Clark Fork-Pend Oreille Watershed Management Plan

Management Strategies for the Next Decade
2007-2017

APRIL 2007

Montana Department of Environmental Quality

The Confederated Salish and Kootenai Tribes of the Flathead Reservation
A People of Vision

Idaho Department of Environmental Quality

Washington State Department of Ecology

Kalispel Tribe of Indians
Natural Resources Department

EPA United States Environmental Protection Agency

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Clark Fork-Pend Oreille Basin Water Quality Study: A Summary of Findings and Management Plan.
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Section 1: Introduction and Acknowledgements

Welcome **to the updated Clark Fork-Pend Oreille Watershed Management Plan.**

Building upon the goals and accomplishments of the 1993 Watershed Management Plan, this document represents the next phase of water quality protection and improvement in the three-state Clark Fork-Pend Oreille watershed through 2017. This updated plan was undertaken by the states of Montana, Idaho and Washington and the Kalispel Tribe through a steering committee facilitated by the Tri-State Water Quality Council.

We invite you to read our management strategy for the Clark Fork-Pend Oreille watershed and join with us in water quality protection over the next decade.

Montana Department of Environmental Quality
Idaho Department of Environmental Quality
Washington Department of Ecology
Kalispel Tribe

This plan represents the participation of members of a steering committee and other individuals and organizations who worked together from January 2005 to March 2007 to develop the background information and watershed management objectives and actions presented here. These individuals are gratefully acknowledged for their important contributions to this effort.

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Section 2: Executive Summary

The 16-million-acre Clark Fork-Pend Oreille watershed of the Upper Columbia Basin encompasses nearly 26,000 square miles in western Montana, northern Idaho and northeastern Washington. This large watershed lies within two regions of the U.S. Environmental Protection Agency, three states, fourteen counties, and two Native American reservations.

The basin's huge expanse, coupled with the multitude of federal, state, local and tribal jurisdictions, creates a special challenge for protecting and managing water quality. The first concerted effort to manage the watershed across state and agency boundaries began in the late 1980's when water quality studies were authorized through Section 525 of the 1987 Clean Water Act and carried out by the water quality agencies in Montana, Idaho and Washington. When the studies were finalized, the three states crafted the Clark Fork-Pend Oreille Basin Management Plan[1]. Implementation of the plan began in 1993 with the formation of the non-profit Tri-State Water Quality Council (Council)—a diverse, basin-wide stakeholder group consisting of representatives from governments, citizens, tribes, environmental organizations, agencies, business and industry. The Council was charged with carrying out specific management actions from the plan to protect and restore water quality across the three-state watershed from nutrient pollution.

Much has been accomplished by the agencies, the Council and a multitude of other organizations across the watershed since the plan's implementation began over 13 years ago. However, with rapid population growth and increasing urbanization and rural development across the watershed, efforts to reduce nutrient pollution are being threatened by escalating storm water runoff, municipal and industrial discharges, shoreline development and riparian degradation. Addressing these growth management issues is critical to protecting the many investments underway in the basin to reduce nutrients, heavy metals, sediment and temperature pollution. State and tribal agencies, community groups and Council members agreed that an update of the 1993 plan was needed to adapt watershed management direction and to develop new, specific strategies for addressing growing challenges in the watershed and optimizing efforts to protect the basin's water resources.

During 2005 and 2006, the Council facilitated the work of a steering committee consisting of the Montana, Idaho and Washington water quality agencies, EPA Regions 8 and 10, the Kalispel Tribe[2], and other Council representatives to prepare and finalize the updated management plan.

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[1] Clark Fork-Pend Oreille Basin Water Quality Study: A Summary of Findings and a Management Plan. U. S. EPA Regions 8 and 10, State of Montana, State of Idaho, and State of Washington. February 1993. EPA Region 10 Water Division, Surface Water Branch, Seattle, Washington. Publication Number EPA 910/R-006.

[2] The Kalispel Tribe has water quality authority within its reservation lands, which straddle the Pend Oreille River in Washington, and therefore the tribe chose to participate in the Clark Fork-Pend Oreille Basin Management planning process. The other tribe with water quality authority on reservation lands in the watershed, the Confederated Salish & Kootenai Tribes (CSKT), has developed and implemented numerous sub-basin water quality and habitat improvement management plans in the Flathead watershed; these plans can be accessed through the CSKT Natural Resources Department.

In addition to including information and ideas compiled by the committee from focus group workshops and key stakeholder organizations, the final document reflects feedback and comments from the public.

Sections of the plan include: a description of project purpose (Section 3); an overview of the Clark Fork-Pend Oreille basin (Section 4); an overview of the 1993 plan and accomplishments to date (Section 5); a summary of current water quality conditions (Section 6); goals, objectives and proposed actions from the three states and tribes for the next decade (Section 7); and recommended priorities for action for the Council (Section 8).

Water Quality Goals and Objectives

The plan focuses on the water quality objectives and proposed actions to be taken by the three states and tribes in their respective areas of the watershed. As with the original management plan, the **overall basin-wide management goal for the Clark Fork-Pend Oreille basin is to restore and protect designated beneficial water uses.**

In Montana, the state's water quality management objectives for the Clark Fork basin (Clark Fork River headwaters to the Idaho border) are to:

- Reduce and manage the concentration of nutrients in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage the concentration of heavy metals in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage the loading and concentration of sediment in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage thermal loading in Clark Fork River Basin to achieve and maintain water quality standards.
- Minimize impacts of hydroelectric facility operations on all designated beneficial water uses.

In Idaho, the state's water quality management objectives for the Pend Oreille basin (Lower Clark Fork River, Lake Pend Oreille and Pend Oreille River in Idaho) are to:

- Develop Total Maximum Daily Loads (TMDLs) and water quality improvement plans for impaired waterbodies to reduce pollutants of concern in the Lower Clark Fork River, Pend Oreille River, Lake Pend Oreille and their tributaries.
- Implement the Lake Pend Oreille Nearshore TMDL to reduce shoreline nutrient inputs into Lake Pend Oreille.
- Implement Clark Fork and Pend Oreille River TMDLs for sediment, temperature and other pollutant reductions.
- Reduce dissolved gas supersaturation created by the operation of hydroelectric dams on the Clark Fork and Pend Oreille Rivers.
- Continue monitoring deep-water nutrient and other pollutant levels to insure water quality in Lake Pend Oreille is not degraded.
- Review and update all TMDLs to ensure progress toward restoration of beneficial uses.
- Control water pollution from point source discharges to the Clark Fork and Pend Oreille Rivers.

- Reduce and manage Eurasian watermilfoil populations where they occur in the Pend Oreille and Clark Fork basins and take measures to prevent spreading milfoil into waters not currently infested.

In Washington, the state's water quality management objectives for the Pend Oreille basin (Pend Oreille River) are to:

- Reduce and manage Eurasian watermilfoil populations where they occur in the Pend Oreille River Basin and take measures to prevent spreading milfoil into waters not currently infested.
- Reduce and/or maintain water temperatures throughout the Pend Oreille River Basin.
- Reduce dissolved gas supersaturation created by the operation of hydroelectric dams on the Pend Oreille River.
- Manage sediment inputs to surface waters in the Pend Oreille River Basin.
- Avoid contaminating water with excess nutrients, metals and toxic substances.
- Prevent potential water pollution from active and abandoned mines and mills throughout the Pend Oreille River Basin, and from point source discharges to the Pend Oreille River and Sullivan Creek.

On Kalispel Ceded Lands[3] (those lands judged by the federal government to have been transferred from Indian to non-tribal ownership) the goals of the Kalispel Tribe's Watersheds and Environmental Program for the Pend Oreille River and its tributaries are to:

- Protect, maintain, and enhance water quality in water bodies throughout Kalispel Ceded Lands.
- Maintain Watersheds and Environmental Program staff and funding necessary to uphold and further tribal, departmental, and program goals and objectives.
- Address hydrologic connectivity and alteration due to dams with respect to habitat connections, water temperatures and dissolved gas supersaturation.
- Address land uses impacting aquatic resources.
- Participate in water resources management plan development and implementation throughout Ceded Lands.
- Provide aquatic conditions supporting cultural uses.
- Provide public outreach and education.

On the Flathead Indian Reservation[3], as well as aboriginal lands reserved for the Salish, Kootenai, and Pend Oreille peoples, the Confederated Salish & Kootenai Tribes' broad environmental and ecological goals are to:

- Protect and restore the integrity of all waterbodies, so they support designated beneficial uses identified in the tribes' water quality standards.
- Provide the environmental services to protect and sustain the Reservation environment as a permanent homeland for the Salish, Kootenai, and Pend Oreille peoples.
- Protect and implement the rights reserved by the tribes, and guaranteed to them by the United States in the 1855 Treaty of Hellgate.

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[3] Although the tribes have an interest and active involvement in resource efforts across ceded and aboriginal lands, their water quality authorities are limited to reservation lands.

- Reduce sediment, nutrient, and bacteriological loads to surface waters that derive from existing land uses, such as irrigated agriculture, as well as sources related to development in the region.
- Promote water quality and ecological conditions that foster the expansion of native aquatic and terrestrial species across their former extent.
- Support the protection and restoration of water quality condition for waters that enter and leave the Reservation, with focus on Flathead Lake and the lower Flathead and Clark Fork system, as well as water located in aboriginal territory, including the upper Clark Fork Basin.
- Continue and expand Tribal effort to inventory and assess Reservation waters through their Clean Water Act Section 106 and Section 319 programs and Wetlands program.

Management Actions and Priorities

To meet water quality goals and objectives, a number of specific management actions have been developed across the basin. In Montana, the recommended actions combine Montana Department of Environmental Quality Water Quality Planning Bureau management priorities with activities recommended in a series of focus group meetings held with key stakeholders. In Idaho, specific priority actions to address water quality concerns by the Idaho Department of Environmental Quality are based upon known impairments for each reach in Idaho and water quality improvement plans and implementation efforts being undertaken in coordination with sub-basin watershed advisory groups. In Washington, management actions incorporate many of the water quality-related recommendations from the locally-developed Pend Oreille Watershed Management Plan, along with Washington Department of Ecology priorities, especially those related to permitting point source dischargers and cleaning up old industrial sites. The Kalispel Tribe's recommended actions are based on those activities set forth in the tribe's Watersheds and Environmental Program.

The recommended actions include a spectrum of activities that range from developing and implementing water quality restoration plans and all necessary total maximum daily loads (TMDLs) to address pollutants of concern, conducting water quality monitoring, implementing public education programs, controlling the spread of Eurasian milfoil, providing guidance to local governments on water quality impacts related to growth and development, reducing impacts from non-point sources, and issuing point source discharge permits that ensure water quality standards are being met. For each recommended action, the plan identifies responsible parties and expected outcomes.

The final section of the plan identifies priorities for activities to be carried out by the Council over the next ten years. In April 2006, the Council held a workshop to review the states' and tribes' proposed management actions and to identify roles and activities that would be appropriate for the Council to undertake. In light of the challenge of growth and development across the watershed, participants in the workshop agreed that as a diverse group of representatives taking a big picture approach across the three-state basin, the Council is in a unique position to initiate dialog and encourage policy development to address growth-related water quality issues. In addition to policy work, continued roles for the Council include forming and facilitating partnerships, conducting water quality monitoring to provide scientifically sound data, and implementing education programs.

To fulfill these roles, the Council’s priority management activities for the next decade are:

- Water Quality Monitoring Program—including the continuation of the existing basin-wide monitoring network and five-year trends analysis, and providing scientifically sound data to the basin’s decision-makers.
- Water Quality Protection Program—including work on implementing TMDLs and their corresponding education programs for the Clark Fork River, Lake Pend Oreille and the Pend Oreille River, developing a strategy for an integrated point/nonpoint source basin-wide water quality protection effort, and promoting numeric nutrient criteria basin-wide.
- Growth and Development Policy—including educating Council members, the public, local governments and developers about growth-related issues, developing partnerships with local governments to help them address water quality impacts related to growth, promoting state and local regulations and policies to reduce impacts to water quality, and facilitating information exchange across jurisdictions.
- Noxious Aquatic Species—including facilitating partnerships to garner support for the use of non-chemical options to control the aggressive aquatic weed, Eurasian milfoil, and increasing the Council’s role in the research and monitoring of non-chemical control measures.
- Organizational Sustainability—including building a stable and diverse funding base to implement programs and ensure adequate staffing, coordinating with other groups in the basin to pursue funding for programs with common goals, and bringing more local governments, watershed groups and non-point source representatives into the Council’s membership.

It is important to note that many active organizations and dedicated individuals have been working steadfastly over the years to protect and restore water quality in the rivers, lakes and streams of the Clark Fork-Pend Oreille basin. The water quality objectives and management actions outlined in this plan will hopefully serve to guide and complement the continuation of those efforts across the three-state watershed, and optimize the combined results to benefit the basin's water quality.

Section 3: Project Purpose

3.1 PURPOSE

As a result of citizen concerns about increased aquatic weeds and algae in the Clark Fork River and Pend Oreille Lake, language was added to the Clean Water Act of 1987 (Section 525) that mandated EPA to conduct a comprehensive water quality study in the basin and report study findings and recommendations back to Congress. Undertaken in collaboration with the States of Montana, Idaho and Washington, the main objectives of the study were to characterize water quality problems, identify sources, and recommend actions for maintaining and enhancing water quality throughout the basin.

As a result of the Section 525 study, the 1993 Clark Fork-Pend Oreille Basin Management Plan[4] (Management Plan) was created by the States of Idaho, Montana and Washington (states). In addition to serving as the report of findings and recommendations to Congress, the Management Plan was designed to protect and restore water quality in the watershed from nutrient pollution. The plan outlined water quality goals and objectives, along with specific on-the-ground measures, to be undertaken across the three-state watershed.

Much has been accomplished since the plan's implementation began over twelve years ago. However, the states' water quality agencies agreed that an update of the 1993 Management Plan was needed to adapt management strategies to address new water quality challenges in the basin. With rapid population growth and increasing urbanization, efforts to reduce nutrient pollution are threatened by additional loading from stormwater runoff, municipal and industrial discharges, shoreline development and riparian degradation. Addressing these issues is critical to protecting the many investments underway in the basin to reduce nutrient, heavy metals, sediment and temperature pollution. The purpose of this project, therefore, has been to update the 1993 Management Plan to provide direction and specific objectives and management actions for optimizing our continued efforts to protect the basin's water quality.

This updated Management Plan has been developed by the states and tribes with input from key stakeholder groups and the public, and facilitated by the Tri-State Water Quality Council (Council), It includes an overview of what has been accomplished and learned over the first twelve years and a planned management strategy for the next decade.

3.2 METHODS

Updating of the Management Plan has used the same model that was employed to develop the original plan. The plan provides basin-wide (interstate) water quality goals, along with

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[4] Clark Fork-Pend Oreille Basin Water Quality Study: A Summary of Findings and a Management Plan. U. S. EPA Regions 8 and 10, State of Montana, State of Idaho, and State of Washington. February 1993. EPA Region 10 Water Division, Surface Water Branch, Seattle, Washington. Publication Number EPA 910/R-006.

objectives for each of the major waterbody segments in the basin. The new plan groups these areas of the basin into the following five segments: Clark Fork River headwaters to the Flathead River; Flathead basin; Clark Fork River from Flathead River to Pend Oreille Lake; Lake Pend Oreille; and the Pend Oreille River in Idaho and Washington. Other local, tributary issues are also a key focus in the new plan, including the need for increased partnerships and facilitation with local watershed groups, since tributary and non-point issues will likely be a high priority for the future. The updated Management Plan includes an overview of the basin and water quality conditions; accomplishments to date; goals, objectives and proposed actions for the future based on the current state of the basin; and recommended priorities for action.

Development of the new plan has been overseen by a steering committee consisting of representatives from EPA Regions 8 and 10, the three state water quality agencies (Montana Dept. of Environmental Quality, Idaho Dept. of Environmental Quality and Washington Dept of Ecology), the tribes (Kalispel Tribe), and Council staff (Sandpoint, Idaho).

Beginning in February 2005, the steering committee held meetings to guide development of the updated plan. EPA representatives were responsible for facilitating interstate discussion, and the states and tribes were responsible for providing reports and data and preparing their programmatic sections and action items for their respective areas of the basin. Council staff organized and facilitated steering committee meetings, compiled and prepared sections of the plan for review, organized sessions at the semi-annual Council meetings to review and decide on sections of the plan, and kept the Council apprised of project progress.

The final draft of the updated plan was released for public review in January 2007 and a public comment period was held until February 20, 2007. Comments were reviewed by the steering committee and responses are provided in Appendix C, States' and Tribe's Response to Public Comments.

At the start-up of the plan update process, steering committee members recognized that the updated Management Plan is the states' and tribes' plan, in that the states and tribes would be providing information on water quality programs and proposing priority management actions to be undertaken in their respective areas of the basin (Sections 6 and 7). The final section (Section 8) identifies the highest priorities for activities to be undertaken by the Council over the next ten years.

3.3 AUTHORITIES AND RESPONSIBILITIES

EPA, the states and the tribes have very specific water quality management authorities as determined by the federal Clean Water Act, approved water quality acts in each state, and tribal water quality standards. In addition to these regulatory authorities, the Council was established in accordance with the 1993 Management Plan as a non-regulatory stakeholder organization to implement the management actions outlined in the plan.

3.3.1 Federal Authorities

Passage of the Federal Water Pollution Control Act in 1971 (commonly known as the Clean Water Act) nationally codified the authority of states and tribes to establish water quality standards. The Act and implementing regulations also standardized the approach to water quality standards development: the authority to establish standards is retained by states and authorized tribes; EPA must review and approve the standards prior to becoming effective; if EPA disapproves a water quality standard and the state or tribe does not revise it, EPA promulgates a standard; and states and authorized tribes must review their standards every three years and submit to EPA for review. Montana, Idaho, Washington, the Kalispel Tribe, and the Confederated Salish & Kootenai Tribes all have approved water quality standards programs.

Sections 208 and 303 of the Federal Clean Water Act provide the authorities to states and tribes to develop water quality management (WQM) plans. Regulations for implementing these provisions are found in the Code of Federal Regulations (CFR) 40 Part 130.6. The regulations state that water quality management plans "consist of initial plans produced in accordance with section 208 and 303(e) of the Act…. Continuing water quality planning shall be based upon WQM plans and water quality problems identified in the latest 305(b) reports. State water quality planning should focus annually on priority issues and geographic areas and on the development of water quality controls leading to implementation measures." Part 130.6(b) describes the purpose of WQM plans as, "…. used to direct implementation. WQM plans draw upon the water quality assessment to identify priority point and nonpoint water quality problems, consider alternative solutions and recommend control measures, including the financial and institutional measures necessary for implementing recommended solutions…."

Sections 205(j), 208 and 303 of the Act specify water quality planning requirements, including Total Maximum Daily Loads (TMDLs), effluent limitations, municipal and industrial waste treatment, nonpoint source management and control, identification of management agencies and implementation measures, dredge or fill programs, coordination with other applicable basin plans, and control of groundwater pollution. The regulations also direct that plans "shall be updated as needed to reflect changing water quality conditions, results of implementation actions, new requirements or to remove conditions in prior conditional or partial plan approvals."

While the Clean Water Act gave EPA a set of unique authorities, such as the authority to implement pollution control programs including setting wastewater standards for industry, Congress also preserved for the states the primary responsibility and right to plan the development and use of land and water resources. States are required to establish and maintain a continuing planning process and manage its water quality program to implement the processes specified in the plan. EPA's responsibility is to periodically review the adequacy of the states' planning processes and provide technical and financial support and oversight. EPA is also required to approve plans submitted by states.

3.3.2 State Authorities

State of Montana

The Montana Department of Environmental Quality's (DEQ's) authority to develop management plans for the control of pollution, with the exception of those waters within the boundaries of Indian reservations, is contained in Montana's Water Quality Act. The goal of the Act is to "provide a comprehensive program for the prevention, abatement, and control of pollution." In furtherance of this goal, the State has developed area-wide management plans and nonpoint source plans according to the provisions of Section 208 and Section 319 of the federal Clean Water Act. The State's latest Nonpoint Source Management Plan, which was approved by EPA in 2001, guides Montana DEQ's decisions for implementing nonpoint source programs and projects in Montana.

