

APPENDIX C

BEST MANAGEMENT PRACTICES FOR SOIL AND WATER CONSERVATION

IDAHO WATER DESIGNATION ABSTRACTS

Surface Water Quality Beneficial Use Designations*

Agricultural Water Supply: Waters that are suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock (Source: IDAPA 16.01.0200,01a). Criteria: General surface water quality criteria. Narrative or "free-form" criteria for hazardous materials, deleterious materials, floating, suspended, or submerged matter, excess nutrients, oxygen demanding materials and sediment. Numeric criteria for radioactive materials (Source: IDAPA 16.01.02250,03.a).

Domestic Water Supply: Waters that are suitable or intended to be made suitable for drinking water supplies (Source IDAPA 16.01.02100,01.b). Criteria: Numeric criteria for specific constituents (Source: IDAPA 16.01.02250,03.a).

Cold Water Biota: Waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species which have optimal growing temperatures below 18 degrees C (Source: IDAPA 16.01.02100,02.a). Criteria: Numeric criteria for pH, dissolved oxygen, gas saturation, residual chlorine, water temperature and total ammonia (Source: IDAPA 16.01.02100,02.a and b).

Salmonid Spawning: Waters that provide or could provide a habitat for active self-propagating populations of salmonid fishes (Source: IDAPA 16.01.0200,02.c). Criteria: Numeric criteria for pH, gas saturation, residual chlorine, dissolved oxygen, water temperature and total ammonia (Source: IDAPA 16.01.02250,02.a and d).

Primary Contact Recreation: Surface waters which are suitable or are intended to be made suitable for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters include, but are not restricted to, those used for swimming, water skiing or skin diving (Source: IDAPA 16.01.02100,03.a). Criteria: Numeric criteria applied between May 1st and September 30th (recreation season) for fecal coliform bacteria (Source: IDAPA 16.01.02250,01.a).

Secondary Contact Recreation: Surface waters which are suitable or are intended to be made suitable for recreational uses on or about the water and which are not included in the primary contact category. These waters may be used for fishing, boating, wading, and other activities where ingestion of raw water is not probable (Source: IDAPA 16.01.02100,04). Criteria: Numeric criteria for fecal coliform bacteria (Source: IDAPA 16.01.02250, 01.b).

Wildlife Habitats: Waters that are suitable or are intended to be made suitable for wildlife habitats. This use applies to all surface waters of the state (Source: IDAPA 16.01.02100,04). Criteria: General surface water quality criteria (Source: IDAPA 16.01.02200).

Aesthetics: This use applies to all surface waters of the state (Source: IDAPA 16.01.02100,05).
Criteria: General surface water quality criteria (Source: IDAPA 16.01.02200).

* Different criteria apply to stream segments or water bodies that have been assigned site-specific criteria.

Groundwater Use Classifications

Agricultural Water Supplies: Waters that are suitable or intended to be made suitable for the irrigation of crops or as drinking water for livestock (Source: IDAPA 16.01.02250,03.a).
Criteria: General groundwater quality criteria. Narrative or "free-form" criteria for hazardous materials and deleterious materials (Source: IDAPA 16.01.02299,04.a and b). Numeric criteria for radioactive materials (Source: IDAPA 16.01.02299,04.c and d).

Domestic Water Supplies: Waters that are suitable or intended to be made suitable for drinking water supplies (Source: IDAPA 16.01.02299,04.a and b). Criteria: Numeric criteria for specific constituents (Source: IDAPA 16.01.02250,03.a).

Special Designations

Special Resource Water: Those specific segments or bodies of water that are recognized as needing intensive protection: a) to preserve outstanding or unique characteristics; or b) to maintain current beneficial use (Source: IDAPA 16.01.02003,54). For special resource waters, new or modified point sources of pollution cannot be allowed unless there is no measurable change in the quality of the receiving water body after allowing for an applicable mixing zone.

Designations as a special resource water recognizes at least one of the following characteristics: a) the water is of outstanding high quality, exceeding both criteria for primary contact recreation and cold water biota; b) the water is of unique ecological significance; c) the water possesses outstanding recreational or aesthetic qualities; d) intensive protection of the quality of the water is in paramount interest of the people within a State or National Wild and Scenic River System; or e) intensive protection of the quality of the water is necessary to maintain an existing but jeopardized beneficial use (Source: IDAPA 16.01.02054,01).

