Barrier (9/1/03 - Ongoing)

*Montana Fish, Wildlife & Parks*

Located 3 miles NE of Kalispell, this project will upgrade a road crossing and install culverts to restrict rainbow trout spawning. The project will reduce hybridization with westslope cutthroat trout. It is funded at \$55,000.

## 9.2.2 Non-BPA and Partial-BPA funded Restoration and Mitigation Projects

### British Columbia

#### 40. Trend Monitoring Site for Water Quality on Flathead River

*B.C. Ministry of Water, Land, and Air Protection (WLAP)*

This project, which started Jan. 2003 and ended March 31, 2004, monitored water quality on the Flathead River near Canada US border. There is also historic data for the 10 years preceding this project. Efficacy is rated as low.

#### 41. Reconnaissance Fish and Fish Habitat Inventory of Akamina-Kishinena wWatershed (2000)

*Forest Renewal British Columbia (FRBC) (now called Forest Investment Account (FIA))*

The sponsor of this project was Crestbrook (now called Tembec). Collaborators included the Ministry of Sustainable Resource Management. Interior Reforestation Co. Ltd. was retained by Crestbrook Forest Industries Ltd. to conduct a reconnaissance (1:20,000) fish and fish habitat inventory of the Akamina-Kishinena watershed. The purpose of the inventory was to provide information pertaining to fish species presence/absence, abundance, and distribution throughout the watershed through sampling of selected reaches identified in the phase I-III project plan (Kokanee Forest Consulting 1999). This information is intended to assist fisheries managers by providing baseline biophysical information for the watershed and assist the licensee in forest development planning requirements of the Forest Practices Code of B.C. (Minister of Forest 1994). Efficacy is rated as moderate.

### LINKS

*For British Columbia projects, go to their Project Registry site (a collaboration between the Province (Ministry of Sustainable Resource Management) and the Canadian Federal government). It lists historic and current projects for the province and can be viewed at: [http://www.canbcfpr.pac.dfo-mpo.gc.ca/fpr/Qf\\_Welcome.asp](http://www.canbcfpr.pac.dfo-mpo.gc.ca/fpr/Qf_Welcome.asp)*

[Click Here](#)

**42. Reconnaissance (1:20,000) Fish and Fish Habitat Inventory (Phase 4-6) of the Middle Flathead River Watershed (2002)**

*Forest Investment Account (FIA)*

The sponsor of this project was Tembec. Collaborators included the Ministry of Sustainable Resource Management. On behalf of Tembec Industries Ltd., Kokanee Forests Consulting, Ltd. was commissioned to conduct Phases 4-6 of a reconnaissance level stream inventory of the Middle Flathead River study area. Fieldwork was conducted from August 23rd to September 14th, 2001. Field assessments were based upon the recommendations and conclusions provided in the Pre-Field Project Plan provided by Kokanee (2001). These assessments were carried out in accordance with the standards outlined in the Resource Inventory Committee Manual (Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Standards and Procedures). Efficacy is rated as moderate.

**43. Reconnaissance (1:20,000) fish and fish habitat inventory of the Middle Flathead River Watershed Follow-up Sampling (2003)**

*Forest Investment Account (FIA)*

The sponsor of this project was Tembec. Collaborators included the Ministry of Sustainable Resource Management. The 2002 Fish and Fish Habitat Inventory Report recommended the completion of five follow-up sites, and this inventory was intended to provide information regarding fish species characteristics, distributions and relative abundance, as well as stream reach biophysical data for interpretation of habitat sensitivity and capability for fish production at these five follow-up sites. The main objectives of the Fish and Fish Habitat Inventory were to: 1) Provide information vital to the protection and management of fish species and populations; 2) Provide information for the development of landscape level biodiversity objectives; and 3) Provide riparian management area classification as per the Forest Practices Code for the purpose of forest development planning. Efficacy is rated as moderate.

**Montana**

**44 (U). Conservation Easement Partnerships (Ongoing)**

*Montana Fish, Wildlife & Parks (MFWP)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund, Montana Land Reliance, The Nature Conservancy, Flathead Land Trust*

This project is ongoing throughout the Flathead Basin. MFWP funds some of the fixed costs associated with donated conservation easements that help protect

high priority wildlife habitats from threats associated with future residential developments. Land trusts conduct annual monitoring to insure compliance with conservation easement terms conservation of priority wildlife habitats (5,287 acres are included thus far). Its efficacy is rated as moderate.