In 1997, the Montana Water Quality Act was amended to provide further authority to address nonpoint sources by establishing a process for identifying and addressing all waters within the State that failed to meet state water quality standards. The 1997 amendments assigned the DEQ the responsibility for developing total maximum daily loads (TMDLs) for the state's list of "threatened and impaired" waters and directed DEQ to consult with local watershed groups during the development of TMDLs. The 1997 amendments furthered Montana DEQ's ability to address nonpoint sources by requiring the agency to assist local land owners with developing "reasonable land, soil, and water conservation practices" to address nonpoint sources of pollution. Montana's Water Quality Act also authorizes the adoption of rules establishing water quality standards, nondegradation requirements, and permit requirements for discharges of pollutants to surface water and groundwater.

Montana DEQ relies on other state agencies, such as the Montana Department of Natural Resources and Conservation (DNRC), to assist in the development of best management practices for nonpoint sources through DNRC's oversight of timber activities on state lands and the enforcement of Montana's Streamside Management Zone laws on both private and public lands. Another state agency, the Montana Department of Fish, Wildlife and Parks, administers Montana's Streambed Protection Act regulating construction projects in streams.

The following laws and rules guide watershed management and water quality protection in Montana:

- Montana's Water Quality Act, Title 75, Chapter 5, Montana Code Annotated (MCA)
    - Water Quality Standards (Administrative Rules of Montana (ARM), Title 17, Sub-chapter 6)
    - Montana's nondegradation rules (ARM Title 17, Sub-chapter 7)
    - Montana Pollutant Discharge Elimination System (ARM Title, 17, Sub-chapters 12 and 13)
- Montana Metal Mine Reclamation Act, Title 82, Chapter 4, Part 3, MCA
- Streamside Management Zones, Title 77, Chapter 5, Part 3, MCA
- Streambed Protection Act, Title 75, Chapter 7, Part 1, MCA

State of Idaho

Idaho Water Quality Law at *Idaho Code Section 39-3601 et. seq.* sets forth a process for addressing impaired water bodies of the state, with the exception of those waters within the boundaries of Indian reservations, and defines the roles of state agencies, including Idaho Department of Environmental Quality (DEQ) with respect to improving and protecting water quality. *Idaho Water Quality Standards and Wastewater Treatment Requirements* (IDAPA 58.01.02.350) addresses nonpoint source pollution management, including the use of BMPs as a process for protecting beneficial uses of water. Provisions of the Idaho Nonpoint Source Management Plan (Idaho DEQ 1999) serve as the basis for implementation of nonpoint source protection measures for water quality improvement and protection efforts. The Nonpoint Source Plan requires that nonpoint source activities be consistent with the state's goal of restoration, maintenance, and protection of beneficial uses of surface and groundwater. The Idaho Nonpoint Source Plan has been approved by EPA and contains the following provisions: identification of best management practices (BMPs) to be used for the prevention of nonpoint source pollution; identification of existing agency roles and responsibilities and ongoing programs for the control of nonpoint source pollution; a schedule for annual milestones; certification by the Attorney General's Office that the laws of the State of Idaho provide adequate authority for Idaho DEQ to implement the Nonpoint Source Management Program; identification of federal and other sources of assistance; identification of federal programs and federal consistency. The EPA administers the National Pollutant Discharge Elimination System (NPDES) permit program in Idaho and the state provides Clean Water Act Section 401 certification that the permitted point source discharges will not violate water quality standards.

The following laws, programs, and activities are applicable to watershed restoration and protection in Idaho:

- Water Quality Standards - IDEQ (IDAPA 58.01.02)
- Forest Practices Act – Idaho Dept. of Lands (IDL)
- Dredge and Placer Mining Protection Act – IDL
- Idaho Exploration and Surface Mining Act regulations – IDL (IDAPA 20.03.02)
- Lake Protection Act – IDL
- Stream Channel Protection Act regulations – Idaho Dept. of Water Resources (IDAPA 37.03.07)
- Idaho Agricultural Pollution Abatement Plan – Idaho Soil Conservation Commission/Soil & Water Conservation Districts
- Individual and Subsurface Sewage Disposal System Rules – Panhandle Health District

State of Washington

Through the Federal Clean Water Act, Washington has been delegated authority to protect and/or restore water quality in the rivers and streams of Washington, with the exception of those waters within the boundaries of Indian reservations.

The Washington Departments of Ecology (Ecology), Natural Resources, Fish and Wildlife, and Agriculture all have significant roles in implementing the state's water quality regulations and programs. The following are among the laws and rules that help guide watershed restoration and water quality protection in Washington:

- Water Pollution Control Act (Ch. 90.48 Revised Code of Washington (RCW))
    - Water Quality Standards (Washington Administrative Code (WAC) 173-201A)
    - State Waste Discharge Permit Program (WAC 173-21)
    - National Pollutant Discharge Elimination System Permit Program (WAC 173-220)
- Shoreline Management Act (Ch. 90.58 RCW)
- Forest Practices Act (Ch. 76.09 RCW)
    - Forest Practices Rules (WAC 222)
- Hydraulics Code (Ch. 77.55 RCW)
- Watershed Planning Act (Ch. 90.82 RCW)

In addition, Washington's Water Quality Management Plan to Control Nonpoint Source Pollution (Volume 1, June 2006; Volume 2 currently under revision; Volume 3, June 2005) governs the state's approach to protecting Washington's waters from the varied and often hard-to-trace pollution sources that have no obvious discharge point. Many of the activities that can create nonpoint source pollution are closely related to local land uses, so the plan also recognizes the role local governments play in bringing about water quality improvements.

3.3.3 Tribal Authorities

Section 518(e) of the Clean Water Act gives EPA authority to treat an Indian tribe as a state for purposes of the Act and program implementation such as water quality standards, wastewater discharge control water resources assessments and planning, and receipt of grant funds for a host of program activities. EPA has also promulgated regulations for purposes of delegating the programs and is directed to work with states and tribes to resolve any unreasonable consequences that might arise from setting different water quality standards with shared water bodies. After initial focus to receive Treatment as a State for water quality management on their reservation lands, the tribes have shifted their efforts to assessment and restoration of water quality and habitat condition.

Kalispel Tribe

The Kalispel Tribe's water quality ordinance is part of the tribal Law and Order Code. The Kalispel Tribe received "Treatment in the same manner as a State (TAS)" pursuant to Section 518 of the Clean Water Act for Clean Water Act Sections 303(c) and 401 on November 4, 2002. This status allowed the Tribe to administer a water quality standards program and issue water quality certifications for waters within the boundaries of the Kalispel Indian Reservation. Section 303(c) includes the standards themselves and Section 401 requires that any applicant for a federal license or permit that may result in discharge to navigable waters meet those water quality standards by means of a water quality certification.

Eligibility for TAS requires that four criteria be met. These include 1) federal recognition, 2 substantial governmental duties and powers, 3) jurisdiction over waters within the borders of the reservation, and 4) capability of administering a water quality standards program.

The Kalispel Tribe adopted its water quality standards on March 18, 2003, giving them the weight of tribal law. EPA provided federal approval of the Tribe's standards on June 24, 2004. In addition to TAS for Sections 303(c) and 401, the Kalispel Tribe also holds TAS for Sections 106 and 319. Under Section 319, the Tribe has an approved Non-Point Source Assessment Report and Non-Point Source Management Program.

Confederated Salish & Kootenai Tribes

Confederated Salish & Kootenai Tribes (CSKT) water quality standards were adopted by the Tribes in 1995 under the authority of Ordinance 89B, the CSKT Water Quality Management Ordinance, Section 1-2-102, 1-2-201, 1-2-204, and 1-2-206. Tribal water quality standards are promulgated pursuant to Tribal Ordinance 86B, the Tribal Administrative Procedures Ordinance. Tribal authority to develop, adopt, and promulgate water quality standards stems from Federal authorities identified in the 1987 amendments to the Clean Water Act (The Water Quality Act of 1987), 33 USC Section 1377(e). A process is identified in Section1377 (e) for Indian Tribes to seek authority for "*treatment as a state*" for specific provisions of the Water Quality Act. One provision Tribes may seek authority for is 33 USC Section 1313, Water Quality Standards and Implementation Plans. The CSKT received treatment as a state authority to develop a water quality standards program in 1992 and the EPA approved the CSKT Water Quality Standards in 1996.

The Tribes submitted a Nonpoint Source Assessment and Management Plan to the Environmental Protection Agency in 2000, received approval to develop and implement their nonpoint source program, and have implemented that program since 2001. Following guidance identified in their EPA-approved Nonpoint Source Assessment and Management Plan (CSKT, 2000 a, b) and Reservation Water Quality Assessment Report (CSKT, 2002), the tribes assess and document conditions within individual watersheds (CSKT, 2000, 2003, in draft), and use these results to focus water quality improvement projects.

3.3.4 Non-Regulatory Roles

Tri-State Water Quality Council[5]

The Council was formed in 1993 as a direct result of the comprehensive three-year study conducted by two regions of EPA and the water quality agencies of Montana, Idaho and Washington through the Federal Clean Water Act Section 525. The study led to the development of the Management Plan, which identified over 70 management actions to protect and restore water quality. The first priority in the Plan was to convene an entity to oversee implementation of these management actions.

Created in October 1993 to carry out this charge, the Council is a diverse basin-wide stakeholder group consisting of representatives from local governments, citizens, tribes, environmental organizations, business and industry, and federal, state and local agencies. Through the work of project-specific committees, the Council has been actively involved in affecting change in the

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[5] Formerly the Tri-State Implementation Council

basin by facilitating the development of water quality improvement plans (the Clark Fork River Voluntary Nutrient Reduction Program, the Montana/Idaho Border Nutrient Load Agreement, the Pend Oreille Lake TMDL and TMDL Implementation Plan, and the Idaho/Washington Pend Oreille River TMDL), implementing on-the-ground water quality restoration projects, monitoring water quality to assess results, building partnerships with key stakeholder groups, and coordinating the big picture aspects of basin-wide issues.

The Council's Mission Statement*: "The Clark Fork-Pend Oreille river system is vital to the quality of life in this unique watershed that spans three states. Citizens, business, industry, governments, tribes and environmental groups are united in the Tri-State Water Quality Council to improve water quality in this watershed. We accomplish our mission through mutual respect, collaboration, science, and education."*

The Council is organized as a non-profit 501 (c) (3) tax-exempt organization, and is supported financially by private foundation grants; federal, state and local agency grants; corporate major donors; and individual contributors. As of October 2006, the Council is comprised of 31 members, listed in Appendix A. Since its inception in 1993, the work of the Council has been sustained by numerous committee members and funding supporters, all of whom are listed in Appendix A.

Section 4: Overview of the Clark Fork-Pend Oreille Watershed

4.1 INTRODUCTION

The Clark Fork-Pend Oreille watershed of the Upper Columbia Basin encompasses nearly 26,000 square miles in western Montana, northern Idaho and northeastern Washington. (Figure 1). The Clark Fork River, Flathead River, Flathead Lake, Blackfoot River, Bitterroot River, Lake Pend Oreille, and Pend Oreille River are among the main bodies of water in the basin. The Clark Fork River begins along the west slopes of the Continental Divide and drains most of Montana's western slope before entering Lake Pend Oreille in Idaho. Lake Pend Oreille is the source of the Pend Oreille River, which flows west across the Idaho Panhandle and into northeastern Washington. The waters then enter the Columbia River, just a few miles north of the Canadian border.

Highly valued economic and recreational resources characterize the Clark Fork-Pend Oreille watershed. Timber, mining, fish, wildlife, water, rangeland and croplands support a variety of human uses, ranging from logging and agriculture to recreational fishing and boating. Home to an array of blue ribbon trout fisheries, the basin has many watersheds containing the last remaining strongholds for threatened bull trout populations in the nation.

The watershed lies within two regions of the U.S. EPA, three states, fourteen counties, and two Native American reservations. Its huge 16 million acre expanse, coupled with the multitude of federal, state, local and tribal jurisdictions, creates a special challenge for protecting and improving water quality.

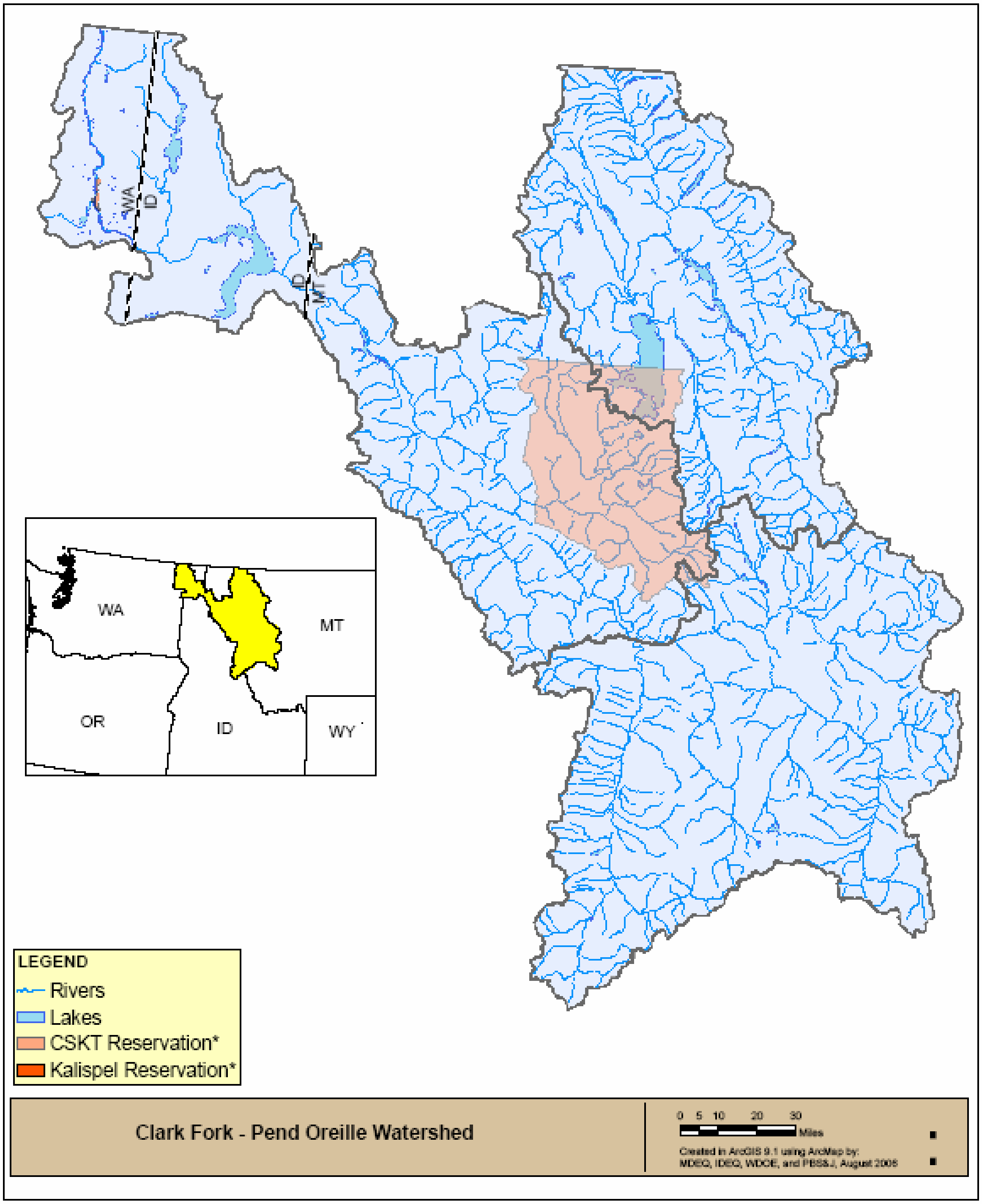
The following geographic overview groups the basin into five watershed segments: the Clark Fork River headwaters to the Flathead River; the Flathead basin; the Clark Fork River from Flathead River to Pend Oreille Lake; Pend Oreille Lake; and the Pend Oreille River in Idaho and Washington.

4.2 WATERSHED GEOGRAPHY

4.2.1 Clark Fork River Headwaters to Flathead River

The Clark Fork River flows 200 miles from its headwaters near Butte, Montana to its confluence with the Flathead River near Paradise, Montana, draining an area of approximately 10,800 square miles. A wide range of human activity, from urban centers to farming communities, is found within this region—which encompasses the largest geographic area and population centers in the Clark Fork-Pend Oreille basin. Butte is a city of nearly 35,000 people, where copper mining has been the major industry for decades. Missoula lies along the middle reaches of the river and is home to over 60,000 people and the University of Montana. Both these cities are service and

Figure 1. The Clark Fork-Pend Oreille Watershed



Created in ArcGIS 9.1 using ArcMap by:
MDEQ, IDEQ, WDOE, and PBS&J, August 2006

retail hubs for their regions. Between the continental divide that surrounds Butte and the mountains that rise west toward Missoula lies the Deer Lodge Valley, a broad and fertile intermontane valley with numerous farms and ranches. Much of the watershed west of Missoula lies in forested mountains, which are predominantly national forest lands. Part is wilderness and the remainder is managed for multiple uses, including logging, mineral extraction, grazing, recreation and water production/quality.

The economy of the region has historically been natural resource based, with forestry, mining, and agriculture the major industries. However, recreation and tourism are playing an increasingly significant role in the region's economy. In the valleys, the largest farms and ranches grow various short season crops, mostly hay, as well as raise livestock. Vacation home development is occurring as the region increases in popularity as a recreational destination for skiing, fishing, hiking, and hunting. The cities and towns are the most densely settled areas, but rural residential development and accompanying sprawl are increasing dramatically across this region.

Key tributary drainages to the Clark Fork in this segment include the Bitterroot and Blackfoot rivers. Bordered by the Bitterroot mountain range on the west and the Sapphire mountain range on the east, the Bitterroot River drains a watershed of approximately 2,841 square miles and travels about 85 miles to its confluence with the Clark Fork near Missoula. The Bitterroot basin includes all of Ravalli County and part of Missoula County. About 70% of the basin—nearly all the mountainous uplands—are within the Bitterroot and Lolo National Forests.

The main stem of the Bitterroot River receives major point, as well as non-point, sources of nutrient pollution--seven major towns—Darby, Hamilton, Corvallis, Victor, Stevensville, Florence, and Lolo-- four of which have municipal wastewater treatment plants with Montana Pollution Discharge Elimination System (MPDES) permits, several other wastewater treatment systems with land application or groundwater injection, a growing number of large residential and commercial complexes, seven dairies and hundreds of small beef, sheep, and horse ranches.

The population of the Bitterroot valley is over 40,000 persons and growing rapidly; Ravalli County, which makes up one-third of the upper Clark Fork basin in Montana, is the fastest-growing county in Montana. The Missoula Valley Water Quality District, which includes a portion of the lower Bitterroot valley, has documented significant discharge of nitrates to the lower Bitterroot River from shallow groundwater influenced by septic systems. Ravalli County issued 11,199 septic permits from 1975 to 2000—these upper valley septic systems represent a major potential source of nitrates to the river.

The Blackfoot River begins on the continental divide at Roger's Pass and flows 132 miles westerly to its confluence with the Clark Fork River near Missoula. Nestled between the mountain ranges of the divide, the Bob Marshall/Scapegoat Wilderness Area, and Garnet Mountains, the Blackfoot River watershed totals about 1.5 million acres. Land ownership in the watershed is 49% Federal, 5% State of Montana, 20% Plum Creek Timber Company, and 24% private. In general, public lands and significant portions of Plum Creek Timber Company land comprise the forested, mountain areas while private lands are located in the foothills and lower valley floor.