Water Quality Limited Segment: Any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology-based effluent limitations required by sections 301(b) and 306 of the Clean Water Act (Source: 40 CFR Chapter 1, Section 130,2(j)). Water quality limited segments are to be prioritized for total maximum daily load development. Designation as a water quality limited segment is based on water quality data.

Wild and Scenic River: Under the Wild and Scenic Rivers Act (P.L. 90-542 as amended) a river or a section of a river may be classified as a wild river, a scenic river or recreational river. Wild Rivers are those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and unpolluted. They represent vestiges of primitive America. Scenic Rivers are those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines

largely undeveloped, but accessible in places by roads. Recreational Rivers are those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines and that may have undergone some impoundment or diversion in the past (Source: Wild and Scenic Rivers Act, Section 2 (b)).

The Wild and Scenic Rivers Act prohibits the Federal Energy Regulatory Commission from licensing hydropower projects on eligible or designated river segments; withdraws public lands within authorized boundaries from entry, sale, or deposition; limits mineral extraction within designated or study river corridors; and requires that management actions necessary to protect such rivers be taken.

BMP EFFECTIVENESS RATINGS

This part of the appendix describes standard Best Management Practices (BMPs) commonly used on the Payette National Forest to minimize effects of timber management and associated activities on soil and water resources. The purpose of Table AD-1 is to:

1. Establish the connection between the SWCP employed by the Forest Service and the Rules and Regulations pertaining to the Idaho Forest Practices Act; and
2. Provide a qualitative assessment of expected effectiveness that the implemented BMP will have on preventing or reducing impacts on soil and water resources.

The BMPs described herein are tiered to the Soil and Water Conservation Practices (SWCP) Handbook (FSH 2509.22) which is a supplemental document to the Forest Plan. This appendix does not cover all possible practices contained in the Forest Service Handbook, but it does represent the more common practices used to meet State and Forest management objectives. All reasonable practices will be implemented where applicable in the design of selected projects. The District Ranger (through the Presale Forester) is responsible for ensuring that all relevant SWCPs are incorporated into proper B and/or C Timber Sale Contract provisions. The Contracting Officer, through official representative(s), is responsible for ensuring that these provisions are properly administered on the ground.

Each Soil and Water Conservation Practice is described as follows:

- *Title* - Includes the sequential number of the SWCP and a brief title.
- *Objective* - Describes the SWCP objective(s) and the desired results for protecting soil and water resources.
- *Effectiveness* - Provides a qualitative assessment of expected effectiveness that the implemented practice will have on preventing or reducing impacts on soil and water resources.

The SWCP effectiveness rating is based on the following criteria:

- a. Literature/Research (must be applicable to area).
- b. Administrative studies (local or within similar ecosystem).
- c. Experience (judgment of qualified personnel by education and/or experience).
- d. Fact (obvious by reasoned, logical, response).

The expected effectiveness of the SWCP is rated High, Moderate or Low:

- **HIGH:** Practice is highly effective (greater than 90%), meets one or more of the rating criteria and documentation is available.

- **MODERATE:** Documentation shows that practice is 75% to 90% effective; or Logic indicates that practice is highly effective, but there is no documentation to back it up. Implementation and effectiveness of this practice will be monitored and the practice will be modified if necessary to achieve the mitigation objective.
- **LOW:** Effectiveness is unknown or unverified, and there is little or no documentation; or applied logic is uncertain and practice is estimated to be less than 60% effective. This practice is speculative and needs both effectiveness and validation monitoring.

➤ *Compliance* - Identifies specific Idaho Forest Practices Act Rule(s) that the implemented practice would meet or exceed.