#### 45 (U). Habitat Enhancement Partnerships (Ongoing)

*Montana Fish, Wildlife & Parks (MFWP)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund, USFWS, NRCS, Montana Land Reliance, DNRC, Plum Creek, and the private landowners*

These projects are ongoing throughout the Flathead Basin. They involve various methods to improve the condition of wetland habitats to increase their habitat value and improve ecological function. Regular monitoring by landowners and partners insure fences and other improvements remain fully functional. So far, the program has enhanced 200 acres of wetland habitat. Its efficacy is rated as moderate.

#### 46. Wild Drake Island Purchase (1999)

*Montana Fish, Wildlife & Parks (MFWP)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund & Flathead Land Trust and landowner*

MFWP purchased 73 acres of riparian habitat in the Flathead River in the Kalispell Valley to protect key riparian habitat from the threat of incompatible land uses. Periodic monitoring insures that original habitat values documented in the baseline report are maintained. The project protected key riparian habitat in the Flathead River from incompatible uses. Its efficacy is rated as high.

#### 47. Dry Parks Burn (1996, 2000)

*Montana Fish, Wildlife & Parks (MFWP) and Flathead National Forest (FNF)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund, FNF & RMEF*

This project involved burning of shrubfields to rejuvenate shrub production and maintain seral brush fields and offset the effects of past fire exclusion. It is monitored at end of the project to insure accomplishment of project goals. The project has helped to maintain 3,713 acres of important seral shrubfields. Its efficacy is rated as high.



**48. Red Bench (1998, 2000)**

*Montana Fish, Wildlife & Parks (MFWP) and Flathead National Forest (FNF)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund & FNF*

This was a cooperative project to thin the dense lodgepole pine forest that resulted from the Red Bench wildfire in an effort to maintain the shrub, grass and forb components and thereby create forest structure typical of more frequent fire intervals. Monitoring occurred at the end of the project to insure accomplishment of project goals. The project created 452-acre mosaic of structurally diverse forest within a dense lodgepole pine forest. Its efficacy is rated as moderate.

**49. Firefighter Mountain (1997, 2001)**

*Montana Fish, Wildlife & Parks (MFWP)*

*Funded by MFWP, BPA Wildlife Mitigation Trust Fund & FNF*

This project was designed to create improved big game winter and spring foraging areas so as to ameliorate the effects of past fire exclusion efforts. MFWP funded a 12-year study of elk and an 8-year study of songbirds to evaluate wildlife responses to this habitat enhancement work. The agency created a 911-acre mosaic of early successional shrubfields within a lodgepole pine forest. Its efficacy is rated as moderate.

**50. Purple Loosestrife Control (1994, 2001)**

*Montana Fish, Wildlife & Parks (MFWP) and Lake County*

*Funded by MFWP and the BPA Wildlife Mitigation Trust Fund, Montana Weed Trust Fund, Lake County, CSKT & USFWS. Collaborators included the Flathead Resource Organization and Flathead Audubon*

This was a cooperative effort to eradicate a new noxious weed that threatened the entire wetland complex in the Flathead Valley and thereby maintain native wetland communities. It includes annual monitoring for control or spread of purple loosestrife. The program provided the early funding needed to control purple loosestrife until Lake County and local agencies could organize more permanent funding sources. Its efficacy is rated as moderate.

**51. Palmer Acquisition (2002)**

*Montana Fish, Wildlife & Parks (MFWP)*

*Funded by MFWP and BPA Wildlife Mitigation Trust Fund*

MFWP purchased 116 acres to protect key wetland and wildlife habitats adjacent to our Ninepipes Wildlife Management Area, securing the land from the threat of residential development and providing new public recreational opportunities. MFWP maintains a full-time manager for this wildlife management area. The

acquisition secured 22 acres of wetland and 94 acres of surrounding upland habitat. Its efficacy is rated as moderate.

## 52. Paint-Emery burn (Ongoing)

*Montana Fish, Wildlife & Parks (MFWP) and Flathead National Forest (FNF)  
Funded by MFWP, BPA Wildlife Mitigation Trust Fund, FNF & RMEF*

This project involved burning of shrubfields and white-bark pine stands to offset the past effects of fire exclusion. The project will be evaluated at end of project to insure accomplishment of project goals. It has treated 517 acres thus far with a total goal of 2,900 acres of shrubland and 2,200 acres of whitebark pine forest by the end of the project in 2005. Its efficacy is rated as high.