Unlike most other major valleys in western Montana, the Blackfoot valley is relatively undeveloped. With roughly 2,500 households and seven small communities, the valley has seen limited residential subdivision, and ranching remains the principle agricultural use. However, the watershed is not outside of reach of growth and development pressures. As of 2005, the Montana Department of Revenue's Cadastral Database contained 3,996 subdivided lots in the Blackfoot watershed that were 40 acres or less in area. These lots comprise 39,922 acres total and are clustered in three presently developed areas—Potomac, Seeley Lake and Lincoln—and one undeveloped headwaters area in Douglas Creek (Byron, personal communication, 2006). While this area represents only 2% of the Blackfoot watershed, it is also a harbinger of potential land use changes that inevitably affect water quality.

4.2.2 Flathead Basin

The Flathead Basin encompasses approximately 8,600 square miles in northwestern Montana and Southern British Columbia. The basin includes over 500 lakes that range in size from small, nearly inaccessible alpine lakes in Glacier National Park to the 126,000-acre Flathead Lake, the largest fresh water lake west of the Mississippi River. The lake's long, north-south axis stretches I think more like 28 miles and the maximum width of the basin is more like 15 miles. Included in the drainage are virtually all of Flathead and Lake Counties, the Flathead Indian Reservation and the portion of Glacier National Park west of the continental divide. Also included in the drainage are parts of three wilderness areas; millions of acres of forestland under federal, state, provincial, tribal, and corporate management; and thousands of acres of private property. Population centers in the Flathead basin include Whitefish, Columbia Falls, Polson and Ronan, with the largest being Kalispell (2005 population, 18,480).

The Flathead Indian Reservation is the native homeland of the Confederated Salish, Kootenai and Pend Oreille Tribes. With approximately 1,317,400 acres within in exterior boundaries, the present Flathead Reservation was created on July 16, 1855 by the Hellgate Treaty. Situated in northwestern Montana south of Kalispell and north of Missoula, the reservation is 60 miles long and 40 miles wide and includes the towns of Polson, Pablo, Ronan and St. Ignatius. The south one half of Flathead Lake lies within the reservation, and the tribes regulate shoreline development for this area through their Shoreline Protection Program.

The Flathead River system is the largest tributary to the Clark Fork River. The three forks of the Flathead River - North, Middle and South - together supply approximately 80 percent of the water carried within the Flathead system. Other significant rivers in the drainage are the Stillwater, Whitefish, and Swan. The lower Flathead River - that portion below Flathead Lake - empties into the Clark Fork River at the town of Paradise, Montana. The Salish & Kootenai Tribes have prepared specific management plans for the lower Flathead River, a 72-mile reach of river that is predominantly owned by the tribes.

4.2.3 Clark Fork River from the Flathead River to Lake Pend Oreille

Downstream from the confluence of the Flathead and Clark Fork rivers, the mountainous terrain of the lower Clark Fork River is sparsely settled. The westerly flowing river is bounded by the Bitterroot Mountains to the south and the Cabinet Mountains to the north. Encompassing 4,939 square miles with 390 miles of streams, over 80 percent of the drainage is located in the Kootenai, Kaniksu and Lolo National Forests.

The lower Clark Fork River in Montana flows approximately 80 miles from its confluence with the Flathead to the Idaho border. This reach of river includes Thompson Falls Reservoir, created by a hydroelectric dam at Thompson Falls, and the 60-mile length of Noxon and Cabinet Gorge Reservoirs created by hydroelectric dams at Noxon Rapids (in Montana) and Cabinet Gorge (at the Montana/Idaho boundary). The largest town, Thompson Falls, has a population of about 1,400. The smaller communities of Trout Creek, Noxon and Heron are located along Noxon and Cabinet reservoirs. The U. S. Forest Service manages much of the mountainous land for multiple uses ranging from backpacking in the Cabinet Mountains Wilderness Area to commercial mining and logging. The remaining lands are characterized by light rural, residential and agricultural development interspersed among tracts of undeveloped land. In recent years, vacation and second home development has increased in the tributary drainages. Waterfront development along the reservoirs is limited by a nearly continuous buffer of land owned by Avista Corporation—licensee of the Noxon and Cabinet Gorge hydroelectric facilities. A number of public-use recreation areas are located along both reservoirs.

The Clark Fork River in Idaho is about 11 miles long from the Montana/Idaho boundary to Lake Pend Oreille. Lightening Creek is the largest tributary to the Clark Fork River in Idaho. The small town of Clark Fork, Idaho (population 530) is located on the river, just before it makes its entry into the lake through a large delta rich in wetlands and wildlife.

4.2.4 Lake Pend Oreille

Lake Pend Oreille is the largest and deepest natural lake in Idaho and is recognized throughout the Inland Northwest as an extremely valuable water resource. Located almost entirely in Bonner County, the lake's surface area is approximately 143 square miles (95,000 acres) with about 175 miles of shoreline. Lake levels are controlled by Albeni Falls dam operated by the U. S. Army Corps of Engineers near the Idaho/Washington boundary. In addition to the Clark Fork River, other tributaries to the lake include the Pack River and Sand Creek with numerous smaller streams entering the lake at various locations. Surface water outflow from the lake consists only of the Pend Oreille River, and groundwater contributions from the lake to the Spokane Valley-Rathdrum Prairie Aquifer have been estimated between 3.8 and 7 percent of the total aquifer recharge.

Eighty three percent of the lake's watershed is forested and nearly 65 percent of the lakeshore is in national forest. Much of the northern and eastern parts of the watershed are public lands comprised of mountainous or hilly terrain deeply cut by streams and mostly forested. The broad, fertile valleys and river bottoms, predominately in the western part of the watershed, are mostly in private ownership. Timber has been the region's primary natural resource industry. Livestock grazing and short season crops, such as hay, wheat, oats, and barley, are important land uses in the valleys and on the lower slopes, although rarely are these operations very large. In many areas, semi-rural residential development is replacing these agricultural uses.

Jobs in services and retail trade are increasing as the region becomes more popular for second home development and tourism. Recreation constitutes an important business for the entire lake community. With 14 species of fish, the lake has a well-deserved reputation as a fishermen's paradise (a total estimated 465,000 hours per year is spent by anglers fishing the lake) and opportunities for a variety of water-related recreational activities abound. It is estimated that recreation and tourism contribute more than $15 million annually to the local economy. Incorporated cities on the lake include Sandpoint (population about 7,000) and the small towns of East Hope, Hope, Kootenai, Ponderay and Bayview. Unincorporated communities around the lake's northern and western shores include Sunnyside, Bottle Bay, Garfield Bay and Sagle.

4.2.5 Pend Oreille River, Idaho and Washington

The Pend Oreille River begins at the outlet of Pend Oreille Lake and flows west across the Idaho Panhandle into the northeast corner of Washington. Here the river heads north through Pend Oreille County and across the British Columbia border where it again turns west before flowing into the Columbia River less than one mile north of the international boundary. The basin's topography consists of river-bottom flatlands in a long and narrow trough between the forested, mountainous terrain of the Selkirk Mountains and Okanagan Highlands.

Numerous tributaries flow into the Pend Oreille River and the watershed also boasts numerous glacially-formed lakes. In Idaho, the Priest River is the largest tributary. The Priest River flows out of Priest Lake which in turn is fed by Upper Priest Lake and the Upper Priest River. In Washington, Sullivan Creek is the largest tributary to the Pend Oreille River. Other tributary streams include Calispell, LeClerc, Lost, Skookum, Slate and Tacoma Creeks. The two largest natural lakes are Sullivan Lake and Bead Lake.

Three large dams have been built on the Pend Oreille River; Albeni Falls dam just upstream of the Washington-Idaho state line, Box Canyon dam just downstream of Ione, and Boundary dam about one mile upstream of the British Columbia border.

Much of the river basin's land falls within the boundaries of the Kaniksu (now part of the Idaho Panhandle) or Colville national forests. In addition, the Salmo-Priest Wilderness area, part of the Colville National Forest, is located in the far northeastern corner of the Pend Oreille watershed in Washington.

In **Idaho**, the river basin lies in Bonner County. The largest city on the river is Sandpoint; other towns along the river include Dover (population 342) and Priest River (population about 1,800). Much of the river's watershed is privately owned with a concentration of homes along the river frontage. Water levels in the river are influenced by Albeni Falls Dam, which was built on the river in 1952 about 26 miles downstream from where the river leaves Lake Pend Oreille. Historically, land uses have consisted of agriculture and timber; however, like many areas in the basin, these land uses are transitioning to rural residential development, especially along or in the vicinity of the river.

In **Washington**, the river basin drains an area of about 1,000 square miles and lies mainly in Pend Oreille County, a sparsely settled rural region in the northeast corner of the state. The largest city, Newport, has 1,965 residents and the next largest town, Ione, has about 475 residents. Local, state, and federal government jobs account for approximately 30% percent of employment, with the remaining 70% percent split between retail, manufacturing, and service jobs.

Nearly three-fourths of Pend Oreille County is publicly owned and managed by state or federal agencies; these public lands are located primarily in the headwaters and upland areas. Private land ownership is concentrated in the valley bottoms, along river and lake shorelines. In the southern portions of the watershed, expanses of flat agricultural lands are found along the river; agriculture on these lowland plains includes grain crops, hay, pasture, and livestock.

The **Kalispel Indian Reservation** occupies about 4,600 acres along the Pend Oreille River in Washington with nearly 1,000 additional acres in trust. Portions of Calispell Creek, Cee Cee Ah Creek, and the Pend Oreille River are within Waters of the Kalispel Indian Reservation. The 2000 census counts 206 residents of the Kalispel Indian Reservation of which 180 are Native American. The Kalispel Indian Reservation lies primarily in the lowlands bordering the Pend Oreille River with the bulk of the Reservation on the River's east side. A smaller piece on the River's west side includes the confluence of Calispell Creek and the Pend Oreille River.

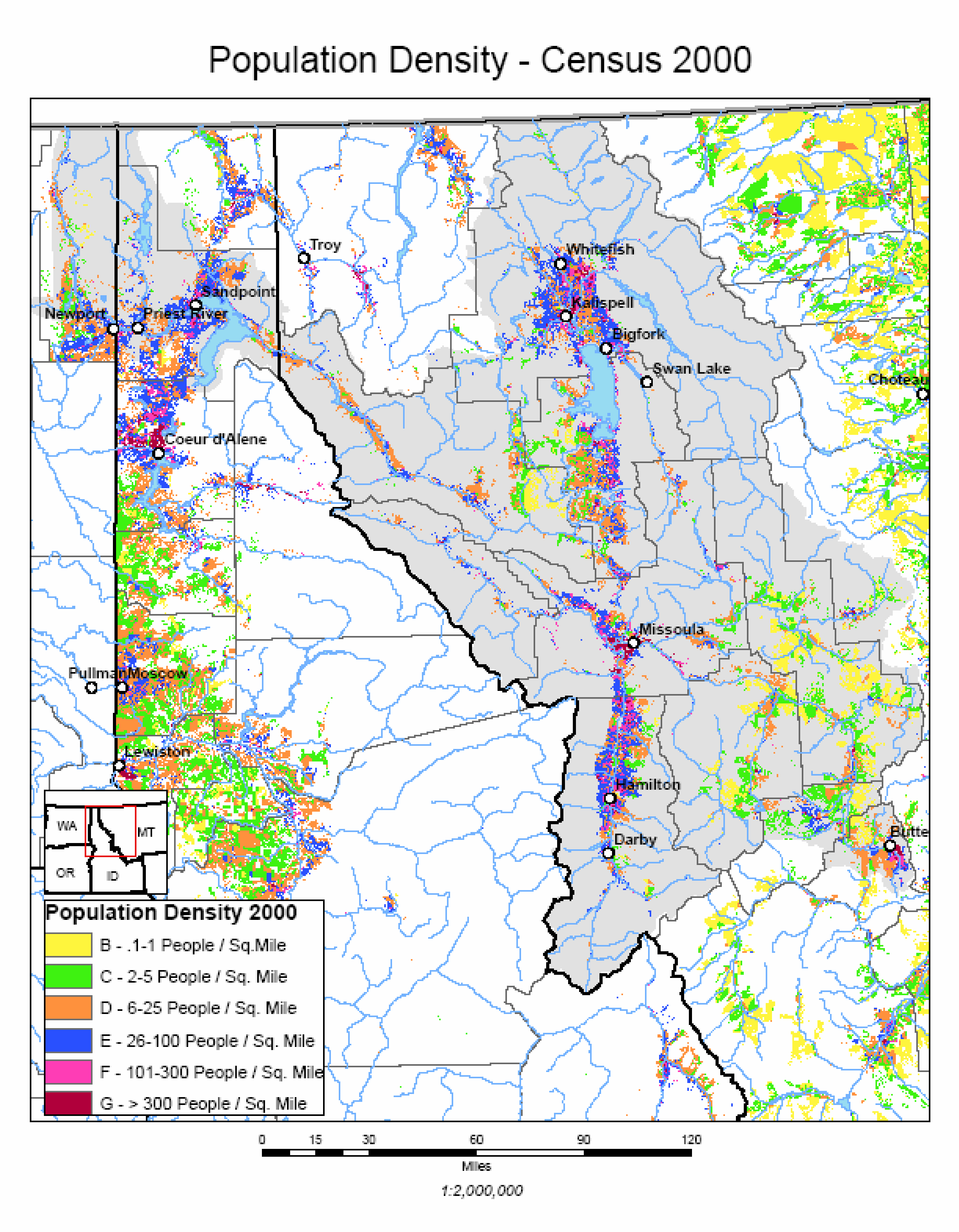
Kalispel Ceded Lands cover 2.3 million acres and run from the lower Clark Fork in Montana, around the Lake Pend Oreille and Priest Lake basins in Idaho and encompass the lower Pend Oreille River in Washington to the Canadian border. Ceded lands are those determined by the federal government to have passed from Indian to non-Indian ownership. This determination was made by the Indian Claims Commission in the mid-1950s. The Kalispel Natural Resources Department is directed by the Tribal Council to engage in natural resources and environmental issues throughout Ceded Lands.

4. 3 DEMOGRAPHICS

An inevitable part of population growth and urban development is the loss of vegetated natural areas to roads and other impervious surfaces having a significant impact on water quality, water quantity, air quality, and wildlife habitat. Numerous scientific studies across the nation and throughout the world have shown various impacts to water quality from population growth and urban development including increased storm water run off, increased nutrient levels from fertilizers and septic drain fields, and increased sediment loads from roads and removal of natural vegetation to name but a few. A recent study conducted within the Clark Fork-Pend Oreille watershed comparing water quality in nearshore areas of Lake Pend Oreille found that developed sites averaged higher levels of chlorophyll a biomass than undeveloped sites (Falter, 2004).

One of the biggest challenges facing the Clark Fork-Pend Oreille basin is managing the impacts from population growth and development, particularly near sensitive surface waters. The University of Montana Wildlife Spatial Analysis Lab has developed a Geographical Information System (GIS) coverage for population density within the Clark Fork-Pend Oreille watershed; the density map (Figure 2) clearly shows that population density is found primarily on or near

Figure 2. Population Density, Clark Fork-Pend Oreille Watershed, Census 2000



surface waters. There is little doubt that population growth will continue to occur in these areas and good planning is essential to minimizing impacts to water quality.

For purposes of this discussion, population growth and development will be looked at for each of the three states within the Clark Fork-Pend Oreille watershed.

4.3.1 Montana

Roughly one third of Montana's population (over 310,000 people) live in the Clark Fork watershed and population growth has accelerated rapidly since 1990 (Clark Fork Coalition, 2005). The areas containing the highest proportion of protected lands are also the areas that have seen, and will likely see, continued growth. Table 1 shows the percent population growth between 1990 and 2000 of counties within the Clark Fork watershed as well as the United States and illustrates that five counties in the Montana portion of the watershed have experienced growth rates well above the national average. Areas experiencing the highest growth rates offer strong scenic appeal and recreational opportunities such as the southern Bitterroot valley, the Flathead Lake/Whitefish area, and the St. Regis/Superior area.

Table 1. Population Growth Rates, 1990 – 2000*, Montana and National

County	**Percent Growth 1990-2000**
United States (National average)	13%
Deer Lodge	-8%
Flathead	26%
Granite	1%
Lake	26%
Mineral	17%
Missoula	22%
Powell	8%
Ravalli	44%
Sanders	18%
Silver Bow	2%
Flathead Reservation	13%

*Montana Department of Commerce using U. S. Census Bureau data

Of particular concern is urban sprawl within critical tributary watersheds to the Clark Fork River, which can have both direct and indirect impacts to riparian vegetation, habitat, and water quality. Table 2 shows the number of new houses built in the ten Montana counties of the Clark Fork watershed between 1990 and 2000.

Table 2. Number of New Houses Built, 1990 – 2000*, Montana Counties

County	**Number of new houses**
Deer Lodge	128
Flathead	7,794
Granite	150
Lake	2,633
Mineral	326
Missoula	7,853
Powell	95
Ravalli	4,847
Sanders	936
Silver Bow	702

*Montana Department of Commerce using U. S. Census Bureau data

4.3.2 Idaho

With a population of 36,835 people in 2000, Bonner County ranked 9th out of 44 counties in Idaho[6]. In terms of the pace of growth, the 2000 figures show Bonner County was the sixth fastest growing county in Idaho and also ranked sixth in terms of population growth. Bonner County's population increase in 2000 represented a 38.4 percent change between 1990 and 2000 while the U.S. population increased 13.3 percent. Table 3 shows this percent change by city, with the small communities of Kootenai and Ponderay experiencing the highest percent change at 35% and 42% respectively.

The U.S. Census Bureau estimated the 2005 population of Bonner County at 40,908. Population predictions in the 1993 Management Plan estimated that Bonner County could reach 35,000 by the year 2010. This population estimate was well exceeded by 2000, a full ten years earlier than was predicted. The same impacts from population growth and development in the Clark Fork River, Montana can be expected in the areas surrounding Lake Pend Oreille and the Pend Oreille River in Idaho. Moreover, large-scale development plans on and near the Pend Oreille River in Idaho may have significant impacts to water quality.

Table 3

6.4.4 Clark Fork and Pend Oreille Watersheds, Idaho

The following table lists the current water quality limited waterbodies in the Clark Fork-Pend Oreille basin in Idaho.

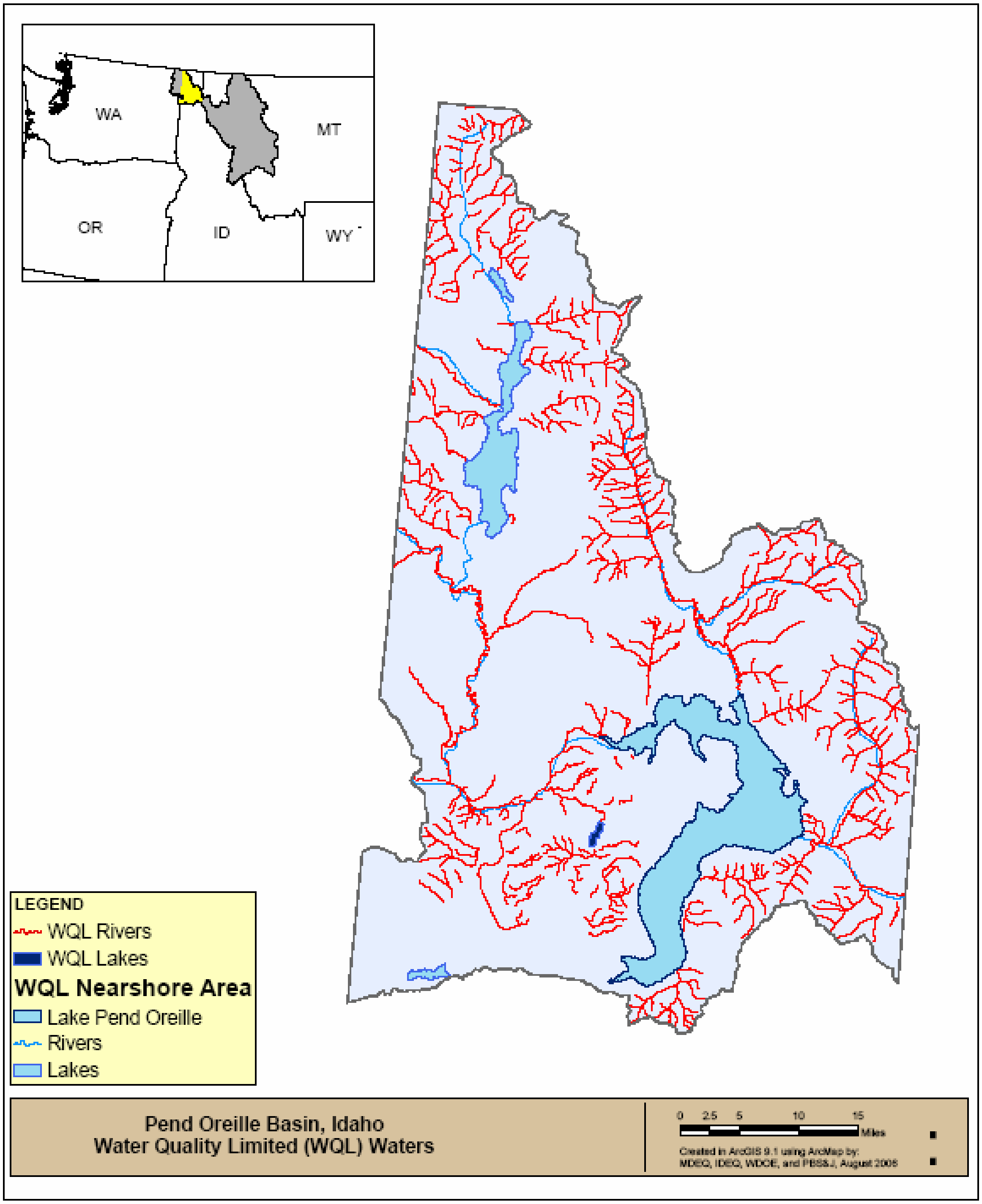
Table 9. Waterbodies in the Clark Fork-Pend Oreille basin identified as impaired in Idaho's 2002 Integrated Report.

