

## Appendix E

### Fisheries and Watershed Regulatory, Guidance, and Coordination Framework

#### Federal Regulations

The Federal Water Pollution Control Act of 1972 (Public Law 92-500) as amended in 1977 (Public Law 95-217) and 1987 (Public Law 100-4). Also known as the Federal Clean Water Act.

This Act provides the structure for regulating pollutant discharges to waters of the United States. As stated in Section 101 of the Act, the objective of the Act is "...to restore and maintain the chemical, physical, and biological integrity of the Nation's waters". Control of point and nonpoint sources of pollution are among the means to achieve the stated objective. The U.S. Environmental Protection Agency (EPA) is charged with administration of the Act, but there is provision for the delegation of many permitting, administrative, and enforcement functions to state governments. In Montana, the designated agency is the Montana Department of Environmental Quality (MDEQ).

Sections 208 and 319 of the Act recognize the need for control strategies for nonpoint source pollution.

Section 305(b) requires states to assess the condition of their waters and produce a biennial report summarizing the findings.

Waterbodies that have water quality determined to be either impaired (not fully meeting water quality standards) or threatened (likely to violate standards in the near future) are compiled by MDEQ in a separate list under Section 303(d) of the Act. This list must be submitted to EPA every two years. Waterbodies on the 303(d) list (known as Water Quality Limited—or WQL—waters) are to be targeted, and scheduled, for development of water quality improvement strategies on a priority basis. These strategies are in the form of Total Maximum Daily Loads, or TMDLs, which technically consist of the quantity of pollutants that may be delivered to a waterbody without violating water quality standards. In practice they are plans to improve water quality in a listed waterbody until water quality standards are met (i.e., until designated uses are fully supported).

Section 404 of the Act outlines the permitting process for discharging dredged or fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers administers the 404 program.

Under Section 401 of the Act, states and tribes may review and approve, set conditions on, or deny Federal permits (such as 404 permits) that may result in a discharge to State or Tribal waters, including wetlands. Applications for Section 404 permits are often joint 404/401 permits to ensure compliance at both the State and Federal levels.

- **Forest Service Manual sections 2532.02, 2532.03**

Sections 2532.02 and 2532.03 of the Manual describe the objectives and policies relevant to protection (and, where needed, improvement) of water quality on National Forest System Lands so that designated beneficial uses are protected. Guidelines for data collection activities (inventory and monitoring) are also described.

- **Executive Order 11988, Floodplain Management**

This Executive Order requires that agencies avoid, to the extent possible, adverse impacts associated with occupancy and modification of floodplains. It applies to all floodplain locations, as a minimum to areas in the 100-year, or base, floodplain.

- **Executive Order 11990, Protection of Wetlands**

This Executive Order states that agencies shall minimize destruction, loss, or degradation of wetlands and shall preserve and enhance their natural and beneficial values. Agencies are to avoid construction in wetlands unless it is determined that there is no practicable alternative and that all practicable measures are taken to minimize harm to wetlands.

## **State Regulations**

### **Montana Water Quality Act (Title 75, Chapter 5, Montana Code) as revised October 1999**

This Act describes water quality management requirements, water classifications, and water quality standards for the State of Montana. It is the document that describes the water quality permitting and enforcement powers delegated by EPA to states under the federal Clean Water Act. Montana DEQ is the agency responsible for administration of the Act.

In addition, under the Montana Water Quality Act, waterbodies in Montana are classified according to the present and future beneficial uses that they should be capable of supporting. (MDEQ, 2006).

Beneficial uses of Montana's Water Classification System include:

- Drinking, culinary use, and food processing
- Aquatic life support for fishes and associated aquatic life, waterfowl, and furbearers
- Bathing, swimming, recreation, and aesthetics
- Agriculture water supply
- Industrial water supply

A waterbody receives one of several classifications according to the Montana Surface Water Classification System. State water quality standards for temperature (ARM 17.30.6, 2000) are based on water use classification. Temperature standards are written in terms of decreases or increases relative to "naturally occurring" water temperatures. State sediment standards are described in two respects. There is a maximum allowable increase in turbidity of 5 Nephelometric Turbidity Units (NTU) above naturally occurring turbidity levels, except as permitted in ARM 17.30.637 [17.30.623(d)]. NTU's are a measure of the amount of light scattered by a water sample. There is also a standard that "[n]o increases are allowed above naturally occurring concentrations of sediment, settleable solids, ... which will or are likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish, or other wildlife". [ARM 17.30.623(f)]