## 53. Emery Creek Stream Restoration (9/1/00 - 10/30/00)

*Montana Fish, Wildlife & Parks (MFWP)*

*Project Funders: BPA = 160,768.79, FVTU = 10,000, NFWF = 60,000, USFS = 115,273.62). Collaborators include: MFWP, BPA, USFS, FVTU, NFWF*

This project relocated the road from next to stream, reconstructed 0.9 mile of stream, and revegetated the area. ACOE nationwide permit monitoring for 3 years, Annual fish population monitoring. The project attempts to restore the natural functioning of the stream and to provide fish habitat.

## 54. South Fork Flathead Amphibian Investigation (5/1/01- Ongoing)

*Montana Fish, Wildlife & Parks (MFWP)*

*Project Funders: MFWP/BPA/SWIG grant (SWIG grant = 44,000)*

*Collaborators include: MFWP/MSU-Bozeman*

This project seeks to determine the status of and conduct an inventory of native amphibians in the South Fork of the Flathead. It includes annual population surveys, native species interaction, and habitat requirements. The project is collecting baseline information on previously undescribed populations.

## 55. Antimycin and Rotenone Performance Evaluations (10/1/01 - Ongoing)

*Montana Fish, Wildlife & Parks (MFWP)*

*Project Funders: BPA, MFWP*

*Collaborators include: MFWP/USFWS*

The purpose of this project is to conduct laboratory assays using rotenone and antimycin to test efficacy on westslope cutthroat trout and native amphibians of

the Flathead drainage. The project's purpose is to determine tolerance and effect thresholds for several organisms.

**56. Annual Bull Trout Monitoring in Hungry Horse Reservoir (7/1/58 — Ongoing)**

*Montana Fish, Wildlife & Parks (MFWP)*

*Project Funders: MFWP/BPA*

This project involves annual gill netting and spawning redd surveys 5,000 to determine trends in the population. The monitoring has been instrumental in reopening the bull trout angling season in the South Fork of the Flathead in 2004.

**57. Annual Westslope Cutthroat Monitoring in South Fork Flathead (7/1/94 - Ongoing)**

*Montana Fish, Wildlife & Parks (MFWP)*

*Project Funders: MFWP/BPA*

Annual gill netting and spawning redd surveys to determine trends in the population.

**58 (U). Partners for Fish and Wildlife Program (2000)**

*USFWS*

The U.S. Fish and Wildlife Service has established several staff positions in western Montana under the Partners for Fish and Wildlife Program, and these new employees have focused on developing funding opportunities and directing U.S. Fish and Wildlife Service funds toward cooperative habitat restoration, water development, and easement programs to benefit native fish.

**59 (U). Future Fisheries Improvement Program (Ongoing)**

*Montana Fish, Wildlife & Parks (MFWP)*

The 1995 Montana Legislature passed the Future Fisheries Improvement Program to restore essential habitats for the growth and propagation of wild fish populations in lakes, rivers and streams. Funds used to implement the Program originate from the sale of Montana fishing licenses. Nearly a million dollars per year are presently allocated to the program. Program funding may be provided for costs of design, administration, construction, maintenance and monitoring of projects which restore or enhance habitat for wild fishes. Preference is given to projects that restore habitats for native fishes. In addition to restoring habitat, projects must eliminate or significantly reduce the original cause of the habitat degradation. Table 9.2 lists westslope cutthroat trout projects were carried out under MFWP's Fisheries

Table 9.2. Completed, ongoing, and planned westslope cutthroat trout habitat restoration projects in which Montana Fish, Wildlife & Parks is the lead agency.

#	Drainage	Water	Action	Year		Coop. Entities
				Started	Completed	
61	Flathead River	Abbott Creek	Removal of hybridized and pure rainbow trout	2001	Ongoing	FWP
62	SF Flathead River	Clark Creek	Fish passage enhancement		Yes	FWP
63	NF Flathead River	Coal Creek	Gravel augmentation and placement of large, woody debris		Planned	FWP/USFS
64	Flathead River	Crater, Tom-tom, Whale lakes	Chemically remove non-natives. Reestablish pure WCT	2000		FWP
65	Flathead River	Dayton Creek	Riparian fencing, bank rehabilitation, water conservation assessment, measures to maintain instream flow	1997	Ongoing	FWP/BPA/CS KT
66	SF Flathead River	Doris Lake	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	
67	Flathead River	East Spring Creek	Riparian fencing, bank rehabilitation, and channel restoration		Yes	Conservation District
68	SF Flathead River	Emery Creek	Fish passage enhancement; channel reconstruction associated with road reclamation and instream habitat improvement	1998	1999-2000	FWP
69	Upper Flathead River	Upper Flathead River	Basin-wide genetics survey	2000	Ongoing	FWP
70	SF Flathead River	Hoke	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	
71	SF Flathead River	Lost Johnny	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	FWP
72	SF Flathead River	Mare	Fish passage enhancement		Yes	FWP
73	Flathead River	Mill Creek	Riparian fencing, bank rehabilitation, gravel augmentation		Yes	FWP
74	Flathead River	Mill Creek	Brook trout removal	2000	Ongoing	FWP
75	Flathead River	Mount Creek	Barrier installation, riparian fencing, and bank revegetation	Planned		Future Fisheries
76	MF Flathead River	Paola Creek	Fish passage enhancement - removal of culvert fish barrier, channel restoration	1998	1999	FWP/BPA/US FS
77	SF Flathead River	S. Fork Logan	Fish passage enhancement		Yes	FWP/USFS