Stream	Pollutant	TMDL Completed
Lower Clark Fork River		
Clark Fork River	Total Dissolved Gas	Yes
	Metals	Yes
	Temperature	No
Cascade Creek	Temperature	Yes
Dry Creek	Temperature	Yes
Mosquito Creek	Temperature	Yes
Lightning Creek	Sediment	Yes
	Temperature	Yes
East Fork Creek	Sediment	Yes
	Temperature	Yes
Rattle Creek	Sediment	Yes
	Temperature	Yes
Savage Creek	Sediment	Yes
	Temperature	Yes
Wellington Creek	Sediment	Yes
	Temperature	Yes
Johnson Creek	Sediment	Yes
	Temperature	Yes
Twin Creek	Sediment	Yes
	Temperature	Yes
Pend Oreille Lake and River		
Pend Oreille Lake Nearshore	Nutrients	Yes
Pend Oreille River	Sediment	No
	Temperature	No
	Total Dissolved Gas	No
Hoodoo Creek	Temperature	No
	Sediment	Yes
Cocolalla Creek	Temperature	No
	Sediment	Yes
Cocolalla Lake	Nutrients	Yes
	Dissolved Oxygen	Yes
Fish Creek	Temperature	No
	Sediment	Yes

Cheer Creek	Temperature	No
West Gold Creek	Temperature	No
	Sediment	Yes
Gold Creek (Pend Oreille Lake)	Temperature	No
	Sediment	Yes
Chloride Creek	Temperature	No
North Gold Creek	Sediment	No
	Temperature	No
Granite Creek	Temperature	No
Trestle Creek	Temperature	No
Rapid Lightning Crk	Temperature	No
Gold Creek (Pack River)	Temperature	No
Grouse Creek	Temperature	No
	Sediment	Yes
North Fork Grouse Creek	Temperature	No
	Sediment	Yes
Upper Pack River	Temperature	No
	Sediment	Yes
Lower Pack River	Sediment	Yes
	Nutrients	No
McCormick Creek	Temperature	No
Jeru Creek	Temperature	No
Hellroaring Creek	Temperature	No
Caribou Creek	Sediment	Yes
Sand Creek	Temperature	No
Schweitzer Creek	Sediment	No
Priest Lake Subbasin		
Binarch Creek	Sediment	Yes
	Temperature	No
Kalispell Creek	Sediment	Yes
Lower Priest River	Sediment	Yes
	Temperature	No
Upper West Branch Priest River	Temperature	No
Lower West Branch Priest River	Sediment	Yes
	Temperature	No
Middle Fork East River	Sediment	Yes
	Temperature	Yes
North Fork East River	Temperature	Yes
Reeder Creek	Sediment	Yes
	Temperature	No
Indian Creek	Temperature	No

Two Mouth Creek	Temperature	No
Lion Creek	Temperature	No
Trapper Creek	Temperature	No
Hughes Fork	Temperature	No
Granite Creek	Temperature	No
Lamb Creek	Temperature	No
Goose Creek	Pathogens	No

Figure 7. Pend Oreille Watershed Idaho, Water Quality Limited Waters



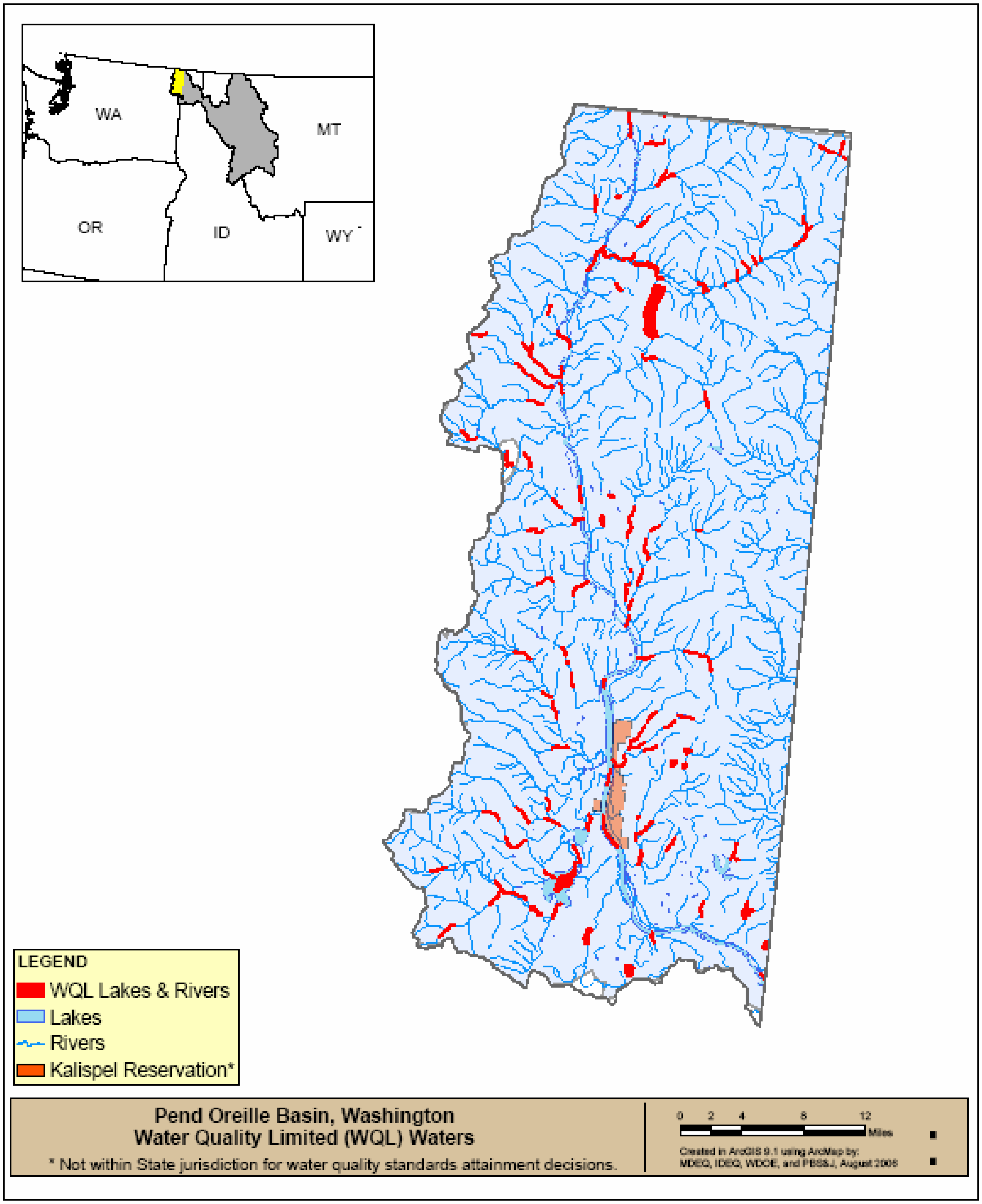
6.4.5 Pend Oreille Watershed, Washington

The following table lists the current water quality limited waterbodies in the Pend Oreille watershed in Washington.

Table 10. Washington's current WQL waterbodies in the Pend Oreille basin.

Water Body Name	**Parameter**
Browns Creek	Dissolved Oxygen
Calispell Creek	Fecal Coliform
Calispell Creek, South Fork	Temperature
Cedar Creek	Dissolved Oxygen, Temperature
Halfmoon Creek	Dissolved Oxygen
LeClerc Creek, East Branch	Temperature
Little Muddy Creek	Temperature
Lost Creek	Temperature
Mill Creek	Dissolved Oxygen
Pend Oreille River	Aldrin, Total PCBs
Pend Oreille River	pH, Temperature, Total Dissolved Gas
Ruby Creek	Dissolved Oxygen, Temperature
Skookum Creek	Fecal Coliform
Sullivan Creek	Dissolved Oxygen
Sullivan Creek, North Fork	Dissolved Oxygen
Tacoma Creek	Dissolved Oxygen

Figure 8. Pend Oreille Watershed Washington, Water Quality Limited Waters



Section 7: Managing the Watershed for the Next Decade

7.1 INTRODUCTION

The focal point of the watershed management plan, this section presents the goals, objectives and priority actions developed by the three states and tribes for managing water quality across the Clark Fork-Pend Oreille basin for the next decade. As with the original management plan, the overall basin-wide management goal for the Clark Fork-Pend Oreille basin is to restore and protect designated beneficial water uses.

To set management priorities for meeting this goal, the states and the tribes have very specific water quality management authorities (described in Section 3) as determined by the federal Clean Water Act, approved water quality acts in each state, and tribal water quality standards.

Management Goal: Clark Fork-Pend Oreille Basin

- Restore and protect designated beneficial water uses basin-wide.

7.2 STATE OF MONTANA

7.2.1 Management Goal: Clark Fork Basin

- Restore and protect designated beneficial water uses.

7.2.2 Management Objectives: Clark Fork Basin – Headwaters to Idaho Border

- Reduce and manage the concentration of nutrients in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage the concentration of heavy metals in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage the loading and concentration of sediment in Clark Fork River Basin to achieve and maintain water quality standards.
- Reduce and manage thermal loading in Clark Fork River Basin to achieve and maintain water quality standards.
- Minimize impacts of hydroelectric facility operations on all designated beneficial water uses.

7.2.3 Development of Clark Fork Basin Management Actions for Montana

Montana DEQ used a "Focus Group Approach" to assist agency staff in identifying management actions that would be both relevant and appropriate as ways to mitigate point or nonpoint sources of pollution. Two, all-day meetings were held on February 1 and 2, 2006; Noxon, Montana on February 1 and Missoula, Montana on February 2. MDEQ, with the assistance of the Council's Basin Management Plan Steering Committee, developed an invitation list that included a cross section of stakeholder interests in the basin. Invitations were sent to resource professionals from federal and state agencies, local and regional governments, water quality managers, watershed groups, industry, and individual citizens with interest and knowledge in water quality-related issues in the basin. Forty-six invitations were sent out and a total of 18 individuals from 14 agencies, governments, or organizations attended (Table 11). Additionally, three private environmental consultants attended and participated in the Missoula meeting.

Focus groups were facilitated by technical staff from Watershed Protection Section of DEQ's Water Quality Planning Bureau. Discussions were focused around the core management objectives stated in section 7.2.2; however any and all issues relating to water quality were open for discussion. All issues and action ideas discussed were recorded on flip charts and later transferred to electronic media. The results of these meetings were distilled into issue areas and from these a set of recommended management actions was developed by Program Managers in the Water Quality Planning Bureau. Management actions are presented in Section 7.2.7.

Table 11. Montana Focus Group Invited and Actual Participants **– participants are bolded**

Alliance For The Wild Rockies	Kootenai National Forest
American Wildlands	Lolo National Forest
Avista Corp.	**Lower Clark Fork Watershed Group**
Beaverhead-Deerlodge National Forest	Mineral County Conservation District
Bitterroot Conservation District	Mineral County Watershed Group
Bitterroot National Forest	**Missoula City-County Health Dept.**
Blackfoot Challenge	Missoula County Conservation District
Bureau of Land Management, Missoula Field Office	**Montana Audubon Society**
Butte-Silver Bow Metro Sewer District	Montana Dept. Fish, Wildlife, & Parks, Region 3
Cabinet Resource Group	Montana Dept. Fish, Wildlife, & Parks, Region 2
City of Deer Lodge	**Montana Dept. of Natural Resources & Conservation**
City of Missoula	Montana Environmental Information Center
Clark Fork Coalition	Montana Farm Bureau
Confederated Salish & Kootenai Tribes	Montana Forest Owners Association
Deer Lodge Valley / N. Powell Conservation District & Watershed Coalition of the Upper Clark Fork	**Montana Logging Association**
East Sanders County Conservation District	Montana Rail Link, Inc.
Ecology Center	Montana Trout Unlimited
Federal Highway Administration	Montana Wood Products Association
Five Valleys Land Trust / Rock Creek Trust	**National Park Service – Grant-Kohrs Ranch**
Flathead Basin Commission	**PPL-Montana**
Friends of the Wild Swan	Rock Creek Alliance
Granite Conservation District	**Smurfit-Stone Container Corp**
Green Mountain Conservation District	United States Forest Service, Region 1

Note: Three environmental consulting firms were also represented and participated in the Missoula meeting.

The notable geographic exclusion to the Focus Group process was the Flathead Basin. Montana DEQ's watershed planning and protection activities in the Flathead are conducted in partnership with the Flathead Basin Commission (FBC), established in 1983, and made up of tribal, governmental, and citizen-appointed representatives. Montana DEQ works closely with the FBC and other basin entities, such as the Flathead Lake Biological Station and Flathead Lakers, to complete a host of water quality protection activities, including basin planning and watershed restoration projects. The Council acknowledges and defers to the FBC and Confederated Salish

& Kootenai Tribes for taking the lead cooperator or leadership roles, in conjunction with MDEQ, for water quality issues on their respective areas of interest or jurisdiction.

7.2.4 Montana DEQ Water Quality Program Overview

Montana DEQ implements both statewide and targeted monitoring strategies for assessing water quality. These monitoring designs support the development of the state's Integrated (Water Quality) Report as directed by the federal Clean Water Act. The Integrated Report, which combines the 303(d) List and 305(b) Report previously submitted to EPA under separate covers, is used to guide MDEQ in development of water quality restoration plans (WQRP) and total maximum daily loads (TMDL).

A water quality restoration plan provides a discussion of water quality standards relevant to water quality issues in the associated Planning Area, details concerning causes of impairment, detailed source assessments for identified pollutants, and an implementation plan that should lead to restored water quality and attainment of water quality standards. Water quality restoration plans, and associated TMDL, provide the mechanism for "watershed-based" planning.

A TMDL establishes the maximum load of a pollutant from both point and nonpoint sources in a watershed, while accounting for uncertainty and natural background levels, as appropriate. Point source effluent limits are also covered under Montana's Pollution Discharge Elimination System (MPDES) program, delegated to Montana DEQ by EPA Region 8. DEQ develops MPDES permits and certifies that they comply with established TMDLs and would not lead to exceedences in water quality standards.

Montana also maintains a Nonpoint Source Management Plan (NPS Plan). The NPS Plan is used to assist federal, state, and local authorities or land management agencies, private industry, and local interests in water quality issues for managing and mitigating of nonpoint source pollution. The NPS Plan addresses specific areas of human activities including forestry, agriculture, mining, land development, urban/suburban landscapes, and highways. The NPS Plan provides management prescriptions and Best Management Practices (BMP) for ways to mitigate nonpoint source pollution generation and/or delivery to waterbodies. The federal Clean Water Act requires state submittal and updates of their respective Nonpoint Source Management Plan every five years. Montana's present NPS Plan was submitted and approved in 2001.

Montana DEQ's water quality restoration plans are designed to be watershed based in nature, which by default can address and achieve watershed-scale goals and objectives. These plans encompass TMDLs, permitting, and implementation of NPS management strategies.

Montana DEQ's priority for development of water quality restoration plans, including all necessary TMDLs, is for those waterbodies identified on the state's 1996 List of Impaired Waters, or 303(d) List, by 2012.[14] Montana's 2006 Integrated Report will be used to refine

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[14] Montana Code Annotated 75-5-703(3).

previous impairment decisions, and upon EPA approval, will serve as the new primary baseline for TMDL development until 2012.[15]

7.2.5 Clark Fork River – Headwaters to the Flathead River

Nutrients
Will be managed and addressed via the WQRP and TMDL development and implementation process.

Metals
Will be managed and addressed via the WQRP and TMDL development and implementation process as well as state and federal superfund cleanup activities.

Sediment
Will be managed and addressed via the WQRP and TMDL development and implementation process.

Temperature
Will be managed and addressed via the WQRP and TMDL development and implementation process.

7.2.6 Clark Fork River – Flathead River to Idaho border

Nutrients
Will be managed and addressed via the WQRP and TMDL development and implementation process.

Metals
Will be managed and addressed via the WQRP and TMDL development and implementation process as well as state and federal superfund cleanup activities.

Sediment
Will be managed and addressed via the WQRP and TMDL development and implementation process.

Temperature
Will be managed and addressed via the WQRP and TMDL development and implementation process.

Total Dissolved Gas
Hydroelectric facility management is addressed primarily via the FERC licensing and in addition to the WQRP and TMDL development and implementation.

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[15] Per Settlement Agreement CV 97-35-M-DWM and Consent Decree CV-02-197-M-DWM in U.S. District Court, Missoula District filed October 4, 2004.

7.2.7 Management Actions – Clark Fork River in Montana

The management matrix in Table 12 outlines the State of Montana DEQ's priority management actions under the Clean Water Act for the Clark Fork River in Montana. While DEQ is the primary responsible party, it is important to note that a number of watershed groups and stakeholder partners work with the state to implement water quality improvements across the river basin.