The following documents contain the specific water quality standards enforced by MDEQ:

- **Montana Surface Water Quality Standards and Procedures for Waters in B-1 Use Classification [Administrative Rules of Montana (ARM) 17.30.623], as of June 2000)**
- **Montana Numeric Water Quality Standards (Circular WQB-7, September 1999)**

In addition, water quality standards have been established to protect designated beneficial uses. The State of Montana must assess compliance with applicable water quality standards to determine whether designated beneficial uses of waterbodies are supported. Beneficial use support determination consists of four categories:

**Fully supporting** – "water quality is at its natural or best practical condition"

**Partially supporting** – "a broad designation that extends from 'slightly impaired' to 'barely supporting' beneficial uses"

**Not supporting** – “fails to support designated beneficial uses due to acute toxicity, human health risks, or biological and physical indications of severe degradation”

**Threatened** – “currently supports all beneficial uses but there is a downward trend in water quality or new industry or population growth may pose a threat to water quality”

In some instances insufficient information is available to make a determination, or an assessment has not yet occurred.

If waterbodies meet established water quality standards, then the designated beneficial uses of the waterbody are considered to be fully supported and the water body is not impaired. If water quality standards are not met, the waterbody may be considered impaired and one or more designated beneficial uses may be considered either partially supporting, not supporting or threatened. A list of impaired waterbodies, also known as water quality limited waterbodies, is prepared (303(d) list) and plans for water quality restoration are developed, including TMDLs when impairments are pollutant related.

### **State of Montana Best Management Practices for Forestry and Streamside Management Zone Law and Rules**

The Montana Department of Natural Resources and Conservation (DNRC) is responsible for oversight of forestry and road management practices to protect resources in Montana. Best Management Practices (BMPs) are voluntary, preferred, measures to protect soil and water quality. They are developed for riparian and for upland management. The Forest Service uses BMPs as mandatory minimum measures for protecting watershed resources, generally exceeding them. Use of Montana BMPs is required in the MOU between the Forest Service and the State of Montana as part of the Forest’s responsibility as the Designated Water Quality Management Agency on National Forest System (NFS) lands. Lolo National Forest Best Management Practices, which are also mandatory, equal or exceed the protection afforded by Montana BMPs. Other MOU parties include Montana Dept. of State Lands, Plum Creek Timber Company, Champion Timberlands, Bureau of Land Management, Bureau of Indian Affairs, Flathead Agency, Dept. of Natural Resources and Conservation, and Dept. of Health and Environmental Sciences. This memorandum direction went into effect April 1987.

By action of the Forest Plan relative to INFISH requirements (see below), State Stream Side Management Zones (SMZs) are replaced by much more conservative protection zones called Riparian Habitat Conservation Areas (RHCAAs).

### **Montana Stream Protection Act—SPA 124 Permits; Short-term Exemption from Montana’s Surface Water Quality Standards (3A Authorization)**

Activities that would physically alter the bed or immediate banks of a stream require permits under the Montana Stream Protection Act. Such activities proposed by federal, state, county, and city government agencies require an SPA124 permit from Montana Fish, Wildlife & Parks; this is the counterpart of the 310 permit required from DNRC for projects proposed by private individuals. Land ownership does not necessarily determine which permit is needed; rather, the party in charge of the project determines permitting requirements. SPA 124 permits are required for new construction or for modification, operation, and maintenance of an existing facility, and may apply to intermittent drainages as well as perennial streams. Culvert removal and replacement, stream channel rehabilitation, and other such actions are examples of activities that would require these permits.

If construction would cause unavoidable short-term violations of state water quality standards (mainly sediment), a 3A Authorization needs to be obtained from MDEQ.

### **Lolo National Forest Plan**

The Lolo National Forest Plan (Plan) identifies a tiered approach that guides management of water and fisheries resources on the Forest (USDA Forest Service 1986). An important standard is that land

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management practices shall be designed to minimize impacts to aquatic ecosystems, and not impose long-term unnatural stressors on these aquatic systems, as determined by the most appropriate indicator or suite of indicators.

The Plan also identifies a desired future condition (DFC) for fisheries resources on the Forest. The Plan states that by 1995 the habitat needed to support threatened and endangered species will be protected consistent with recovery goals. And, that by 2035, there should be sufficient habitat for threatened and endangered species to meet the objectives of recovery plans (discussed later), and that factors that limit recovery will be eliminated where possible.