INVENTORY

Table 9.2 (cont.). Completed, ongoing, and planned westslope cutthroat trout habitat restoration projects in which Montana Fish, Wildlife & Parks is the lead agency.

#	Drainage	Water	Action	Year Started	Completed	Coop. Entities
78	Flathead River	S. Fork Tribs/N. Fork Tribs	Addition of large woody debris to upper sections of several tributaries in westslope cutthroat trout priority areas where the riparian zone has been clearcut.		Ongoing	FWP/BPA
79	SF Flathead River	Soldier Creek	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	
80	MF Flathead River	Stanton Creek	Fish Passage Enhancement		Yes	FWP/MDOT
81	SF Flathead River	Tin	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	
82	SF Flathead River	Various headwaters lakes with sources of non-native hybridiation	Chemical removal of sources of hybridization, re-establishment of pure WCT populations. Protection of pure downstream WCT populations	Planned		FWP
83	SF Flathead River	Various tributaries	Identify genetically pure WCT populations. Collect gametes for inclusion into FWP s captive pure WCT broodstock	2002	2005	FWP
84	Lake Mary Ronan	Dayton Creek	Riparian fencing, bank revegetation, bank stabilization, and sediment source control		In Planning	FWP/Plum Creek
85	Lake Mary Ronan	Donaldson Creek	Riparian fencing, bank revegetation, bank stabilization, and sediment source control		Yes	FWP
86	Lake Mary Ronan	Freeland Creek	Riparian fencing, bank revegetation, bank stabilization, and sediment source control		Yes	FWP
87	Lake Mary Ronan	Hillburn Creek	Riparian fencing, bank revegetation, bank stabilization, and sediment source control		Yes	FWP
88	Stillwater River	Good Creek	Brook trout removal	2002	Ongoing	FWP/USFS
89	Stillwater River	Hidden Lake/Lower Sunday Lk/Other	Chemical removal of illegally introduced fish species	Planned		FWP
90	Swan River	Condon Creek	Fish Passage Enhancement		Yes	FWP

Table 9.2 (cont.). Completed, ongoing, and planned westslope cutthroat trout habitat restoration projects in which Montana Fish, Wildlife & Parks is the lead agency.

#	Drainage	Water	Action	Year		Coop. Entities
				Started	Completed	
91	Swan River	Dog Creek	Fish Passage Enhancement		Yes	FWP
92	Swan River	Hall Creek	Installation of fish passage barrier to prevent upstream movement of nonnative fish; Chemically removed brook trout and replaced with WCT		Yes	FWP
93	Swan River	Holland Creek	Fish Passage Enhancement		Yes	FWP
94	Swan River	Lost	Culvert replacement (secondary fish passage enhancement benefit to WCT)		Yes	FWP
95	Swan River	Pony Creek	Fish Passage Enhancement		Yes	FWP
96	Swan River	Rumble Creek	Fish Passage Enhancement		Yes	FWP
97	Swan River	Soup Creek	Installation of fish passage barrier to prevent upstream movement of nonnative fish; Chemically removed brook trout and replaced with WCT		Yes	FWP
98	Swan River	Whitney Creek	Chemically removed brook trout and replaced with WCT		Yes	FWP
99	Swan River	Wyman Lake & Wyman Creek	Installation of fish passage barrier to prevent upstream movement of nonnative fish; Chemically removed brook trout and replaced with WCT		Yes	FWP

Management programs and funded by MFWP through license dollars, D-J funds, Future Fisheries, BPA contracts, and cooperative agreements with other agencies.

#### 60 (U). Native Plant Restoration (1980s — Ongoing)

##### *Glacier National Park, National Park Service*

This park-wide project, funded by The Glacier Fund, includes the following collaborators: Columbia Falls High School, Browning High School, Blackfeet Community College, Glacier Park Associates, Montana Conservation Corps, NRCS, Waterton Lakes National Park, Flathead Co. Parks. Funded at \$50 to \$80,000 per year, it seeks the restoration of native vegetation on overused areas and areas disturbed by construction activities. Many of the projects have formal monitoring plots. Most projects have been very successful. The Park is still working on restoration of areas formerly infested by weeds. Efficacy is rated as high.