Table 12. State of Montana's Priority Management Actions

Management Action	**Responsible Parties, Key Stakeholders**	**Expected Outcome**
Water Quality Restoration Plans (TMDLs)		
Develop and implement Water Quality Restoration Plans and necessary TMDLs for water quality limited waters	MDEQ, watershed groups	Attainment of water quality standards and support of beneficial uses
Provide guidance, via TMDL or "white paper" documents, regarding water quality issues that relate to urban & suburban development. Issues include: • Subdivision approval • Riparian setbacks • Septic impacts and/or requirements • Community wastewater incentives • Groundwater/surface water interactions • Linking growth plan to water quality standards • Storm water controls • Other BMPs associated with growth	MDEQ, Local governments, Non-governmental organizations (e.g. Tri-State Council)	Greater focus on, and use of, growth planning related to environmental impacts
Maintain VNRP Committee beyond VNRP agreement expiration in 2008	Tri-State Council	Ability to participate in basin nutrient and other water quality-related issues with respect to both point and non-point sources; maintenance of existing partnerships and knowledge base
Water Quality Monitoring		
Conduct water quality monitoring in Clark Fork River and tributaries	MDEQ & Tri-State Council	Continuation of on-going monitoring efforts that supports

		status and trends assessment of water quality and beneficial use support evaluations on key or targeted waters
Develop and implement a strategy for watershed-based monitoring, assessment, listing [303(d)], and management of surface water resources in Montana.	MDEQ	Improved integration of TMDL development for point and nonpoint sources, including implementation of watershed-based permitting
Develop a data sharing MOU with the CSKT for water quantity and quality-related data	MDEQ	Improved efficiencies in using scarce monitoring resources and improvements in decision-making resulting from increased data availability
Planning		
Implement the 2006 Non-point Source Management Plan	MDEQ	Greater consistency in managing nonpoint sources of pollution, improvements to impaired water quality, and protection of waterbodies that currently meet water quality standards
Maintain currency in Community Master Plans (municipalities) and County Comprehensive Plans (10-year maximum life cycles)	Local governments	Integrated planning with local and county governments
Standards		
Develop, and guide through rule making, numeric nutrient standards that apply to the Clark Fork Basin (contained within a state-wide approach)	MDEQ	Consistent water quality standards that apply equally to point and nonpoint sources; greater equity in setting TMDL allocations
Develop interpretation guidance for the state narrative water quality standards that are specific to biological beneficial uses (i.e. aquatic life and fisheries)	MDEQ	Interpretive guidance for narrative standards relating specifically to biologic beneficial uses that can be consistently applied in the TMDL process.
Education		
Implement public education programs regarding nonpoint source management, BMPs, etc.	MDEQ, basin stakeholders	Increased public awareness and knowledge regarding the impacts of human activities on water quality

7.3 CONFEDERATED SALISH & KOOTENAI TRIBES

Aquatic resource impairment on the Flathead Indian Reservation includes more traditional water quality impacts, including nutrients, sediment, temperature, and bacteriological loads. The Tribes also place emphasis on habitat impairment and flow modification impacts that, in some instances, severely limit the viability of native aquatic species. This perspective stems from the overlap of a 127,000-acre federal irrigation project on the reservation, the farm economy this has fostered, and the types of impacts associated with pervasive irrigated agriculture. Water quality and aquatic resource protection and restoration is distributed between several natural resource programs in the tribes, including the water quality program and the fish and wildlife programs.

The water quality program implements Clean Water Act Section 106 and 319 programs, as well as a wetlands conservation program. These programs focus on both point and nonpoint sources of pollution. Water quality management tiers from the Tribes Water Quality Standards and two key documents the Nonpoint Source Assessment and Management Plans and the 2002 Water Quality Assessment Report. The latter report is prepared as a 305(b) report, and identifies impaired waterbodies and sources and causes of impairment.

Monitoring and assessment effort is directed to maintain a subset of long-term, sampling stations where status and trends in water quality can be evaluated. Concurrent with this effort, the tribes complete one focused watershed assessment approximately every two years. These assessments include basin-scale synoptic water quality and discharge sampling, with the focus to allocate loads to specific sub-watersheds and land uses. Three focus studies have been completed and documented in watershed-scale reports – the Mission Watershed, the Little Bitterroot Watershed, and the Crow Watershed. These efforts provide direction for water quality management implementation efforts. To date, this work has includes irrigation return flow remediation, riparian buffer strips, and livestock fencing.

Fish and wildlife implementation efforts are conducted through hydropower mitigation programs and a natural resources damage settlement for injury to resources in Tribal aboriginal land in the upper Clark Fork drainage. These efforts have been extensive, and have improved designated uses along numerous stream reaches and wetland areas. Examples of the completed effort follow.

- The tribes retired livestock grazing from a 20,000-acre range unit with approximately 12 miles of river frontage in a bull trout conservation area.
- The tribes have purchased 16.5 miles of stream and river frontage and approximately 2,300 acres of adjacent riparian and wetland habitat in bull trout use waters.
- The tribes have completed flume, siphon and canal bypass projects to eliminate irrigation return flows at three sites.
- The tribes have purchased approximately 8,000 acres of land with interspersed wetlands to support wildlife habitat.
- The tribes have implemented extensive conservation measures, including riparian revegetation, fencing, road reclamation and removal and offsite watering.
- The tribes have completed several instream restoration projects to improve aquatic habitat and water quality condition.

All of these efforts are completed within the context of documents that identify goals and objectives to protect and restore water quality condition, to protect and restore riparian and wetlands habitat, to enhance the habitat conditions for native animal life, and to sustain tribal sovereignty and tribal ways of life by repurchasing reservation lands and creating suitable environments for use of the lands.

7.4 STATE OF IDAHO

7.4.1 Water Quality Goals

- Protect beneficial uses in the Clark Fork – Pend Oreille Basin

7.4.2 Water Quality Management Objectives

- Develop Total Maximum Daily Loads (TMDLs) and water quality improvement plans for impaired waterbodies to reduce pollutants of concern in the Lower Clark Fork River, Pend Oreille River, Lake Pend Oreille and their tributaries.
- Implement the Lake Pend Oreille Nearshore TMDL to reduce shoreline nutrient inputs into Lake Pend Oreille.
- Implement Clark Fork and Pend Oreille River TMDLs for sediment, temperature and other pollutant reductions.
- Reduce dissolved gas supersaturation created by the operation of hydroelectric dams on the Clark Fork and Pend Oreille Rivers.
- Continue monitoring deep-water nutrient and other pollutant levels to insure water quality in Lake Pend Oreille is not degraded.
- Review and update all TMDLs to ensure progress toward restoration of beneficial uses.
- Control water pollution from point source discharges to the Clark Fork and Pend Oreille Rivers.
- Reduce and manage Eurasian watermilfoil populations where they occur in the Pend Oreille and Clark Fork basins and take measures to prevent spreading milfoil into waters not currently infested.

Idaho DEQ implements basinwide and statewide planning with its integrated report and related data-gathering processes. This report helps DEQ set priorities and is the basis for writing water quality plans (TMDLs), which are subbasin-specific. TMDLs establish maximum loads for nonpoint and point sources of pollution. Point source effluent limitations are covered under the NPDES program, operated by EPA in Idaho. DEQ reviews these and other federal permits and certifies that they comply with TMDLs and do not violate water quality standards. Idaho's water basins each have a "basin advisory group" whose role is to advise DEQ on water quality objectives in that basin. Each basin also has several "watershed advisory groups" that are involved in the TMDL and implementation plan processes.

Completion of water quality plans for waterbodies listed in the Idaho DEQ’s 2002 Integrated Report as not fully supporting beneficial uses in the Clark Fork-Pend Oreille watershed is the top priority for Idaho over the next ten years. Idaho follows a court-ordered, state-wide schedule for completing TMDLs, and the Idaho portion of the Lower Clark Fork River basin as well as the Pend Oreille River TMDLs are scheduled for completion by the end of 2007. The implementation process begins in partnership with advisory groups following the completion of TMDLs.

Through on-going monitoring in the basin, other impairments may be identified and DEQ will develop new TMDLs as necessary. DEQ will also complete water quality plans for several tributaries to Lake Pend Oreille by 2007. Five-year reviews of existing TMDLs (and those completed within this time frame) will begin starting in 2009. Watershed TMDLs to be reviewed include Lake Pend Oreille, Priest River and their tributaries.

The water quality plans, their implementation and the five-year reviews are prepared by the Idaho DEQ in cooperation with established Watershed Advisory Groups and the Panhandle Basin Advisory Group. Advisory group members represent a broad range of stakeholders in the basin, typically including agriculture, mining, point source dischargers, forest products, local government, livestock, Tribal, water-based recreation, environmental interests and the land managing and regulatory agencies within a basin.

Temperature exceedences are by far the most numerous of water quality standard violations throughout the basin. In the main stem Clark Fork and Pend Oreille Rivers, total dissolved gas saturation levels exceed that water quality standard and active mitigation projects with hydropower operators in the basin are underway and will continue during this planning period.

Specific priority actions to address water quality concerns for each reach in Idaho are based upon known impairments and water quality improvement plans and implementation efforts will be further refined in coordination with subbasin watershed advisory groups. Over the next ten years, these activities will include:

7.4.3. Lower Clark Fork River (Idaho Reach from Montana border to Lake Pend Oreille)

Metals

Development and implementation of a Total Maximum Daily Load for metals below the Idaho/Montana border is a priority for this stretch. On-going monitoring of toxic metals below Cabinet Gorge Dam, including Cadmium, Arsenic, Lead, Copper and Zinc will track compliance with Idaho Water Quality Standards and will track progress towards achieving reductions in non-point source loads outlined in the TMDL to be completed in 2006. Sources of metals impairment are primarily from the Upper Clark Fork Superfund sites and other historic mining activities along the Clark Fork River.

Total Dissolved Gas (TDG)

On-going implementation of the Avista Clark Fork River settlement agreement between the utility, the State of Idaho and other stakeholders will occur for the life of the 45-year license, granted by the Federal Energy Regulatory Commission and certified as complying with Idaho Water Quality Standards in 2001. Specific water quality improvement priorities included in the agreement are the reduction of Total Dissolved Gas levels at Cabinet Gorge dam and the reduction of sediment levels and improvement of bull trout habitat throughout the Lower Clark Fork subbasin and Lake Pend Oreille.

Temperature
Excess temperatures in the Lower Clark Fork River and its tributaries are thought to contribute to loss of viability of native aquatic species, in particular bull trout. To address numerous exceedences of Idaho WQS for temperature, TMDLs for temperature have been developed for the entire watershed. Effective shade targets were established for all major tributaries to the Lower Clark Fork River based on the concept of maximum shading under potential natural vegetation equals natural background temperature levels. Therefore, targets were set to reach background shading levels in order to reduce stream temperatures; increasing shade levels, and reducing temperatures, on all Lower Clark Fork tributaries is a priority over the life of this plan.

Nutrients
With increasing development in the subbasin, continued monitoring for compliance with nutrient targets set in the Idaho-Montana border nutrient agreement is a priority. It is a priority to ensure that the Lower Clark Fork River and its tributaries in Idaho continue to meet Idaho WQS for nutrients.

Sediment
Excessive sediment is thought to impair aquatic life support beneficial uses in Lightning Creek and its tributaries. A TMDL and implementation plan will be completed, with a focus on reducing sediment contributions in the headwaters.

7.4.4 Lake Pend Oreille

Nutrients
The Lake Pend Oreille Nearshore TMDL (2004) includes an aggressive implementation plan, focusing on reducing and preventing nearshore phosphorus contributions to Lake Pend Oreille. The Tri-Sate Water Quality Council and its partners will continue a large-scale landowner and local user education effort, including implementation of the “Lake-A*-Syst” program which targets the reduction of individual property owner’s impacts on lake water quality. Extensive monitoring of nutrient levels in the lake will continue. Nutrient TMDLs and implementation efforts are also on going in Cocolalla Lake and Falls Creek.

Temperature
Many tributaries to Lake Pend Oreille are listed as temperature impaired and TMDLs and implementation plans will be developed to identify and target natural shade levels in order to fully support beneficial uses identified.

Sediment
Stakeholders in Idaho will continue to prioritize efforts to meet sediment reduction targets established in TMDLs (2001) in the Pack River, Caribou Creek, Chloride Creek, Cocolalla Creek, Fish Creek, Grouse Creek, Gold Creek, and Hoodoo Creek. DEQ will work with the watershed advisory group formed in 2005 to develop additional sediment TMDLs for tributaries to the Lake and Pend Oreille River.

7.4.5 Pend Oreille River

Nutrients

Large-scale development on and near the Pend Oreille River in Idaho is cause for concern with respect to water quality. The Pend Oreille River has not been identified as impaired by nutrients; however, baseline monitoring to accurately assess changes in water quality over time is necessary. Establishing baseline information on nutrient levels and protecting existing low levels is a priority in the Pend Oreille River mainstem.

Temperature

A joint Temperature TMDL to address temperature impairment in the mainstem will be completed by Idaho, Washington, the Kalispel Tribe and interested stakeholders by December 2007. Working with its watershed advisory group, Idaho will also complete TMDLs for temperature-impaired tributaries and establish targets for increasing shade and reducing solar load to protect beneficial uses.

Sediment

The Priest River, a major tributary to the Pend Oreille River, has a sediment TMDL in place and implementation efforts, as well as on-going assessment of tributary water quality will be a priority throughout the life of this plan. Through on going monitoring, if additional tributaries are identified as impaired by sediment, TMDLs will be completed.

7.4.6 Management Actions

The management matrix in Table 13 outlines the State of Idaho DEQ's priority management actions under the Clean Water Act for Lake Pend Oreille and Idaho's portion of the Clark Fork and Pend Oreille Rivers. While DEQ is the primary responsible party, it is important to note that a number of watershed groups and stakeholder partners work with the state to implement water quality improvements across the Pend Oreille basin.

Table 13. State of Idaho's Priority Management Actions

Management Action	Responsible Parties, Key Stakeholders	Expected Outcome
Water Quality Improvement Projects (TMDLs)		
Implement nutrient reduction water quality improvement projects and education campaign to meet Lake Pend Oreille Nearshore TMDL goals	IDEQ, Tri-State Council, IDL, Bonner County, Soil and Water Conservation Districts, ID Transportation Dept.	Reduce nutrient loading to Lake Pend Oreille
Form Watershed Advisory Groups (WAG), complete and implement TMDLs on all 303(d) listed waters in the Clark Fork - Pend Oreille watershed in Idaho	IDEQ, IDL, Soil and Water Conservation District, Bonner County, WAG members	Water quality in tributaries meeting relevant water quality criteria

Complete 5-year reviews of TMDLs and implementation progress with WAGs	IDEQ, WAG members	Water quality in tributaries meeting relevant water quality criteria
Water Quality Monitoring		
Implement trophic monitoring program on Lake Pend Oreille at representative nearshore and open water sites	IDEQ, Tri-State Council, others	Monitoring overall water quality in Lake Pend Oreille and progress towards TMDL goals
Monitor toxic metal levels in the Lower Clark Fork River and Lake Pend Oreille in Idaho	IDEQ	Monitoring overall water quality and progress towards meeting metals TMDL targets
Collect water quality monitoring data throughout the Clark Fork-Pend Oreille watershed where such information is lacking	IDEQ	Increased understanding of water quality conditions and trends in Idaho portion of basin
Point sources		
Certify the re-issuance of wastewater discharge permits (NPDES) discharging into the Clark Fork and Pend Oreille Rivers	IDEQ	Water Quality meets standards in the Clark Fork and Pend Oreille Rivers
Eurasian Milfoil		
Reduce Eurasian water milfoil spread where it exists in the Clark Fork Pend Oreille basin and prevent the spread to areas not already impacted	Bonner and Kootenai Counties, Idaho Department of Agriculture, IDEQ, others	Prevent spread of milfoil; promote control in local areas

7.5 STATE OF WASHINGTON

7.5.1 Management Goal: Restore and protect designated beneficial water uses basin-wide

7.5.2 Management Objectives: Pend Oreille River -- Idaho/Washington State Line to the International Border

To meet water quality standards and protect beneficial uses:

- Reduce and manage Eurasian watermilfoil populations where they occur in the Pend Oreille River Basin and take measures to prevent spreading milfoil into waters not currently infested.
- Reduce and/or maintain water temperatures throughout the Pend Oreille River Basin.

- Reduce dissolved gas supersaturation created by the operation of hydroelectric dams on the Pend Oreille River.
- Manage sediment inputs to surface waters in the Pend Oreille River Basin.
- Avoid contaminating water with excess nutrients, metals and toxic substances.
- Prevent potential water pollution from active and abandoned mines and mills throughout the Pend Oreille River Basin, and from point source discharges to the Pend Oreille River and Sullivan Creek.

7.5.3 Reason for Objectives

The state of Washington's water quality standards are written to protect native fish and aquatic habitats, good quality water supplies, recreation, and other beneficial uses of the state's waters. The management objectives listed above focus on improving water quality where standards are either not being met or beneficial uses are being harmed. Protecting the current good to excellent water quality found in many areas of the watershed is another emphasis.

Washington Dept. of Ecology maintains a statewide ambient monitoring network, mostly on the state's major rivers and their larger tributaries. As part of this network, Ecology has established two long term monitoring stations on the Pend Oreille River, one at Newport on the Washington/Idaho state line and the other at Metaline Falls, approximately 10 miles south of the British Columbia border. Water quality samples are taken monthly at both stations. The Newport station has been monitored continuously since 1978; Metaline Falls was monitored in 1994/1995 and again from 1998- present. The Metaline Falls station serves as the downstream end of the Council's basin-wide monitoring network.

Overall water quality at both stations meets or exceeds expectations based on water quality index scores computed for 1992-2004 at Newport and 1994-2004 at Metaline Falls. However, although overall water quality in the river is good, several individual constituents either don't always meet the state's numeric water quality standards or, in cases where numeric standards haven't been adopted, are sometimes outside the norm expected for the region. For example, mid-to-late summer water temperatures are chronically higher than the state's criterion of 20^{O} C or lower. Suspended solids and turbidity levels are also occasionally a bit high, in the moderate quality range, especially during spring runoff.

High temperatures have also been noted in several tributaries to the Pend Oreille River, as measured under monitoring programs conducted by the Kalispel Tribe, the Colville National Forest, the Pend Oreille Conservation District and others. In addition, during the spring freshet total dissolved gas saturation (TDG) is often significantly higher than the state's standard of 110%. TDG is measured at monitoring stations operated by the Army Corps of Engineers at Albeni Falls dam (in Idaho immediately upstream of the border), by the Pend Oreille PUD at Box Canyon dam, and by Seattle City Light at Boundary Dam.

Ecology is currently working collaboratively with Idaho DEQ, EPA, the Kalispel Tribe, the Council and others, on water quality improvement projects (TMDLs) for temperature and total dissolved gas pressure in the Pend Oreille River. In addition, Ecology and the Colville National Forest have almost completed a TMDL for temperature and other constituents on tributary streams where they flow across federal forestlands. TMDLs to cover other significant infractions of the state's standards in the Pend Oreille watershed will be scheduled and completed by 2013.

Other management objectives for this part of the Clark Fork Pend Oreille Basin include keeping sediment inputs to the Pend Oreille River and its tributaries, as well as erosion along the river's banks, within normally expected ranges. Bank erosion along the Pend Oreille River, in particular, has been a continuing concern. In addition, the lush growth of Eurasian watermilfoil and other non-native aquatic weeds found in relatively shallow and slow-moving areas, mainly along the river's edge, needs to be curtailed to the extent possible. Dense growth of milfoil not only interferes with recreation; it also degrades habitat for trout and other native fish and displaces native aquatic plant populations.

7.5.4 Management Matrix

The management matrix, shown in Table 14, for the Pend Oreille River segment of the Clark Fork-Pend Oreille Basin Plan was adapted in large part from the Pend Oreille Watershed Management Plan (May 2005), prepared by Golder Associates for the Water Resource Inventory Area (WRIA) 62 Watershed Planning Unit, and approved by the Commissioners of Pend Oreille County, Washington. This plan applies to the portion of the Pend Oreille River watershed in Washington State waters.

The WRIA 62 Watershed Planning Unit included representatives from the Pend Oreille Conservation District; city, county, state and federal agencies; the Kalispel Tribe; mining, private timber, dam operators and other business interests in the watershed; environmental organizations; and private citizens. The watershed management plan was developed in accordance with Phase III of Watershed Planning, as defined by Washington's Watershed Management Act (Chapter 90.82 RCW). Before the County Commissioners adopted the plan, it was sent out for public review and comment and two public hearings were held. In addition, numerous public outreach activities were conducted during the time the plan was being developed.

The WRIA 62 Watershed Management Plan focused on three major water resources issues: water quantity, water quality and habitat. The management matrix shown in Table 14 for the Pend Oreille River segment of the three-state basin incorporates many of the water quality-related recommendations from the WRIA 62 plan (Tables 3-2, 3-3, and 3-5 in the Executive Summary of the Pend Oreille Watershed Management Plan). Several additional management actions have been added to reflect other Ecology priorities, especially those related to permitting point source dischargers and cleaning up old industrial sites.