### **Goals and Objectives**

Goal 4. Provide a.....healthy environment, including ....., clean water, and diverse ecosystems.

Goal 8, p.II-1: Meet or exceed State water quality standards.... through strong Forest goals, Forest-wide standards, Management Area standards and direction, and an extensive, affordable Monitoring Program that emphasizes protection of water quality....”

Objective 1, p.II-2: : “...improves the environmental quality of the Forest over current directi Specific fisheries and aquatic resource management direction is found in the goals and standards section for riparian systems, or lands contained within Management Area 13 (USDA Forest Service 1986).

Forest-wide management direction identifies the following management goals related to Forest fish resources: 1) “Provide habitat for viable populations ...”, 2) “For threatened and endangered species occurring on the Forest, including the grizzly bear, gray wolf, peregrine falcon, and bald eagle, manage to contribute to the recovery of each species to non-threatened status.”

### **Standards**

Standard 15, p.II-12: : “...application of best management practices will assure that water quality is maintained... that meets or exceeds State and Federal standards.”

Standard 17, p.II-12: “A watershed cumulative effects analysis will be made of all projects involving significant vegetation removal prior to these projects being scheduled for implementation. These analyses will also identify existing opportunities to mitigate adverse effects on water-related beneficial uses, including capital investments for fish habitat or watershed improvement.”

Standard 19, p.II-12: “Human-caused increases in water yields will be limited so that channel damage will not occur as a result of land management activities.”

### **MA 13 Direction** (pp. III-56-59)

Too extensive to describe in detail, but provides goals and standards for protection and management of water and riparian resources. Some salient points of interest from here:

Standard 9: “Riparian vegetation, including overstory tree cover, will be left along water bodies as needed to provide shade, maintain streambank stability, desirable pool quality and quality for aquatic organisms, and promote filtering of overland flows.” (p.III-57)

Standard 13: “Roads will be managed...to avoid damage to drainage systems and resource values. Roads will be constructed and managed in a manner to keep sedimentation hazard low.” (p. III-58)

Implementation, Project Planning, p.V-2: “As part of project planning, site specific water quality effects will be evaluated and control measures designed to insure that the project will meet Forest water quality goals; projects that will not meet State water quality standards will be redesigned, rescheduled, or dropped.”

## Guidelines

Forest Plan guidance that will help to achieve goals and objectives include:

- Maintain natural habitat or restore conditions for indigenous aquatic organisms, including fish, by management of vegetative conditions and channel structure, and by limiting those activities or developments that are adverse to these organisms or systems.
- Implement fisheries habitat and watershed improvement projects to rehabilitate impacted areas via the use of restoring natural processes.
- Maintain riparian vegetation to shade, stabilize, and create in-channel structure for the maintenance of aquatic organisms.
- Design management activities to minimize impacts to water quality and other riparian values.
- Minimize the need for constructing riparian roads.
- Provide fish passage and natural flow patterns and channel morphology at stream crossing sites.

All of these have been further clarified through the adoption of the Inland Native Fish Strategy or INFISH (discussed below) into the Plan.

## Inland Native Fish Strategy (INFISH)

The Lolo Plan was amended in 1995 by the Inland Native Fish Strategy (INFISH; USDA Forest Service 1995) to increase fisheries resource protection by restricting certain types of management activities on Forest riparian systems. INFISH is not considered a recovery tool, but rather a conservation tool that will stem native fish population declines until more comprehensive and coordinate restoration strategies are developed, adopted, and implemented. Examples of such strategies include the Interior Columbia Basin Ecosystem Management Project (ICBEMP, Final EIS, USDA and USDI 2000), and a recovery plan for bull trout pursuant to the Endangered Species Act requirements (USFWS 2003a).

INFISH puts in place several important management considerations. First is that of the Riparian Management Objectives (RMOs) that should help to achieve INFISH goals. However, these objectives were developed on a regional scale and do not always represent the best benchmark from which to compare local project scale conditions. Where more specific information is available at the Forest scale, INFISH encourages the use of these values. INFISH RMOs include objectives for 1) pool frequency, 2) water temperature, 3) large woody debris, and width to depth ratio. RMOs are considered as a minimum objective for maintaining native fish habitat. INFISH also states that management actions should not degrade existing site-specific RMO conditions (INFISH, USDA Forest Service 1995).