100 (U). Cooperative Grizzly Bear Management (1996 — Ongoing)

*Glacier National Park, National Park Service and Montana Fish, Wildlife & Parks*

This project, funded by Montana Fish, Wildlife & Parks (MFWP), the National Park Service (NPS), The Glacier Fund, and Canon USA, includes the following collaborators: MFWP, NPS, Blackfeet Fish and Game, USFS, Burlington Northern Railroad, Wind River Bear Institute. It is a cooperative effort to manage grizzlies through education, aversive conditioning and other actions. Funding has always been an issue, but the project has improved the conservation of the grizzly bear. Monitoring includes some radio tracking and periodic reports.

101. Owen Sowerwine Natural Area (OSNA) (1976 — Ongoing)

*Montana Audubon and Flathead Audubon*

This project is a 442-acre parcel of school trust land in the braided section of the Flathead River, located at the confluence of the Flathead and Stillwater Rivers. This area is threatened by increased human disturbance. Montana Audubon holds the license from State Lands to manage this parcel cooperatively with Flathead Audubon as a State Natural Area, which means to manage it in a way that minimizes human impact and maximizes preservation of the natural processes there. Management as a Natural Area maintains natural wildlife and aquatic life habitat, protects wildlife and aquatic life from human disturbance as far as is possible in this location, maintains natural riparian and wetland vegetation, enhances water quality of Flathead River, and allows natural flooding in this portion of the braided section. OSNA has been designated an Important Bird Area because it provides model nesting and foraging habitat for riparian dependent birds. Management ensures the preservation of the natural values that merit this designation.

Bird populations are monitored as is human use, and plans future surveys of birds, wildlife and vegetation. Plans are currently underway for students at the Robinson Ag Center to monitoring wildlife and vegetation, soils and water quality. Efficacy is rated as high.

102. Flathead Lake Monitoring Project (1978 — 2004)

*Flathead Lake Biological Station*

*Funded by Montana Department of Environmental Quality*

This project monitors Flathead Lake productivity and nutrient loading from all major tributaries (5). Sampling includes phytoplankton, zooplankton, and *Mysis relicta*. It has yielded a 25+ year record of lake productivity, nutrient loading, and plankton community structure. Efficacy is rated as moderate.



### 103. Whitefish Lake Monitoring Project (2001 — 2002)

*Flathead Lake Biological Station*

*Funded by Montana Department of Environmental Quality*

This project monitors water quality on Whitefish Lake and all major tributaries (3) and outflow. Sampling includes phytoplankton, zooplankton, and *Mysis relicta*. It has allowed for a comparison of lake productivity, nutrient loading, and plankton community structure with a similar study completed 20 years ago. Efficacy is rated as low.

### 104. Whitefish River Water Quality Project (2003 — 2004)

*Flathead Lake Biological Station*

*Funded by Montana Department of Environmental Quality*

This is synoptic water quality study on Whitefish River from lake outflow to mouth. Sampling includes periphyton and zoobenthos. The project is parsing of nutrient loading between groundwater, tributary, and urban runoff and includes mapping of substrate type and benthos characteristics for risk assessment to spawning habitat. Efficacy is rated as moderate.

### 105. Biocomplexity-Dynamic Controls on Emergent Properties of River Flood Plains (2001 — 2004)

*Flathead Lake Biological Station*

*Funded by National Science Foundation*

*Collaborators include Salish Kootenai College*

Located on the Middle Fork Flathead River at Nyack Flood Plain, this study examines river flood plains as regional centers of ecological organization that are dependent on interactions among dynamic, nonlinear physical and biological processes linking water, heat and materials (biota, sediment, plant-growth nutrients), flux and retention to fluvial landscape change. It includes coordinated surface water and groundwater quality monitoring, fish spawning and rearing associated with lateral, backwater, and parafluvial habitats. It result in an increased understanding of the importance of shallow lateral and temporary parafluvial habitats in a natural river flood plain as spawning and rearing habitat for fish. Efficacy is rated as moderate.