Table 14. State of Washington's Priority Management Actions

Management Action	**Responsible Parties, Key Stakeholders**	**Expected Outcome**
Eurasian Milfoil		
Convene an aquatic plant management group to identify and agree upon actions to reduce Eurasian watermilfoil and other noxious aquatic weeds in the Pend Oreille watershed	Pend Oreille County Weed Board, Pend Oreille Watershed Implementation Team (2514), Pend Oreille PUD	Keep milfoil and other noxious weeds at manageable levels in the Pend Oreille River; prevent spread to uninfected lakes
Establish and implement an aquatic weed public outreach and education program	Pend Oreille County Weed Board, Pend Oreille Public Works	Prevent spread of milfoil; promote control in local areas; establish a "Milfoil Day"
Water Quality Improvements Projects (TMDLs)		
Prepare and implement a detailed implementation plan for stream segments in Pend Oreille County covered by the Colville National Forest TMDL (for temperature, pH and bacteria), including effectiveness monitoring	Ecology, Colville National Forest, assisted by Kalispel Tribe, Pend Oreille Conservation District	Water quality meeting Washington standards on federal forest lands
Complete TMDLs, develop and implement detailed implementation plans, and conduct follow-up effectiveness monitoring for temperature and total dissolved gas pressure in the Pend Oreille River	Ecology, IDEQ, Kalispel Tribe, EPA assisted by Tri-State Council, Pend Oreille PUD, Seattle City Light, Corps of Engineers, Watershed Implementation Team	Water quality meeting standards for the Pend Oreille River
Schedule, complete and implement TMDLs for all other 303(d) listed waters in the Pend Oreille watershed in Washington	Ecology, Kalispel Tribe, POCD, Watershed Implementation Team	Water quality in tributaries meeting relevant water quality criteria
Pursue funding to implement water quality improvement strategies developed as part of TMDLs for tributary streams	POCD, Watershed Implementation Team	Water quality in tributaries meeting relevant water quality criteria
Update Washington's list of impaired waters in the Pend Oreille watershed every two years, or at other intervals specified by EPA	Ecology, EPA	Up-to-date listing of present knowledge of where water quality problems occur in watershed

Water Quality Monitoring		
Collect water quality monitoring data on streams in the Pend Oreille watershed where such information is lacking	Ecology, Kalispel Tribe, USFS, POCD	Increased understanding of water quality conditions; establish baseline data.
Continue ambient monitoring at Newport and Metaline Falls, as part of existing Tri-State monitoring network	Ecology, Tri-State Council	Increased understanding of water quality conditions and trends in Washington portion of basin
Implement the water quality monitoring plan developed in the *Pend Oreille WRIA 62 Phase II, Level 2 Assessment*	Watershed Implementation Team (2514), Ecology, POCD	Increased understanding of water quality conditions in the Washington portion of basin; establish baseline data.
Seek funding to pay for water quality monitoring in streams where data is lacking and needed	Watershed Implementation Team, POCD	More comprehensive long-term monitoring network; increased understanding of water quality conditions in the Washington portion of basin
Shorelines and Riparian Areas		
Update the Pend Oreille County Shoreline Master Program by 2012 or earlier, and consider adopting other regulations to help avoid water quality degradation caused by population growth	Pend Oreille County	Prevent water quality problems that could result from development near water
Review shoreline development plans and make recommendations to Pend Oreille County on measures to protect water quality and mitigate bank erosion	Watershed Implementation Team	Improved water quality and shoreline stability
Work with landowners and land management agencies to protect or repair riparian areas and improve stream crossing structures along tributary streams in the Pend Oreille watershed, especially those affected by livestock grazing, rural development, forestry and roads	Pend Oreille Conservation District, NRCS, USFS, DNR, Pend Oreille County, WSDOT, Ecology, Watershed Implementation Team, Kalispel Tribe	Improve fisheries and wildlife habitat and water quality in tributaries and riparian corridors
Develop a scope of work for a technical study to identify the causes of bank erosion along the Pend Oreille River and its tributaries in Washington	Watershed Implementation Team, Box Canyon Technical Committee	Increased understanding of natural and human-caused erosion
Develop and implement a public education program focused on improving understanding of bank	Watershed Implementation Team	Increased understanding of natural and human-caused erosion

erosion and its causes along the Pend Oreille River and its tributaries		
Compile a list of bank stabilization strategies and assist landowners with implementation	Watershed Implementation Team	Landowner access to approved streambank protection strategies
Drinking Water		
Continue on-going efforts to improve drinking water quality where needed in the Pend Oreille River watershed	WDOH, NE Tri-County Health District, with support from Watershed Implementation Team	High quality drinking water for watershed residents
Identify water systems that don't have wellhead protection plans, and encourage them to develop and implement such plans	WDOH, NETC Health, with support from Watershed Implementation Team	Protection of drinking water and groundwater
Consider including Group A and Group B public water system wellheads in county critical area ordinance	Pend Oreille County, with support from Watershed Implementation Team	Protection of drinking water and groundwater
Point Sources		
Reissue wastewater discharge permits (NPDES) every five years- facilities currently discharging to the Pend Oreille River include Ponderay Newsprint; the Pend Oreille Mine; and publicly owned treatment works at Newport, Metaline, Metaline Falls, Ione and the Selkirk High School	Ecology	Water quality meeting standards for the Pend Oreille River
Finish environmental clean-up of the Lehigh cement plant site in Metaline Falls and issue an NPDES permit for the discharge	Ecology	Prevent possible contamination of Sullivan Creek and clean-up surface and groundwater on site
Clean-up other abandoned mines and mills in the watershed that have the potential to contaminate streams or groundwater	Ecology	Reduced chance of water pollution at scattered sites throughout the watershed

7.6 KALISPEL TRIBE

Kalispel Ceded Lands, the area historically inhabited by the Kalispels, lie within the lower Clark Fork/Pend Oreille watershed and range along the Clark Fork and Pend Oreille Rivers from western Montana west and north to the Washington /British Columbia border. The Kalispel Indian Reservation occupies roughly 4,600 acres along the Pend Oreille River in Washington. The Kalispel Tribe approaches aquatic resources management over this diverse landscape from a watershed perspective, that is, water quality and aquatic habitat are treated as functions of overall watershed condition.

The Kalispel Tribal Business Committee has directed the Kalispel Natural Resources Department (KNRD) to expand resource management and planning efforts across Kalispel Ceded Lands. Ceded lands are those judged by the federal government to have been transferred from Indian to non-tribal ownership. The KNRD is now actively involved in management and planning processes across this geographic area. Environmental issues on and near the Kalispel Indian Reservation receive highest priority but environmental and human health risks throughout Kalispel Ceded Lands are within the purview of the department.

The Kalispel people are historically dependent on water for transportation, commerce, ceremonial uses, and food source (Fahey, 1986). Numerous changes and modifications to aquatic resources have altered the way waters are used and depended on. Large hydroelectric dams impound water, reduce velocity, exacerbate elevated summertime water temperatures, and create disconnected aquatic habitats ill suited to native species. Changes in land use affect runoff patterns and contribute non-point source pollutants reaching surface waters.

The mission of the Watersheds and Environmental Program of the KNRD is to preserve, protect, and, where appropriate, restore aquatic resources in an effort to ensure water of sufficient quantity and adequate quality for all existing and future Tribal water uses. This is accomplished through assessment of current aquatic resources, trends in water quality, and causes and remedial actions for declining water quality and health of aquatic systems.

The KNRD assess water quality and watershed condition via physical, chemical and biological parameters. Physical parameters include streamflow and geomorphic parameters of selected tributaries. Standard chemical parameters (pH, conductivity, dissolved oxygen, temperature) are also monitored regularly in tributaries. Biological sampling includes regular bacteriological analysis and seasonal macroinvertebrate surveys. Macroinvertebrate community composition can be used as a site-specific indicator of aquatic habitat quality. The Pend Oreille River is monitored for dissolved and total recoverable metals, nutrients, and bacteria. All monitoring is conducted monthly except during peak spring runoff when monitoring frequencies are doubled.

Currently approximately 60 sites are monitored biweekly in the lower Pend Oreille and Priest drainages. All sites have continuous temperature recorders, twelve have continuous flow recorders, and three two continuous water quality recorders. Data is used to assess watershed health, determine compliance with applicable regulations, identify restoration potential, and determine trends associated with land use and best management practices. These factors are compiled and reported annually in a Water Quality Assessment Report, styled after 305(b) reports.

The watershed approach to water quality management also entails coordination with other entities managing and affecting water quality, including non-tribal government agencies, utilities, corporations, other private parties, environmental organizations and the general public. Cooperative mechanisms and co-management are strongly emphasized, to maximize available resources and eliminate duplication of effort resulting in responsible use of and planning for aquatic resources.

The Watersheds and Environmental Program will conduct aquatic resources assessments within Kalispel Ceded Lands to determine current aquatic ecosystem and habitat health and integrity. The Program will make efforts to protect and sustain healthy aquatic resources. The Program will determine if restoration of degraded aquatic systems is feasible using criteria described earlier:

- Can the resource be rehabilitated?
- Can the restoration effort be maintained?
- Will the restoration support a healthy functional intact native ecosystem?
- What means and level of effort will be necessary to re-establish a native intact habitat?
- Is there opportunity to proceed with a proposed measure?
- Will restoration efforts be cost effective?

7.6.1. Goals, Objectives and Recommended Actions

The Watersheds and Environmental Program will continue to actively seek funding, partnerships, and other resources to maintain and improve the Tribe's role in maintaining and protecting aquatic resources in Kalispel Ceded Lands. This includes formal and informal partnerships with government agencies, environmental groups, and watershed planning forums. The mission of preserving, protecting, and, where appropriate, restoring aquatic resources is accomplished through a series of goals, objectives, strategies, and recommended actions as described below. These goals, objectives, and strategies guide the Watersheds and Environmental Program and provide the framework for developing and implementing management plans.

GOAL 1. Protect, maintain, and enhance water quality in water bodies throughout Kalispel Ceded Lands.
Objective 1. Assess water quality in Reservation waters, waters of the lower Pend Oreille, and Ceded Lands.
  Strategy 1. Compile and review existing water quality data for waters of the Kalispel Indian Reservation and Ceded Lands.
  Strategy 2. Address data gaps through monitoring of Reservation and Ceded Lands using physical, chemical, and biological assessments.
  Strategy 3. Encourage additional monitoring by other qualified groups within Ceded Lands.
  Strategy 4. Establish and maintain monitoring protocol, data quality control, management, and retrieval systems.
  Strategy 5. Collect and maintain data of sufficient quality for use by other organizations (e.g. States of Idaho and Washington, Environmental Protection Agency, STORET).
  Strategy 5. Establish a web-based interactive GIS watershed atlas for Ceded Lands.
  Strategy 6. Identify priority water quality constituents and water bodies for protection and restoration.
  Strategy 7. Implement water quality improvement opportunities identified by monitoring and by other means.

Strategy 8. Implement bio-monitoring of water quality.

Objective 2. Maintain a water quality standards program for waters of the Kalispel Indian Reservation.

Strategy 1. Maintain U.S. Environmental Protection Agency approved and tribally adopted water quality standards.

Strategy 2. Update standards as necessary and as required by federal law.

Strategy 3. Implement tribally adopted water quality standards by tribal ordinance.

Strategy 4. Identify impaired waters and causes of impairments.

Strategy 5. Address impairments through Total Maximum Daily Loads, Best Management Practices, cooperative measures, education, and any other available means.

Strategy 6. Evaluate effectiveness of remedial measures and adapt management to evaluation results.

Objective 3. Address protection of aquatic resources goals in holistic and sustainable manner.

Strategy 1. Evaluate data for opportunities to implement water quality and quantity improvements.

Strategy 2. Implement identified improvements through departmental criteria and following goals described below.

GOAL 2. Maintain Watersheds and Environmental Program staff and funding necessary to uphold and further tribal, departmental, and program goals and objectives.

Objective 1. Identify and support dynamic programmatic needs.

Strategy 1. Identify funding and other resources necessary to implement Watersheds and Environmental components of Fish and Wildlife Management Plan.

Strategy 2. Update program capacity periodically to accommodate completed and developing tasks.

Objective 2. Maintain funding levels necessary to accomplish these and subsequent goals and objectives.

Strategy 1. Maintain current levels of funding through responsible use of grant monies and attendant reporting.

Strategy 2. Seek out additional funding opportunities appropriate to the program.

Objective 3. Maintain a well-trained staff.

Strategy 1. Identify and pursue training necessary to provide quality products from program staff.

Strategy 2. Maintain vision and understanding of tribal, departmental, and program mission and goals sufficient to expand program appropriately.

Strategy 3. Pursue additional training to maintain expanded programs.

GOAL 3. Address hydrologic connectivity and alteration due to hydroelectric impoundments. Large dams on mainstem Clark Fork and Pend Oreille Rivers and on major tributaries can result in loss of habitat connectivity, exacerbate elevated summer water temperatures, and produce toxic levels of total dissolved gas.

Objective 1. Identify hydrologic alteration due to hydroelectric impoundments in lower Clark Fork and Pend Oreille River basins

Strategy 1. Identify large hydrologic alterations and effects on aquatic resources that are unlikely to be remedied in the near term.

Strategy 2. Compile and maintain data and reports from Avista Corporation (formerly Washington Water Power) relicensing on lower Clark Fork projects.
Strategy 3. Follow development and implementation of mitigative measures under Avista license conditions for lower Clark Fork dams.
Strategy 4. Compile and maintain data and reports from Pend Oreille Public Utility District relicensing of Box Canyon Dam.
Strategy 5. Participate in development and implementation of mitigative measures for addressing aquatic resources impacts of Box Canyon Dam.
Strategy 6. Compile and maintain data and reports from Seattle City Light relicensing of Boundary Dam.
Strategy 7. Follow development and implementation of mitigative measures under Seattle City Light license conditions for Boundary Dam.
Strategy 8. Follow development and implementation of VARQ by the U.S. Army Corps of Engineers and U.S. Bureau of Reclamation.

Objective 2. Identify other hydrologic impacts to waters of the Kalispel Indian Reservation and Ceded Lands.

Strategy 1. Identify diking systems in the Lower Pend Oreille River.
Strategy 2. Assess impacts of these dikes to floodplain function and hydrologic continuity

Objective 3. Identify unaltered watersheds and baseline conditions and characterize natural hydrologic processes including snowfall, snowmelt, spring precipitation, and unaltered hydrographs.

Strategy 1. Map relatively unimpacted watersheds.
Strategy 2. Compile existing hydrologic and meteorological data.
Strategy 3. Estimate hydrographs of impacted rivers in the unimpacted state.
Strategy 4. Identify sources of degradation in impacted watersheds.
Strategy 5. Quantify or estimate effects of differences in impacted and unimpacted hydrologic conditions.

Objective 4. Ensure detrimental changes to hydrologic condition are addressed in a responsible and sustainable manner.

Strategy 1. Participate in forums and processes addressing impacts and development of ameliorative measures.
Strategy 2. Employ water body and watershed management and other measures to offset impacts of hydroelectric projects.

GOAL 4. Address land uses impacting aquatic resources.

Objective 1. Monitor land use development in lower Pend Oreille River basin

Strategy 1. Review Pend Oreille County development applications.
Strategy 2. Maintain communication with federal, state, and local regulators regarding current and pending land use practices
Strategy 3. Work with above to assure compliance with applicable regulations
Strategy 4. Participate in restorative measures including development of Total Maximum Daily Loads (TMDL), implementation of Best Management Practices (BMP's), and other cooperative measures taken to address water quality impairment.
Strategy 5. Work with applicants to address impacts not sufficiently addressed in regulations.

Strategy 6. Support collaborative efforts by local watershed groups to accomplish site-specific protection and restoration activities by implementing existing regulations and BMP's.

Strategy 7. Consider incentives programs for protection and restoration of aquatic resources.

Strategy 8. Consider preserving functioning aquatic systems through purchase and easements.

Objective 2. Monitor regional Clark Fork/Pend Oreille land use issues.

Strategy 1. Identify forums to maintain knowledge of current and proposed land use practices potentially affecting waters of Ceded Lands.

Strategy 2. Coordinate with agencies, landowners, environmental groups, and other tribes to implement watershed and water quality management in the Clark Fork/Pend Oreille basin.

Objective 3. Participate in forest practices issues in Ceded Lands.

Strategy 1. Monitor effectiveness of Washington Forest Practices Act.

Strategy 2. Coordinate with Washington Department of Natural Resources and Idaho Department of Lands regarding state and private timber harvest.

Strategy 3. Coordinate with U.S. Forest Service regarding federal timber sales and project areas.

Strategy 4. Participate in development of adaptive management protocol and measures addressing timber harvest in Ceded Lands.

Strategy 5. Monitor effectiveness of forest road construction and maintenance practices in reducing and minimizing impacts to aquatic and riparian resources.

Strategy 6. Reduce impacts of grazing to aquatic resources on state and federal land.

GOAL 5. Participate in water resources management plan development and implementation throughout Ceded Lands.

Objective 1. Maintain membership on applicable groups and forums developing aquatic resource use plans.

Strategy 1. Monitor development of water resources management plans in Kalispel Ceded Lands.

Strategy 2. Participate in development of these plans where appropriate.

GOAL 6. Provide aquatic conditions supporting cultural uses

Objective 1. Tailor Watershed/Water Quality Program to meet Tribal needs.

Strategy 1. Maintain and restore the physical, chemical, and biological integrity of waters in Ceded Lands.

Strategy 2. Apply Clean Water Act and Tribal Water Quality Standards.

Strategy 3. Provide for water quality and quantity that supports optimum levels of fish and wildlife.

Strategy 5. Identify cultural factors for incorporation into cultural water quality criteria for full use attainment.

Strategy 4. Promote coordination among federal, state, local, and tribal entities to achieve system-wide responsible and sustainable management.

Strategy 5. Ensure water quality and quantity is sufficient to meet human health and ecological needs and meets applicable State and Tribal water quality standards.

GOAL 7. Provide public outreach and education.

Objective 1. Impress upon Community and general public the importance of healthy aquatic systems to long term community wellness.

- Strategy 1. Maintain and develop educational capacity of KNRD.
- Strategy 2. Continue to nurture relationships with other organizations providing education and outreach in the lower Pend Oreille.
- Strategy 3. Educate watershed stakeholders on the need for action on water quality and quantity issues throughout Ceded Lands.

Objective 2. Develop education component of KNRD

- Strategy 1. Provide staff necessary training.
- Strategy 2. Procure additional appropriate funding to support expanded capacity.

Summary

Through this cooperative, watershed approach, the Kalispel Tribe intends to accomplish the program and departmental mission statements. This effort is accomplished over time with a variety of sustained and project-level funding, a dynamic staff, and encouragement of responsible land and aquatic stewardship. The goals and strategies laid out in this section are also dynamic and will require review and revision on a regular basis. The overall mission and initial goal, however, remain the basis of the program.

7.6.2 Management Actions

The management matrix in Table 15 outlines the Kalispel Tribe's priority management actions for the portion of the Pend Oreille River and its tributaries within Kalispel Ceded Lands

Table 15. Kalispel Tribe's Priority Management Actions

Management Action	Responsible Parties	Expected Outcome
Water Quality Monitoring		
Compile existing data, address data gaps, and collect data of sound quality	KNRD, USFS, Ecology, IDEQ, Conservation Districts	Complete data set, web-based interactive watershed atlas
Water Quality Standards		
Maintain water quality standards program	KNRD, EPA, Ecology, IDEQ	Protection of beneficial uses and development of clean up and management plans
Hydrologic Connectivity		
Address hydrologic connectivity throughout Ceded Lands	Utilities, USACE, Reclamation, FERC, Diking Districts	Restored or mitigated flow regimes, floodplain connectivity

Land Use		
Monitor land use affecting aquatic resources	Municipalities, Counties, States	Effect responsible and collaborative protection of aquatic resources
Cultural Uses		
Support cultural uses of aquatic systems	KNRD	Water quality and quantity supporting optimum levels of fish, wildlife, and human health
Education		
Provide outreach and education	KNRD, Conservation Districts, TSWQC	Foster environmental stewardship in upcoming generations
Unaltered Areas		
Identify unaltered areas providing baseline conditions	KNRD, State and Federal Agencies	Characterization of unaltered hydrologic, physical, and chemical conditions
Restoration Projects		
Identify and implement restoration projects	KNRD, State and Federal Agencies, Conservation Districts	Improved aquatic conditions, management plan compliance

Section 8: Taking the Next Steps: Recommended Priorities for Tri-State Water Quality Council Action

On April 26th, 2006 the Council held a workshop in Paradise, Montana to identify the organization's roles and major actions for improving water quality in the Clark Fork-Pend Oreille basin through 2017. The goal of the workshop was to review the management actions that the states and tribes intend to implement, or encourage implementation of, over the next ten years and to prioritize which of those actions—along with any additional measures—would be appropriate and effective for the Council to undertake with its diverse group of stakeholders.