A second important component of INFISH is the establishment of riparian conservation Areas (RHCA) areas around all streams, wetlands, water bodies, and landslide prone areas. These areas are meant to focus management activities in these such that riparian management objectives are promoted. The default RHCA widths for water bodies in this project area are:

- Fish bearing stream reaches, RHCA should be at least 300 feet from the sides of the stream channel.
- Permanently flowing, non-fish bearing stream reaches or wetlands > 1 acre, RHCA should be at least 150 feet from both sides of the wetland or waterbody.
- Seasonally flowing or intermittent streams, or wetlands < 1 acre, RHCA should be at least 50 feet from both sides of the waterbody.

## **INFISH Riparian Goals**

Maintain or restore:

- water quality to a degree that provides for stable and productive riparian and aquatic ecosystems.
- stream channel integrity, channel processes, and the sediment regime
- diversity and productivity of native and desired non-native plant communities in riparian zones;
- riparian vegetation to provide an amount and distribution of large woody debris characteristic of aquatic and riparian ecosystems, ....., help achieve rates of surface erosion, bank erosion, and channel migration characteristic of those under which the communities developed.
- riparian and aquatic habitats necessary to foster the unique genetic fish stocks that evolved...
- habitat to support populations of well-distributed native, desired non-native plant, vertebrate, and invertebrate populations that contribute to the viability of riparian dependent communities.

## **INFISH Grazing Standards**

**Management Area 14**, which allows grazing in riparian areas, has the following goals and standards:

Goals: 1. Manage riparian areas to maintain and enhance their value...2. Provide opportunities to improve water quality, minimize erosion, and strengthen or protect stream banks.... 3. Provide opportunities to improve fisheries....

Standards: 7. Where use of riparian areas by livestock are causing downward trends in the type or density of vegetation, soil compaction, streambank stability or long-term water quality degradation, the allotment management plan will be revised to reverse those trends to achieve good conditions within 5 years.

INFISH GM-1: Modify grazing practices (e.g. accessibility of riparian areas to livestock, length of grazing season, stocking levels, timing of grazing, etc.) that retard or prevent attainment of RMOs or are likely to adversely affect inland native fish. Suspend grazing if adjusting practices is not effective in meeting Riparian Management Objectives.

## **INFISH Road and Culvert Standards/Guidelines/Recommendations**

(1) INFISH RF-5 - "Provide and maintain fish passage at all road crossings of existing and potential fish-bearing streams."

(2) INFISH RF-4 - "...improve existing, culverts, bridges, and other stream crossings to accommodate a 100-year flood, including associated bedload and debris, where those improvements would/do pose a substantial risk to riparian conditions. Substantial risk improvements include those that do not meet design and operation maintenance criteria, or that retard attainment of Riparian Management Objectives, or that do not protect priority watersheds from increased sedimentation....Construct and maintain crossings to prevent diversion of stream flow out of the channel and down the road in the event of crossing failure."

(3) RF-3c. - "Meet RMOs and avoid adverse effects on inland native fish by: closing and stabilizing or obliterating, and stabilizing roads not needed for future management activities. Prioritize these actions based on the current and potential damage to inland native fish in priority watersheds,."

(4) USDA, FWH Report No. FHWA -FL-90-006, Fish Passage Through Culverts

- "Culvert diameters must be adequate to pass the maximum expected design flows and debris....Most agencies have their own design flow parameters. Recommended minimum designs for those agencies who have not established such parameters should be to design a culvert to pass a 50-year flood at a static head and a 100-year flood with a headwater depth.

- Culverts should be designed and installed to keep the velocity of the water passing through the pipe equal to the predicted stream velocity at design flows.
- Culvert baffles are not recommended in lieu of installing a larger pipe....
- An acceptable practice is to design culverts so that flow conditions are not suitable for fish passage during the 5 percent period of the year when flow peaks are their highest. \*\* However, recent data is proving this recommendation to be inadequate. Studies involving radio tags is providing evidence that cutthroat trout are moving at peak flows. (Personnel Communication, FWP,1998).
- The most desirable type of culvert bottom for fish is one with native materials (decreases velocities due to roughness).
- There should be no sudden increase or decrease in the natural stream gradient or water velocity for at least 100 ft above or below the crossing location.
- The ideal bottomless arch is at least the same width as the stream channel (bankfull width)."