### 106 (U). NRCS Wetland Reserve Program (WRP) (2000 — 2004)

*Natural Resource Conservation Service*

In Flathead County WRP easements are as follows:

Total of 8 Contracts on 513.8 acres - \$660,662



Whitefish River Watershed

1 Contract - 30 acres- \$41,628

Ashley Creek Watershed

5 Contracts - 373.4 acres - \$518,376

Flathead River Watershed (main stem)

2 Contracts – 110.4 acres – \$100,658

107 (U). NRCS Environmental Quality Incentives Program (EQIP)  
(2000-2004)

*Natural Resource Conservation Service*

In Flathead County EQIP contracts are as follows:

Total of 5 Contracts on 1173 acres – \$196,263

Stillwater River Watershed

1 Contract – 289 acres - \$58,902

Flathead River Watershed (main stem)

4 Contracts – 884 acres - \$137,361

108 (U). NRCS Wildlife Habitat Incentives Program (WHIP)

In Flathead County, WHIP contracts are as follows:

Total 3 Contracts on 95.4 acres - \$17,894

Whitefish River Watershed

1 Contract – 89 acres - \$7,226

Ashley Creek Watershed

2 Contracts – 6.4 acres - \$10,668

109 (U). NRCS Conservation Reserve Program (CRP)

In Flathead County, CRP contracts are as follows:

Total 6 Contracts on 119.9 acres- \$3,848

Flathead River Watershed (main stem)

All 6 Contracts

110 (U). Kerr Project (1999 — Ongoing)

*Confederated Salish and Kootenai Tribes Wildlife and Fisheries Programs*

The Confederated Salish and Kootenai Tribes have been engaged in a large number of specific restoration and protection projects under the Kerr Project license. Because they are too extensive and complex to list here, we have included goals, objectives, and tasks as Appendix 2, the umbrella document for these projects (the Kerr Project Fish and Wildlife Implementation Strategy and Habitat

Acquisition and Restoration Plan) as Appendix 3, and the Fiscal Year 03 Annual Report as Appendix 4.

111 (U). ARCO Clark Fork Settlement (2000 – Ongoing)

*Confederated Salish and Kootenai Tribes Wildlife and Fisheries Programs*

The Confederated Salish and Kootenai Tribes have also been engaged in a large number of restoration and protection projects under the terms of the ARCO Clark Fork Settlement. The large number of activities and tasks under this project are reported in Appendix 5.

112 (U). TMDLs (Ongoing)

*Montana Department of Environmental Quality, Environmental Protection Agency, and US Forest Service*

TMDLs in various stages are underway for Flathead Lake, the Ashley Creek Watershed (Ashley, Fish, and Spring Creeks) the Stillwater Watershed (Stillwater River, Logan, Sinclair, and East Spring Creeks), the Whitefish River Basin (Swift Creek, Whitefish River, Whitefish Lake, and Haskill Basin), Lake Mary Ronan, the North Fork of the Flathead (Whale, Red Meadow, Big, Coal, and South Fork Coal Creeks), South Fork of the Flathead (Hungry Horse Reservoir, South Fork Flathead, Sullivan Creek), Middle Fork of the Flathead (Morrison, Granite, Challenge, and Skyland Creeks), Swan Watershed (Goat, Squeezer, Lion, Piper, Jim, and Elk Creeks and Swan Lake), and the Little Bitterroot Watershed (Little Bitterroot Headwaters and Sullivan Creek).

**LINKS**

*Appendix 2 is the goals, objectives and tasks for the Kerr Project.*

**Click Here**

*Appendix 3 is the umbrella document for the Kerr Project Fish and Wildlife Implementation Strategy and Habitat Acquisition and Restoration Plan*

**Click Here**

*The Kerr Fiscal Year 03 Annual Report is included as Appendix 4.*

**Click Here**

*The CSKT Arco Project is described in Appendix 5*

**Click Here**

## 9.3 Project Assessment

### Relationship of Projects to Limiting Factors Identified in the Assessment

#### Aquatics

For the aquatic system at the subbasin scale, we identified the following major limiting factors:

1. The presence of non-native species and introgression are the primary factors limiting productivity of focal species on a subbasin scale.
2. On a subbasin scale, the primary habitat factors limiting focal species in the regulated mainstem are riparian condition, habitat diversity, altered hydrograph, and fine sediment.
3. On a subbasin scale, the primary habitat factors limiting focal species in tributaries are: riparian condition, fine sediment, channel stability, and habitat diversity.
4. When considered on a subbasin scale, the primary habitat factors limiting focal species in reservoirs are hydraulic regime, shoreline condition, migratory obstructions, volumetric turnover rates, habitat diversity, and macrophytes.