Participants in the daylong, facilitated workshop included eighteen Council members and three Council staff. The process began with an overview of work accomplished to date and the roles that the Council has played in watershed management. Participants then reviewed the proposed action items developed by the states and tribes (actions listed in Section 7), and engaged in group discussion and decision about the roles the Council is best suited to fill over the next ten years. Lastly, participants developed and voted on a list of action items from the states' and tribes' objectives plus additional actions that could be taken; the results of the voting—when considered along with the Council's roles—were used to form the foundation of the Council's key activities over the next decade.

To summarize conclusions from the workshop, Council members agreed that during the next decade the organization would (1) increase its work in the policy arena—focusing on impacts to water quality from growth and development across the basin; (2) maintain basin wide water quality monitoring, Clark Fork River VNRP and Pend Oreille lake and river TMDL implementation programs; and (3) decrease participation in TMDL development and stream restoration projects.

8.1 Council's Role

Participants in the workshop agreed that as a diverse group of representatives taking a big picture approach across the three-state basin, the Council plays a key role in water quality protection and improvement. It was agreed that the group's strength is its ability to bring people together to get things accomplished, and to provide scientifically sound data for others to make defensible decisions to benefit water quality. The three states and tribal representatives all noted that the Council is important to their work in completing TMDLs, bringing stakeholders and resources to the table, educating the public about key issues, and providing credible monitoring data. It was agreed the Council should continue to do what it does best and use the credibility that has been established over the past decade to help agencies and communities address continuing and upcoming water quality issues in the watershed.

Recognizing the expanding challenges for water quality protection and the organizational resources that will be necessary to adequately address those challenges, participants prioritized four key roles for the Council to play in the upcoming decade. These roles will be to:

- Form and facilitate partnerships
- Be a policy initiator
- Conduct water quality monitoring to provide scientifically sound data
- Implement education programs.

8.2 Greatest Challenges Facing the Watershed

Participants were in agreement that while legacy issues still pose significant problems across the watershed, the greatest challenge facing the watershed is population growth and urban/suburban development. Population growth is affecting the majority of communities across the three-state basin, with many cities and counties experiencing growth and development at a rate double or more of the national trends. Water quality is threatened by a variety of activities that often escalate when growth and development are on the rise, including clearing of natural vegetation and riparian habitat, construction of roads, building on steep slopes or sensitive soils, diverting and ditching of floodplain water, filling of wetlands, and increasing densities of individual septic systems. Additional water quality concerns include potential impacts from the growing number of marinas, and the aggressive spread of Eurasian milfoil and other invasive aquatic species. These and other activities result in nutrient, sediment, and other pollutant loading into streams, rivers and lakes. Water quantity issues include challenges over ownership, water rights, impacts from climate change and over-allocated water supplies in streams and tributaries.

In light of the challenge of growth across the watershed and the Council's commitment to continuing its role in watershed-scale coordination, participants agreed that the Council is in a unique position to initiate dialog and encourage policy development to address growth-related water quality issues. For this approach to be successful, it will be critically important for the Council to continue working with existing partners and seek new partnerships across the basin.

8.3 Management Actions

The management matrix in Table 16 outlines the Council's priority management actions for the Clark Fork-Pend Oreille watershed for the next decade.

Table 16. Tri-State Water Quality Council's Priority Management Actions

Management Action	Role Fulfilled	Expected Outcome
Water Quality Monitoring Program		
Continue three-state water quality monitoring network	Monitoring/scientifically sound data	Continuation of on-going monitoring efforts to assess if water quality goals are being met; increased understanding of water quality conditions; assess trends in water quality across basin.

Facilitate monitoring committee	Forming/facilitating partnerships; monitoring/scientifically sound data	Continuation of on-going monitoring efforts to assess if water quality goals are being met; continuation of successful partnerships
Facilitate prioritization of water quality efforts using monitoring data and five year trends analysis	Monitoring/scientifically sound data	Areas targeted for water quality management actions based on science
Provide data and other information to state and local governments for development of policies to address impacts from development	Monitoring/scientifically sound data	Areas targeted for water quality management actions based on science; reduced impacts to water quality from growth and development
Explore options with agencies, point source dischargers and other stakeholder groups for coordinating and sharing water quality monitoring data	Monitoring/scientifically sound data; forming/ facilitating partnerships	Continuation of on-going monitoring efforts; partnerships formed to secure scientifically sound data
Distribute results of monitoring program and five year trends analysis to stakeholders and the general public	Education	Increased public awareness about water quality status and trends
Water Quality Protection Program		
Continue work of the VNRP committee with current focus on Clark Fork River, through 2008	Forming/facilitating partnerships	Forum provided for nutrient and other water quality-related issues to engage point and non-point sources in improvements to impaired sections of the Clark Fork River
Develop strategy for implementing an integrated point source/nonpoint source basin wide effort for post-2008 when VNRP expires	Forming/facilitating partnerships; policy initiator	Forum provided for nutrient and other water quality-related issues to engage point and non-point sources in improvements to impaired rivers and lakes in the three-state basin
Continue work of the Lake Pend Oreille Nearshore Committee to implement the nearshore TMDL	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.
Continue facilitation of TMDLs for the Pend Oreille River and participate in development of TMDL implementation plans	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.

Promote numeric nutrient criteria basin-wide	Policy initiator	Consistent water quality standards established that apply equally to point and nonpoint sources; greater equity in setting TMDL allocations.
Expand work with point source dischargers across the basin	Forming/facilitating partnerships	Point source stakeholders engaged in water quality planning and implementation; water quality meeting relevant standards
Work with EPA, states and dischargers to promote watershed-based permitting	Policy initiator; forming/facilitating partnerships	Improved integration of water quality planning and permit requirements.
Implement public awareness/education programs associated with the Lake Pend Oreille nearshore TMDL, and other key TMDLs as developed	Education	Increased community awareness about impacts to water quality; stakeholders and the public educated about their role and engaged in improving and protecting water quality
Participate as a stakeholder in development of TMDLs and TMDL implementation plans for key water bodies in the basin	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.
Seek partnerships with watershed groups to implement programs that help meet water quality goals in Montana, Idaho and Washington	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.
Implement, as appropriate, high priority on-the-ground restoration projects that advance overall water quality goals	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.
Growth and Development Policy		
Educate Council members and inform the public, state and local governments, elected officials, developers, building contractors, realtors, and lending institutions regarding potential impacts to water quality from development	Education; Forming/facilitating partnerships; Policy Initiator	Increased knowledge regarding impacts of development and pollution growth on water quality; increased understanding of potential impacts to water quality from other pollutants in addition to nutrients.

Develop partnerships with local governments (cities, counties) to help them address water quality impacts related to growth	Forming/facilitating partnerships; Policy initiator	Reduced impacts to water quality from growth and development.
Facilitate information exchange across jurisdictions, especially regarding current and pending land use practices	Education; Forming/facilitating partnerships; Policy initiator	Reduced impacts to water quality from growth and development.
Develop and promote adoption of state and local regulations and policies including model ordinances to avoid degradation of water quality due to growth and development	Forming/facilitating partnerships; Policy initiator	Reduced impacts to water quality from growth and development.
Provide guidance, references and technical assistance to local governments and developers to help them address point and non-point impacts related to development	Forming/facilitating partnerships; Education; Policy initiator	Reduced impacts to water quality from growth and development.
Explore forming a volunteer corps of retired professionals who could provide technical expertise to local governments and watershed organizations on issues related to development	Forming/facilitating partnerships; Education	Reduced impacts to water quality from growth and development.
Noxious Aquatic Species		
Facilitate partnerships to garner support for the use of non-chemical options to control Eurasian milfoil	Forming/facilitating partnerships	Reduce spread of milfoil in the basin through non-chemical methods and prevent spread to areas not already impacted.
Increase role in research and monitoring of non-chemical control measures for Eurasian milfoil	Policy initiator; Monitoring/scientifically sound data; Education	Reduce spread of milfoil in the basin through non-chemical methods and prevent spread to areas not already impacted.
Educate Council members and inform constituents about chemical and non-chemical control options and work with state and county decision makers to influence decisions regarding chemical and non-chemical treatments	Education	Increased awareness and knowledge about viable non-chemical methods for controlling Eurasian milfoil; increased use of non-chemical treatments
Track other invasive aquatic species concerns and evaluate level of Council participation in control and management efforts	Education; forming/facilitating partnerships	Increased awareness and knowledge regarding impacts and management of invasive aquatic species

Organizational Sustainability		
Research and apply for funding to ensure adequate staffing	Forming/facilitating partnerships	Funding secured for Council staffing; partnerships maintained
Research and apply for funding to implement programs	Forming/facilitating partnerships	Funding secured for Council programs; partnerships maintained
Research and apply for funding for capacity building	Forming/facilitating partnerships	Funding secured for organizational capacity building and continuation of positions as staff retire
Coordinate with other groups in the watershed to pursue funding for programs that meet common goals	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses.
Build a stable and diverse funding base that includes private, community, foundation, agency and congressional support	Forming/facilitating partnerships	Sustainability of Council programs established
Bring new member groups to the Council's table (especially more local governments, watershed groups and non-point source sector representatives)	Forming/facilitating partnerships	Healthy aquatic and riparian ecosystems that support all beneficial uses; new partnerships established
Develop succession plan for current members and ways to maintain historical perspective as members and staff retire	Forming/facilitating partnerships	Sustainability of Council programs established

Appendix A: Council Members, Committees and Supporters

2006 Board of Directors and Council Members

Board of Directors	
Tim Closson (President)	Kootenai-Ponderay Sewer District
Pat Buckley (Secretary/Treasurer)	Pend Oreille County P.U.D.
Terry McLaughlin	Smurfit-Stone Container Corp.
Frank Pickett	PPL-Montana
Council Members	
Pierre Bordenave	InterMountain Resources Inc.
Jim Carlson (Alternate – Peter Nielsen)	Missoula City-County Health Dept
Bob Castaneda (Alternate – Mark Romey)	US Forest Service
Matt Clifford	Clark Fork Coalition
Herman Collins	Bonner Soil & Water Cons. District
Don Comins	Pend Oreille Conservation District
Joe DosSantos	Avista Corp
Barry Dutton	PBS&J, Inc.
Kent Easthouse	Seattle District Corps of Engineers
Bob Farren	Butte/Silver Bow Metro Sewer
Gwen Fransen (Alternate -Ed Tulloch)	Idaho Dept. of Environmental Quality
John Gross	Kalispel Tribe
J. R. Horswill (Alternate- Mayor Jim Magone)	City of Deer Lodge
Judy Hutchins	Citizen representative-Montana
George Mathieus (Alternate – Michael Pipp)	Montana Dept. of Environmental Quality
Robb McCracken	Clark Fork-Pend Oreille Conservancy
Mike Miller	Lower Clark Fork Watershed Group
Mary Mitchell	Rock Creek Alliance
Jean Parodi	Washington Dept. of Ecology
Patty Perry	Kootenai Tribe of Idaho
Laura Rotegard (Alternate - Ben Bobowski)	National Park Service
Richard Shelley	Montana Rail Link, Inc
Starr Sullivan	City of Missoula
Kody VanDyk	City of Sandpoint
Paula Webster	Confederated Salish & Kootenai Tribes
Charlotte Yergens	Citizen representative-Washington
Ex-officio Members	
Julie DalSoglio	U. S. EPA Region 8
Don Martin	U. S. EPA Region 10

2006 Council Staff and Contractors

Diane Williams, Executive Director
Ruth Watkins, Program Director
Adrienne Lilly, Administrative Assistant
Will McDowell, VNRP Coordinator
Gary Ingman, PBS&J, Inc., Water Quality Monitoring Program Manager

Previous Council Members

Stefany Bales (alternate-Jane Gorsuch)	Intermountain Forest Industry Association
Ron Barrett	City of Sandpoint
Bruce Bender	City of Missoula
June Bergquist	Idaho Department of Environmental Quality
John Blaine	Natural Resource Conservation Service
Adriane Borgais	Kootenai Tribe of Idaho
Darren Brandt	Idaho Department of Environmental Quality
Jim Carney	Pend Oreille Conservation District
Mark Cauchy	Pend Oreille County P.U.D.
Jack De Baun	City of Sandpoint
Dave Dillard	U.S. Forest Service
Frank Duval	Sterling Mining Company
LeAnn Eno	Bureau of Land Management
Lyle Gillette	Deer Lodge
Scott Hall	Kalispel Tribe
Steve Hemstrom	Washington Water Power
Joe Hinson	Intermountain Forest Industry Association
Brian Hoelscher	Idaho Department of Environmental Quality
Guy Hopkins	Kootenai Tribe of Idaho
Tim Hunter	City of Missoula
Gary Ingman	Land & Water Consulting
Joel Jacobson	Pend Oreille County
Warren Kellogg	Natural Resources Conservation Service
Mike Keogh	Pend Oreille County
Preston Kinne	Kootenai Tribe of Idaho
Eileen Klatt	City of East Hope
Robert Klatt	Bonner County Shoreline Property Assoc.
Darlene Koontz	National Park Service
Dick Kramer	U. S. Forest Service
Dick Labbe	City of Deer Lodge
Robert Mahler	University of Idaho, Soil Science
Bill Massey	Sanders County
Jim McNall	Clean Lakes Coordinating Council
David Mosier	Idaho Department of Environmental Quality
Kevin Murphy	City of Newport
Peter Nielsen	Missoula City-County Health Dept.
Greg Nottingham	National Park Service
Carl Nuechterlein	Washington Dept. of Ecology
Michael Pablo (alternate – Rhonda Swaney)	Confederated Salish & Kootenai Tribes
Steve Pilcher	MT Dept. of Health & Environmental Sciences
Michael Pipp	Montana Dept. of Environmental Quality
Delon Potter	Bureau of Land Management
Lisa Prochnow	Clean Lakes Coordinating Council
Bob Raisch	Montana Dept. of Environmental Quality
Harmon Ranney (alternate- Tom Tangen)	Canyon Resources / Phelps Dodge Mining Co.
Chuck Rice	U. S. EPA Region 10
Marty Robinson	Pend Oreille County P.U.D
Mark Romey	U.S. Forest Service
Claude Sappington	Washington Department of Ecology
Chris Savage	U.S. Forest Service
David Sawyer	City of Sandpoint
Suzanne Sawyer	Clark Fork-Pend Oreille Conservancy &

	Bonner Soil & Water Conservation Dist.
Dave Schultz	Butte / Silver Bow Metro Sewer
Geoff Smith	Clark Fork Coalition
Dave Stasney	Idaho Department of Environmental Quality
Jeff Stewart	Natural Resources Cons. Service
Tim Swant	Washington Water Power
Ron Torretta	Kalispel Tribe
Steve Vogt	Bitterroot Conservation District
Dale Wainwright	Pend Oreille Conservation District
Diane Williams	Clark Fork – Pend Oreille Coalition
Dave Wright	U.S. Forest Service
Dave Young (alternate- Scott Mason)	ASARCO

Council Committee Members since 1993

Bonnie Anderson
Bruce Anderson
Scott Anderson
Chuck Anselmo
John Babcock
Sady Babcock
Mike Beckwith
June Bergquist
Lori Blau
Brad Bluemer
Ben Bobowski
Pierre Bordenave
Jenna Borovansky
Darren Brandt
Carol Brewer
Chris Brick
Mark Brink Meyer
Fletcher Brown
Pat Buckley
Lori Burchett
Gwen Burr
Vickie Bushee
Pat Calf Looking
Bob Camp
Jim Carlson
John Carlson
Chris Cerquone
Dave Clark
Dennis Clark
Ken Clark
Cheryl Cleminson
Matt Clifford
Tim Closson
Fields Cobb
Randy Coots
Deborah Cornett
Terry Cummings
Julie DalSoglio
Jamie Davis
Carol Mack
Susan MacLeod
Clare Marley
Leslie Marshall
Jim Marthaller
David Martin
Don Martin
Scott Mason
Will McDowell
Mike McLane
Terry McLaughlin
Ken McNamee
Ruth Michael
John Monks
Troy Monroe
Wendy Moore
Brock Morgan
Dave Mosier
Rich Nathanson
Peter Nielsen
Greg Nottingham
Howard Nusbaum
Linda O’Hare
Dwight Opp
Gary Parker
Jean Parodi
Dwayne Parsons
Kim Pate
Rick Patten
Patty Perry
Yvonne Petit
Bob Petty
Frank Pickett
Michael Pipp
Jenni Post
Christine Pratt
Rita Price
Lisa Prochnow
Donald Quander

Dave Dillard
Michael Doherty
Joe DosSantos
Chris Downs
Susan Drumheller
Barry Dutton
Kent Easthouse
Keith Edge
Robyn Edwards
Mark Eliot
Glenda Empsall
Bill Engle
Bob Farren
Debbi Fassnacht
Russ Fletcher
Dee Flowers
Betty Frederickson
Bob Friez
Jean Gerth
Shelly Gilmore
Fred Gonzales
Betty Gouaux
John Gross
David Haire
Scott Hall
Bob Hansen
Tom Hanson
Michael Hartz
Ken Heffner
Steve Hemstrom
Mike Hermanson
Joe Hinson
Brian Hoelscher
Lance Holloway
Guy Hopkins
J.R. Horswill
Andrew Huddleston
Larry Hull
Tim Hunter
Gary Ingman
Todd Johnson
Ashley Jones
Michael Kasch
Warren Kellogg
Will Kendra
Sherri Kenyon
Erik Ketner
Ray King
Preston Kinne
Kevin Kinsella
Eileen Klatt
Jessica Koenig
Ron Kohal
Darlene Koontz
Darren Kron
Dick Labbe
Harmon Ranney
Robert Ray
Chuck Rice
Ron Rimelman
Karen Robinson
Patrick Roe
Rosemary Rowe
Ted Runberg
Rosie Sada de Suplee
Cindy Samples
Chris Savage
Suzanne Sawyer
Tony Schetzsle
Dave Schultz
Rick Shelley
Leslie Shoemaker
Tom Shuhda
Mark Simpson
Georgia Smies
Geoffrey Smith
Mike Snavely
Al Solonosky
Sharon Sorby
Carol Soth
Bryony Stasney
Dave Stasney
Bob Steed
Ron Steg
Jeff Stewart
Jack Sturgis
Michael Sullivan
Starr Sullivan
Mike Suplee
Kit Sutherland
Marty Taylor
Todd Teegarden
Mary Terra-Berns
Jack Thomas
Roger Tinke
Lan Tornes
Ron Torretta
William Towey
Chris Tretter
Denise Tribble
Ed Tulloch
Martha Turvey
Charles Uselmann
Paul Van Middlesworth
Dale Van Stone
Charlie Vandam
Kody VanDyk
Janet Vann
Mimi Wainwright
Bert Wasson
Ruth Watkins
Vicki Watson

Tina Laidlaw
John Lambing
Kevin Laughlin
Judith Leckrone
Judith Lee
Stuart Lehman
Jim LeRoux
Chris Levine
Roxanne Lincoln
Mike Lithgow
Lincoln Loehr
Bill Love
Jerry Luther
Jim MacInnis
Diane Wear
Paula Webster
John Whalen
Diane Williams
Bob Wilson
Kate Wilson
Michelle Wingert
Barbara Woodruff
Leigh Woodruff
Paul Woods
Dean Yashan
Charlotte Yergens
Dave Young

Contributors of Time, Goods and Services

ASARCO
Avista Corporation (formerly Washington Water Power)
Bonner County Association of Realtors
Bonner County Sportsmen's Association
Bonner Soil & Water Conservation District
Burlington Northern Santa Fe Foundation
Cinnabar Foundation
City of Dover, Idaho
City of Missoula, Montana
City of Sandpoint, Idaho
Clark Fork Coalition
Cocolalla Lake Association
Coldwater Creek, Inc.
Conservation Fund/CF Industries
Community Assistance League
Granite Creek Marina
Idaho Department of Environmental Quality
Idaho Department of Lands
Intermountain Forest Industry Association
J.A. & Kathryn Albertson Foundation Education
    Fund / Idaho Community Foundation
Lake Pend Oreille Idaho Club
Les Schwab Tire
Litehouse, Inc.
Margaret W. Reed Foundation
Merwin's Hardware
Missoula City-County Health Department
Missoula Water Quality District
Montana Department of Environmental Quality
Montana Fish, Wildlife & Parks
Montana Rail Link
Mountain West Bank
    (formerly Pend Oreille Bank)
Norcross Wildlife Foundation
Northern Lights, Inc.
North Idaho Flycasters
Panhandle State Bank
Pend Oreille Arts Council
Pend Oreille County P.U.D. #1
Pend Oreille Environmental Team
Plum Creek Timber Company
Riley Creek Lumber Company
Sanders County, Montana
Sandpoint Civic Club
Sandpoint Kiwanis Club
Sandpoint Lions Club
Seattle City Light
Smurfit-Stone Container Corp.
State of Idaho
State of Montana
Steele-Reese Foundation
Stimson Lumber Company
Trout Unlimited – Panhandle Chapter, ID
Trout Unlimited – West Slope Chapter, MT
U.S. Congress
U.S. EPA
USDA Forest Service
Waste Management
Yellowstone Pipe Line Company

Numerous "Friends of the Watershed" landowners in Bonner County, Idaho & Sanders County, Montana.