(5) Montana Forestry BMPs - "Design stream crossings for adequate passage of fish, minimum impact on water quality and to handle peak runoff and flood waters."

## Endangered Species Act

Bull trout are a threatened species pursuant to the Endangered Species Act (ESA) in the project area (Federal Register, 1998). The Lolo also designates the Westslope cutthroat trout as a sensitive species in its Plan . The bull trout status requires that the Forest Service consult with the Fish and Wildlife Service (USFWS), and receive a Biological Opinion (BO) for action taken as part of this project (U.S. Fish and Wildlife Service, 1998). This Section 7 consultation process (50 CFR Part 402) is intended to insure that Federal action do not jeopardize the continued existence of a listed species or its critical habitat. A separate fisheries Biological Assessment (BA) will be prepared using the US Fish and Wildlife Service matrix (designed specifically for bull trout consultations) to address the direct, indirect, and cumulative effects of the selected alternative on bull trout habitat and populations (50 CFS Part 402 and Forest Service Manual 2670 policy).

A Draft Recovery Plan and Critical habitat designation for bull trout have been released (USFWS 2003 a and b). The recovery document identifies bull trout populations by Recovery Unit (e.g., Clark Fork River), Core Area (e.g., Clark Fork River Section 2), and Subpopulation (e.g., Fish Creek). None of the watersheds in the Butte Lookout area are encompassed specifically by designated recovery subunits.

The USFWS has classified areas as critical habitat if it is considered essential to the conservation of bull trout. Critical habitat designation requires that Federal agencies consult on activities that may affect critical habitat to insure that these activities do not destroy or adversely modify this habitat (USFWS 2003b). There is no critical habitat in the Butte Lookout project area other than the mainstem Clark Fork section encompassed in the project area; this is primarily used as migratory corridor for fluvial fish migrating to spawning tributaries (USFWS 2003b). The nearest designated critical habitat and local bull trout populations to this project area are the Rattlesnake watershed upstream of the project area, and Petty and Fish Creek watersheds downstream from the project area (USFWS 2003b).

Recovery actions for bull trout in the recovery document focuses on both large and smaller scale restoration activities. Reconnecting lower, middle and upper Clark Fork population segments by restoring fish passage at major dams such as Milltown, and downstream dams such as Cabinet Gorge/Thompson Falls/Noxon complex, is highlighted in the recovery plan (USFWS 2003a). The recovery document also outlines multiple other classes of restoration actions in both a general and specific sense (USFWS 2003a). These actions include grazing management improvements, reduction in sediment sources to bull trout habitats, reduction in nutrient inputs, implementation of water quality regulations, minimizing recreational

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development in bull trout spawning and rearing areas, elimination of fish entrainment in diversions, provision for passage at diversions and road crossing structures, improved instream flows, and additional watershed assessments to help identify and prioritize additional beneficial actions. Specific actions related to the Butte Lookout project area are not identified.

The State of Montana has also developed a Restoration Plan for Bull Trout in the Clark Fork River Basin and Kootenai River Basin (Montana Bull Trout Restoration Team 2000). This plan identifies core and nodal population areas important to the conservation and restoration of bull trout population. Similar to the Federal recovery plan, the States Plan outlines general classes of actions needed to assist in the recovery of bull trout. None of the Butte Lookout project area falls within the State's core habitat (crucial habitat to the conservation of the species); and similar to the Federal critical habitat, the mainstem Clark Fork River in the State's Plan is classified as nodal habitat (considered important to some life stage of the species) in the Butte Lookout project area.

**Sensitive Species:** The Westslope Cutthroat trout is a Forest Service, Region 1, sensitive species, which indicates that viability of the species is a concern. The Forest Service Manual and the Lolo National Forest Plan (USDA Forest Service 1986) require the National Forest to manage for sensitive species such that they do not become listed (FSM2670.22 and 2670.32). The Lolo National Forest Plan, Standard #27, directs the Forest to manage sensitive species to maintain population viability.

In 1999 the Forest Service with Montana Fish Wildlife and Parks together with other agencies, conservation organizations, private industry, landowners, resource users, and other interested parties entered into a Memorandum of Understanding and Conservation Agreement for Westslope Cutthroat Trout in Montana (Montana Department of Fish Wildlife and Parks 2007). This agreement is intended to establish a uniform conservation and restoration framework for Westslope cutthroat trout by the various entities that affect Westslope cutthroat trout status.