Table 9.3 presents the scoring system used to assess the effectiveness of past and current projects addressing each of the major limiting factors. Table 9.4 lists the specific projects, the major aquatic limiting factors they are intended to address, and the Technical Team's qualitative assessment of how well those projects are collectively addressing limiting factors at the subbasin scale.

Table 9.3. Scoring system used to assess project effectiveness.

<b>Rating</b>	<b>Subrating/Description</b>
<b>1. Highly effective</b>	1a. Highly effective. Problem solved. Future projects not required to address this limiting factor 1b. Highly effective, but significant problems remain and future projects will be needed.
<b>2. Moderately effective</b>	2a. Moderately effective. The degree to which the limiting factor is a problem is substantially reduced. Can reduce emphasis on projects designed to address this limiting factor. 2b. Moderately effective, but significant problems remain and future projects will be needed.
<b>3. Low effectiveness</b>	3a. Low level of effectiveness. Approaches of past projects have not worked well, and new approaches are needed to address this limiting factor 3b. Low level of effectiveness. Low effectiveness on Subbasin scale but highly effective at local (individual project) scale.
<b>4. New/Unevaluated Projects</b>	4. New Projects. Projects in planning phase, newly implemented, or insufficient monitoring of time has elapsed to evaluate effectiveness.

Table 9.4. List of projects intended to address each of the major aquatic limiting factors identified in the Flathead Subbasin Assessment and the Technical Team's qualitative assessment of how well these projects collectively are addressing the specific limiting factor. Project numbers followed by a U are umbrella programs that encompass a range of specific on-the-ground projects.

Aquatic Limiting Factor	Projects (by number)	Projects' Efficacy with Respect to Limiting Factor
<b>Streams and Lakes</b>		
Non-native Species and Genetic Purity	1(U), 9, 10, 20(U), 22, 37, 28, 31(U), 39, 54, 55, 59(U), 61, 64, 69, 74, 75, 82, 83, 88, 89, 92, 97, 98, 99, 110, 111(U)	2b
<b>Streams</b>		
Altered hydrograph	15, 23, 24, 32, 65, 110	3a
Subbasin-scale Connectivity	1(U), 5(U), 6, 25, 26, 30, 35, 37, 59(U), 62, 66, 68, 70, 71, 72, 76, 77, 79, 80, 81, 90, 91, 92, 93, 94, 95, 96, 97, 99, 110, 111(U)	2a BT; 1b wct
Degraded Riparian Areas	1(U), 4, 5(U), 11, 17, 29, 33, 34, 36, 38, 53, 58(U), 59(U), 65, 67, 73, 75, 84, 85, 86, 87, 101, 105, 110, 111(U)	2b
Channel Stability	1(U), 5(U), 7, 30, 33, 53, 59(U), 65, 67, 68, 73, 76, 84, 85, 86, 87, 105, 111(U)	2b
Habitat Diversity	1(U), 5(U), 7, 13, 17, 33, 53, 59(U), 63, 67, 68, 73, 78, 105, 110, 111(U)	4
Fine Sediment	1(U), 5(U), 8, 17, 29, 30, 34, 36, 37, 38, 39, 40, 59(U), 63, 67, 68, 73, 75, 84, 85, 86, 87, 111(U), 112(U)	2b
<b>Lakes</b>		
Varial Zone/hydraulic regime	1U 112U	3a
Shoreline Conditions (riparian zone)	1(U)	2b
Pollutants	40, 102, 103, 104, 112(U)	4
Hydraulic Regime		

## Terrestrial

For the terrestrial system at the subbasin scale, we identified the following major limiting factors:

1. On a subbasin scale, the chief impacts limiting wildlife populations in the Mesic Forest Biome are fire exclusion, forest management, roads, and non-native species (noxious weeds). (Forest management in this context is defined as negative impacts on target wildlife species stemming from forest management practices causing changes to thermal cover, hiding cover, large snag density, down woody debris, early seral forage habitat, and the level of habitat fragmentation. Note that changes in any one of these parameters may be negative or positive, depending on the wildlife species at issue.)
2. On a subbasin scale, the chief impacts limiting wildlife populations in the Grassland/Shrub Biome are forest encroachment, land conversion, non-native species, and overgrazing.
3. On a subbasin scale, the chief impacts limiting wildlife populations in the Riparian Biome are land conversion, altered hydrographs, human-wildlife conflicts, non-native species and altered vegetation.
4. On the regulated mainstem, the chief impact limiting wildlife populations in the Riparian Biome is an altered hydrograph.
5. On a subbasin scale, the chief impacts limiting wildlife populations in the Wetland Biome are land conversion, forest management, human-wildlife conflicts, non-native species, and altered hydrographs.
6. On the regulated mainstem, the chief impact limiting wildlife populations in the Wetland Biome is an altered hydrograph.
7. On a subbasin scale, the chief limiting factors limiting wildlife populations in the Xeric (Ponderosa Pine) Forest Biome, are fire exclusion, encroachment, forest fragmentation, and human-wildlife conflicts.