Appendix B: References

Bonner County Comprehensive Plan. 2003. Bonner County Board of Commissioners. Sandpoint, Idaho.

Byron, T. 2006. Personal communication. Montana Department of Environmental Quality Water Quality Planning Bureau. September 2006.

Clark Fork Coalition. 2005. State of the Clark Fork, Understanding Our Watershed. Missoula, Montana.

[CSKT] Confederated Salish & Kootenai Tribes. 1999b. Wetlands Conservation Plan. Prepared for USEPA, Region 8. Pablo, Montana.

CSKT. 2000a. Assessment of Water Quality Conditions Mission Creek Watershed, Flathead Indian Reservation. Montana. Prepared for USEPA, Region 8. Pablo, Montana.

CSKT. 2000b. Non Point Source Assessment Plan for Streams, Rivers, Lakes, and Wetlands. Prepared for USEPA, Region 8. Pablo, Montana.

CSKT. 2000c. Non Point Source Management Plan for Streams, Rivers, Lakes, and Wetlands. Prepared for USEPA, Region 8. Pablo, Montana.

CSKT. 2000d. Wetland and Riparian Area and Bull Trout Restoration Plan. Prepared for ARCO NRDA damage claim mitigation program. Pablo, Montana.

CSKT. 2003. Assessment of Water Quality Conditions Little Bitterroot Watershed, Flathead Indian Reservation. Montana. Prepared for USEPA, Region 8. Pablo, Montana.

CSKT. 2006. Draft Assessment of Water Quality Conditions Crow Watershed, Flathead Indian Reservation. Montana. Prepared for USEPA, Region 8. Pablo, Montana.

Directory of Washington City and Town Officials 2004-2005; Employment Information, Tri-county Economic Development District website, www.teddonline.com

Dupont, Joseph. 1994. Fish Habitat Associations and the Effects of Drawdown on Fishes in Pend Oreille River, Idaho. A thesis presented in partial fulfillment of the requirements for the degree of Masters of Science with a major in fishery resources in the College of Graduate Studies. University of Idaho. Moscow, Idaho.

[EPA] U. S. Environmental Protection Agency. 1993. Clark Fork-Pend Oreille Basin Water Quality Study: A Summary of Findings and a Management Plan. EPA 910/R-93-006. Seattle, Washington.

Falter, M.C. et al. 2004. Lake Pend Oreille Littoral Periphyton Community: An updated Trophic Status Assessment, 2003. Prepared for Tri-State Water Quality Council. Sandpoint, Idaho,

Flathead Basin Commission. 2005. Montana Watersheds web site. http://watersheds.montana.edu/groups/details.asp?groupID=21.

[FLBS] Flathead Lake Biological Station. 2004. University of Montana web site: http://www.umt.edu/flbs/WaterQuality/HWMonitoring.htm.

[FLBS] Flathead Lake Biological Station. 2005. University of Montana web site: http://www.umt.edu/flbs/WaterQuality/default.htm.

Frenzel, S. A. 1991. Hydrologic Budgets, Pend Oreille Lake, Idaho, 1989-90. U. S. Geological Survey. Boise, Idaho.

Golder Associates, Inc. 2005. Pend Oreille Watershed (WRIA 62) Watershed Management Plan. Redmond, Washington.

[IDEQ] Idaho Department of Environmental Quality. 2001. Pend Oreille Sub-basin Assessment and Total Maximum Daily Loads. Hydrologic Unit Code 17010214 & 17010214. Coeur d'Alene, Idaho.

Ingman, G.L. and M.A. Kerr. 1990. Nutrient Sources in the Clark Fork River Basin. In Proceedings of the 1990 Clark Fork River Symposium. Montana Academy of Sciences. Missoula, Montana.

Land and Water Consulting Inc. 2004. Water Quality Status and Trends in the Clark Fork – Pend Oreille Watershed 1988-2002. Missoula, Montana.

Moore, J. N. 1997. Metal Contamination in Lower Clark Fork River Reservoirs. Washington Water Power. (*now Avista Corporation*). Spokane, Washington.

[PBTAT] Panhandle Bull Trout Technical Advisory Team. 1998. Lake Pend Oreille Key Watershed Bull Trout Problem Assessment. Prepared for the Lake Pend Oreille Watershed Advisory Group and the State of Idaho. Boise, Idaho.

Shaw, R. and B. R. Taylor.1994. Assessment of Federal-Provincial Water Quality Data for the Flathead and Similkameen Rivers. Golder Associates. Redmond, Washington.

Tri-State Water Quality Council. 2002. Clark Fork River Voluntary Nutrient Reduction Program (VNRP) three-year evaluation report. Sandpoint, Idaho.

Tri-State Water Quality Council. 2005. Pend Oreille River Water Quality Monitoring, Summary of Findings. Sandpoint, Idaho.

[USGS] U. S. Geological Survey. 1999. Summary of information on synthetic organic compounds and trace elements in tissue of aquatic biota, Clark Fork-Pend Oreille and Spokane River basins, Montana, Idaho, and Washington, 1974-96. Denver, Colorado.

USGS. 2000. Concentrations of selected trace elements in fish tissue and streambed sediment in the Clark Fork-Pend Oreille and Spokane River basins, Washington, Idaho, and Montana, 1998. Denver, Colorado.

USGS. 2002. Selected trace-element and synthetic-organic compound data for streambed sediment from the Clark Fork-Pend Oreille and Spokane River basins, Montana, Idaho, and Washington, 1998. Denver, Colorado.

U.S. Census Bureau Web Site. 2005. http://factfinder.census.gov/servlet/SAFFPopulation?_event=Search&_name=&_state=04000US30&_county=&_cityTown=&_zip=&_sse=on&_lang=en&pctxt=fph

Woods, P.F. 1991. Limnology of the Pelagic Zone, Pend Oreille Lake, Idaho. 1989-90. U. S. Geological Survey. Boise, Idaho.

Appendix C: States' and Tribe's Response to Public Comments

COMMENT 1:

Private citizen, Pend Oreille County, WA

I respectfully request to attach a comment to the new draft of the *TRI-STATE WATER QUALITY COUNCIL Management Strategies for the next Decade.*

My continued concern is in relation to that part of the plan that is in the state of Washington. Actually the bullets in the *Executive Summary* for the State of Washington are quite well stated and generally OK. My main objection is that the Kalispel Tribe can have special considerations to the "plan". I, like the tribe, own land that is adjacent to the Pend Orielle River, but nobody will give me special consideration like the tribe gets.

Especially distasteful, is the section that says " ***Maintain Watersheds and Environmental Program staff and funding necessary to uphold and further tribal, department and program goals and objectives.***" The tribe has been paid dearly for all the land that has been affected by the dams on the Pend Oreille River. They should be treated as any other landowner in the state. The states of Montana, Idaho, and Washington should be the proctors of any *Management Plan* WITHOUT extra influence from the Kalispel tribe or any other "group" within those states.

These comments seem to meet the Feb 20, 07 timeline and I hope they can be reviewed and incorporated in the final document.

RESPONSE:

The Kalispel Tribe and the Confederated Salish and Kootenai Tribes were included with the three states in the updated Basin Management Plan because both tribes have jurisdiction over water quality protection within the borders of their respective reservations. Both reservations are part of the overall Clark Fork-Pend Oreille watershed. Tribes have certain sovereign powers and states do not have jurisdiction over tribes within reservation boundaries. State water quality standards, for example, do not apply to waters within the exterior boundaries of Indian reservations. The Clean Water Act recognizes this and allows the EPA to grant "Treatment as a State" to tribes with which tribes can adopt water quality standards and submit them for EPA approval. Both tribes within the Clark Fork-Pend Oreille watershed have done this. In addition, the Kalispel Tribe has Treatment as a State status for Clean Water Act Sections 106 and 319. This allows the tribes to work within the reservation boundaries and cooperatively with the states outside reservation boundaries to address non-point source water pollution.

The Water Quality Goals and Objectives outlined in the Executive Summary (and covered again in Section 7 in more detail) are specific management objectives for each of the three states and two tribes. The Tri-State Water Quality Council considered these and a number of additional objectives when deciding on priorities for the Council's work during the next ten years (see Section 8). Specifically, the Kalispel Tribe's Natural Resources Department has a management plan that serves as a guiding principles document. One of the identified tasks in this document is maintenance of the Watersheds and Environmental program. This and other objectives of the Kalispel Tribe are reflected in the updated Basin Management Plan. As with other governmental entities, the tribe's Natural Resources Department faces certain challenges in maintaining funding and staff in order to accomplish all of the objectives of the Tribe's Watersheds and Environmental Program.

COMMENT 2:

Plum Creek Timber Company

First, one of the priorities identified for the Water Quality Protection Program is to "*Promote basin wide numeric nutrient criteria*." While this seems like a worthwhile pursuit at face value, there are numerous challenges to developing technically defensible nutrient criteria. Localized factors such as forest composition, hydrology, geology, and season of year all play a very large part in influencing nutrient concentrations. This is particularly so in smaller 1st and 2nd order watersheds where tremendous variability in nutrient concentrations has been observed. I think the experience of the Council was that it was very difficult to arrive at defensible nutrient criteria for just a single stream (the Clark Fork), despite an extensive data set, so imagine the challenge of doing this for thousands of small streams! Rather than having a simple goal of promoting basin-wide (one-size-fits-all?) criteria, we propose that this priority be rephrased along the lines of: "*Promote development of technically defensible (i.e., physically achievable and biologically relevant) criteria that are as consistent as possible across the Basin*."

RESPONSE:

The Steering Committee agrees that the priority statement may lead a reader to interpret that the Council is advocating for a single, basin-wide criteria for nutrients. This is not the case and the priority statement will be changed in the document to read:

"Promote numeric nutrient criteria basin-wide"

Each of the water quality agencies in the Clark Fork-Pend Oreille basin is, or may be considering, undertaking efforts to develop criteria for waterbodies in Montana, Idaho and Washington. The Council will promote the development and use of criteria, recognizing that the criteria will likely not be the same for all waterbodies across the basin.

Water quality standards are developed by either the United States Environmental Protection Agency (EPA) or a state's delegated environmental management agency, which in Montana is the Department of Environmental Quality (MDEQ). Both entities follow explicit rules and processes by which standards development occurs. In Montana, a nutrient narrative standard (criterion) presently exists for general statewide application, other than for much of the mainstem Clark Fork. MDEQ is in the process of refining this narrative statement to more specific numeric criteria for application statewide. These refined criteria are being developed with local/regional drivers of nutrient levels taken into consideration to account for the natural variability in nutrient concentrations noted by commenter. These drivers include, but are not limited to, ecoregion, stream order, and other geomorphic factors.

Once MDEQ has developed what it believes to be appropriate and defensible standards (criteria) that are protective of the relevant beneficial uses then the normal process for standards rule-making begins. This process includes informal and formal opportunity for public review and input including review of the proposed standards by the Water Pollution Control Advisory Council (WPCAC) and formal public hearing(s) by the Montana Board of Environmental Review (BER). If the BER agrees to initiate adoption of the standards a formal public comment period on the action is held and the BER will respond to all comments received. Thus, the process by which standards (criteria) are adopted into rule in Montana include a rigorous and open public process.

COMMENT 3:

Plum Creek Timber Company

A second comment is on a Growth and Development Policy to "*Develop and promote adoption of state and local regulations and policies including model ordinances to avoid degradation of water quality due to growth and development*." While I am not that in-tune to the past workings of the Council, this regulatory advocacy approach seems to be new. My understanding is that in the past, the Council has almost entirely relied on non-regulatory cooperative approaches (education, demonstration projects, etc.). As this appears to be shifting somewhat, I suggest that the document provide some additional discussion in this regard. Note that delving into this realm may pose some significant new challenges for the Council in terms of maintaining a constructive partnership among its diverse membership.

RESPONSE:

Yes, the Council's new focus on growth and development is an expansion of our activities and Section 8 provides a discussion of how the Council arrived at this decision. From information exchanged at prior Council meetings, public forums and a workshop held specifically to define the Council's roles over the next decade, Council members have agreed that our organization is in a unique position to initiate dialog and encourage policy development to address growth-related water quality issues across the basin. The widespread use of our report, *Septic System Impact on Surface Waters,* published in 2005, is an example of how the Council can help communities address impacts to water quality from growth and development, and has illustrated to us the need that local governments have for credible information for making decisions. This new direction does indeed underscore how critical it will be for the Council to continue working with existing partners and seek new partnerships across the basin.

COMMENT 4:

Plum Creek Timber Company

Lastly, I note an Organizational Sustainability objective is to "*Bring new member groups to the Council…especially…non-point section representatives…*" I have discussed this with Plum Creek management, and given the planned increased focus of the Council on non-point activities and growth issues, we believe that now is an appropriate time to request membership on the Council. As you know, Plum Creek is the largest private landowner in the basin, managing approximately 6% of the watershed. Over the past six years we have been implementing the Native Fish Habitat Conservation Plan (NFHCP) on our Montana ownership. This past year, we undertook a major periodic (5 year) review with the US Fish and Wildlife Service, and by all accounts the plan is meeting or exceeding its goals. While accomplishments have been numerous, a key accomplishment has been the improvement to nearly 4,000 miles of road to an improved drainage standard. This work has resulted in an estimated reduction in sediment delivery to streams of 36%. Based on results of Council monitoring of the Thompson River site, these improvements appear to be showing up in the water chemistry data as well. Another key accomplishment is that the NFHCP has helped facilitate permanent conservation of 200,000 acres either through sale of development rights (i.e., conservation easements in Fisher, Thompson and Swan River valleys) or fee land sales to the government or conservation groups (i.e., Blackfoot land sale, Bull Lake, Swan Valley conservation sales, etc.). I would hazard to guess that in western Montana there have been far more land conserved in the part five years through voluntary measures than has been developed. While land conservation is clearly in the mission of organizations such as The Nature Conservancy, BPA mitigation, etc., it seems like this is an arena in which the Council could indirectly or directly participate. Not mention of this is made in your 2007-2017 priorities.

Please let me know if you require any further information regarding this membership request. I have noted the next meeting of the Council is planned for April 19th in Sandpoint. I have this date on my calendar and will be there.

Congratulations on all of the significant accomplishments of the Council over the past 13 years! We look forward to working with you to implement further improvements in the watershed in the decade to come.

RESPONSE:

We welcome Plum Creek's request to be a member of the Council and will forward your letter through the membership application process.

We wholeheartedly agree that land conservation is a valuable tool and our Executive Director is currently representing the Council on the Board of Directors of the Clark Fork-Pend Oreille Conservancy, a land trust serving Bonner County, Idaho and Sanders County, Montana. In 2003, we awarded a small grant to the Five Valleys Land Trust in Missoula to be used toward conservation easements to reduce nutrient loads in the upper Mill Creek drainage in Montana. Because the Council's participation in land conservation is indirect, we did not list it as one of our <u>priority management actions</u> in the basin plan.

COMMENT 5:

<u>Private Citizen, Lower Clark Fork Basin, MT</u>

I am writing to express my concern that one of the contributors to pollution in the Clark Fork River Basin does not appear to be addressed in the draft plan. This polluter is cattle ranching. In my ventures on the highways and back roads in Sanders County, MT I have seen water running through areas where cattle are being fed, and cattle in streams. These activities add to the Nitrogen and sedimentation in the water system, not to mention other concerns about animal waste winding up in water.

As a Boy Scout I was taught to dig a latrine at least 100 feet from any water source, yet I see ranchers feeding many head of cattle much closer than this to running streams. It was also my understanding that ranchers were required to fence off access to streams by cattle to prevent bank erosion, after my inquires there is nothing requiring ranchers to do this.

These areas could be addressed by;
    * Establishing requirements for feeding near running water, including seasonal runoff. (i.e. 100 Feet from water)
    * Require ranchers fence off access to the stream beads. In the case where he is using the stream to water the stock he must stop that practice and establish watering areas 100 feet from the water source.

I love to fish in the Clark Fork and the amount of organic matter can clearly be seen in the height of summer when the water turns green from the algae. It is past time for this review, pollution should not be grand fathered into the next generation.

RESPONSE:

The states and tribes agree that these situations in particular, and non-point source pollution in general, are challenging and often frustrating to manage effectively and consistently. The states' and tribes' legal authority to address and govern non-point sources of pollution is founded in the Federal Clean Water Act (CWA). The CWA however does not provide explicit regulatory authority, via pollution discharge elimination permits, for non-point sources of pollution.

Montana DEQ would like to point out that this situation, as a non-point source issue, is addressed in the Management Plan, specifically in Section 7.2.7, Table 12 State of Montana Priority Management Actions. The two locations in Table 12 that related to the comment issue are found at:

- **Planning**: Implement the 2006 Non-point Source Management Plan
- **Education**: Implement public education programs regarding nonpoint source management, BMPs, etc.

Cattle ranching typically falls under the designation of non-point source, however in the situation of animal feeding operations (AFO) they may fall within the jurisdiction of the permit system if they meet certain criteria that would make them designated as a confined animal feeding operation (CAFO). CAFOs are required to obtain discharge permits from MDEQ under the Montana Pollution Discharge Elimination System. Specific information regarding discharge permits for CAFO operations can be obtained from the MDEQ website at: http://www.deq.mt.gov/wqinfo/MPDES/CAFO.asp

With respect to the situation referenced in Sanders County (Lower Clark Fork Basin), MDEQ is working with local groups and stakeholders in two specific ways to restore and maintain water quality. The first is through the CWA Section 319 Non-Point Source Program that makes grant monies available to grant-eligible entities [501(c)(3)] to assess, monitor, and / or mitigate non-point sources of pollution. The work conducted through this program is guided by the state's Non-point Source Management Plan, which in Montana is presently being updated for submittal to EPA later this year. More information regarding Montana's Non-Point Source Program can be found at: http://www.deq.mt.gov/wqinfo/nonpoint/NonpointSourceProgram.asp

Secondly, the DEQ is working with local groups and stakeholders to develop water quality restoration plans (WQRP) and necessary total maximum daily loads (TMDLs) for waters that have been assessed as being water quality limited (i.e., one or more designated beneficial uses are not fully supported). The planning and development phase of these WQRPs is scheduled to be completed by 2012 or earlier. It is important to note that TMDLs address both point and non-point sources of pollution, as well as contain implementation plans for prioritizing and guiding water quality restoration activities. Both of these processes are fully opened for public participation, review, and comment.

There are several highly effective watershed groups active and engaged in local water quality issues in Sanders County. Montana DEQ would encourage interested citizens to become active in their local watershed and water quality issues via local groups. Information regarding Montana watersheds and watershed groups can be found at the Montana Watershed Coordination Council's website: http://watersheds.montana.edu/groups/default.asp