Table 9.3 presents the scoring system used to assess the effectiveness of past and current projects. Table 9.5 shows the Technical Team's qualitative assessment of how well past and current projects are collectively addressing each terrestrial limiting factor at the subbasin scale.

REFERENCES

Table 9.5. List of projects intended to address each of the major terrestrial limiting factors identified in the Flathead Subbasin Assessment and the Technical Team's qualitative assessment of how well these projects collectively are addressing the specific limiting factor. Project numbers followed by a U are umbrella programs that encompass a range of specific on-the-ground projects.

Terrestrial Limiting Factor	Projects (by number)	Assessment of Projects' Efficacy with Respect to Limiting Factor	
		Flathead Upstream of Flathead Lake	Flathead Reservation
<b>Mesic Forest</b>			
Fire Exclusion	18(U), 48, 49, 52	2b	3a
Forest Management	47, 48, 49, 52	2b	2b
Roads	FNF Plan Amendment 19	1b	2b
Non-native Species	60(U)	3a	2b
<b>Grassland Shrub</b>			
Forest Encroachment	47	2b	2b
Land Conversion	18(U), 19, 44(U), 51, 58(U), 110U, 111(U)	2b	3b
Non-native Species	18(U), 60(U), 110, 111(U)	3a	2b
Overgrazing	18(U), 19, 51, 58(U), 108(U), 110U, 111(U)	1b	2b
<b>Riparian Biome</b>			
Land Conversion	4, 5(U), 11, 16, 17, 18(U), 34, 36, 38, 44(U), 46, 58(U), 65, 67, 75, 84, 85, 86, 87, 101, 110, 111(U)	1b	2b
Altered Hydrograph	110U		3b
Human-Wildlife Conflicts	4, 11, 5(U), 17, 18(U), 19, 29, 36, 44(U), 46, 53, 58(U), 65, 67, 75, 84, 85, 86, 87, 100(U), 101, 108(U), 109(U), 110, 111(U)	2b	2b
Non-native Species	50, 60(U), 110, 111(U)	3a	3a
<b>Wetland Biome</b>			
Land Conversion	44(U), 45(U), 51, 58(U), 106(U), 110U, 111(U)	2b	2b
Forest Management	45(U), 46	2b	2b
Human-Wildlife Conflicts	44(U), 51, 58(U), 100(U), 106(U), 108(U), 109(U), 110U, 111(U)	2b	2b
Exotic Species	45(U), 50, 60(U), 110U, 111(U)	3a	2b
Altered Hydrograph	45(U), 110		3b
<b>Xeric Forest</b>			
Fire Exclusion	18(U), 47	2b	3a
Forest Encroachment	18(U), 47	2b	3a
Forest Fragmentation	44U	2b	3a
Human-Wildlife Conflicts	44(U), 100(U), 110U, 111(U)	2b	2b

The Columbia Basin Fish and Wildlife Authority (CBFWA) website has additional information assessing BPA-funded projects in the Flathead Subbasin. CBFWA links to project proposals and reviews follow:

1 (U). *Project Number 199101903: Hungry Horse Mitigation*  
<http://www.cbfgwa.org/cfsite/ResultProposal.cfm?PPID=MC2002199101903>

[Click Here](#)

2 (U). *Project Number 199101904: Stocking of offsite waters for Hungry Horse Mitigation*  
<http://www.cbfgwa.org/cfsite/ResultProposal.cfm?PPID=MC2002199101904>

[Click Here](#)

3 (U). *Project Number 199101901: Research, Monitor, and Restore Native Species*  
<http://www.cbfgwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024019>

[Click Here](#)

4 (U). *Project Number 200204200: Riparian Habitat Protection — Weaver Slough and McWinegar Slough*  
<http://www.cbfgwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024012>

[Click Here](#)

5 (U). *Project Number 200200300: Secure and Restore Critical Habitats*  
<http://www.cbfgwa.org/cfsite/ResultProposal.cfm?PPID=MC2002000024018>

[Click Here](#)



**LINKS**

*References for the inventory are included in the references section of the assessment; go to:*

**Click Here**

## 9.4 References

To avoid redundancy and reduce the overall size of the plan, references for the inventory are included in the references section of the Flathead Subbasin Assessment (see links column).