BMP Description	Purpose or Objective	Effectiveness and IFPA Compliance
SWCP 11.05 - Wetlands analysis and evaluation.	Maintain wetland functions and avoid adverse soil and water resource impacts associated with the destruction or alteration of wetlands, bogs, and wet meadows.	HIGH. IFPA Rule 030: 08c
SWCP 11.07, 11.11 - Oil spill contingency plan. Petroleum storage, delivery facilities, and management.	Prevent contamination of soil and water resources resulting from leaking delivery systems and storage facilities.	HIGH. IFPA Rules 060: 02a, b, c
SWCP 11.09 - Management by closure to use.	Exclude activities that could result in damages to facilities or degradation of soil and water resources.	HIGH. IFPA Rule 040: cii, di, dii, eiii, eiv
SWCP 11.14 - Management of snow survey sites.	Protect snow courses and related data sites from effects by land management activities.	HIGH. No related IFPA rules.
SWCP 13.04 - Revegetation of surface-disturbed areas.	Protect soil productivity and water quality by minimizing soil erosion.	MODERATE. IFPA Rule 030: 04c, 05a, 05b
SWCP 14.05, 15.05 - Protection of unstable areas. Slope stabilization and prevention of mass failures.	Identify and protect unstable areas so as to avoid triggering mass movements and resultant erosion and sedimentation.	HIGH. IFPA Rule 3.d.ii
SWCP 14.17, 15.3, 15.19 - Stream channel protection. Controlling in-channel excavation. Stream bank protection.	Protect natural stream flows and streamside vegetation by maintaining unobstructed passage of stream flows and by reducing sediments and other stream pollutants from entering.	HIGH. IFPA Rule 030: 05a, 040: 04a thru d
SWCP 15.02 - General guidelines for the location and design of roads and trails.	Locate and design roads and trails with minimal soil and water resource impacts while considering all design criteria.	MODERATE. IFPA Rule 030: 03b, c; 04a 040: 02a thru h
SWCP 15.03 - Road and trail erosion control plan.	Prevent, limit, and mitigate erosion and sedimentation through timely implementation of erosion control practices prior to and during ground-disturbing activities.	MODERATE. IFPA Rule 040: 03c, f, hi.
SWCP 15.06 - Mitigation of surface erosion and stabilization of slopes.	Minimize soil erosion and sedimentation from road cut slopes, fill slopes, and travelways during and after construction.	MODERATE. IFPA Rule 040: 03a thru j.
SWCP 15.07 - Control of permanent road drainage.	Minimize the erosive effects of concentrated water and the degradation of water quality through proper design and construction of road drainage systems and control structures.	MODERATE. IFPA Rule 040: 03 and 04.
SWCP 15.08 - Pioneer road	Minimize sediment production and mass	MODERATE.

BMP Description	Purpose or Objective	Effectiveness and IFPA Compliance
construction.	wasting associated with pioneer road construction.	IFPA Rule 040: 02
SWCP 15.09 - Timely erosion control measures for incomplete roads and stream crossings.	To minimize accelerated erosion and sedimentation from disturbed ground created by ongoing incomplete projects.	MODERATE. IFPA Rule 040: 03a, b, f, I
SWCP 15.10, 15.18 - Control of road construction excavation and sidecast. Disposal of right-of-way and roadside debris.	Reduce sedimentation from unconsolidated excavated and sidecast material and construction slash caused by road construction, reconstruction, or maintenance.	HIGH. IFPA Rule 040: 04a
SWCP 15.11 - Servicing and refueling of equipment.	Prevent contamination of water from accidental spills of fuels, lubricants, bitumens, raw sewage, wash water, and other harmful materials.	HIGH. IFPA Rule 060: 02a, b, c
SWCP 15.14 - Diversion of flows around construction sites.	Minimize downstream sedimentation by ensuring that all stream diversions are carefully planned.	HIGH. IFPA Rule 040: 03e
SWCP 15.16 - Bridge and culvert installation (disposition of surplus material).	Minimize sedimentation and turbidity resulting from excavation for in-channel structures.	HIGH. IFPA Rule 040: 03b, d, e
SWCP 15.17 - Regulation of borrow pits, gravel sources, and quarries.	Minimize sediment production from borrow pits, gravel sources, and quarries, and limit channel disturbances in those gravel sources suitable for development in floodplains.	HIGH. IFPA Rule 040: 03g
SWCP 15.21 - Maintenance of roads.	Conduct regular preventive maintenance operations to avoid deterioration of the road surface and minimize disturbance to water quality and fish habitat.	MODERATE. IFPA Rules 040: 04a, b.
SWCP 15.23 - Traffic control during wet periods.	Reduce the potential for road surface disturbance during wet weather and reduce sedimentation probability.	MODERATE. IFPA Rule 040: 03.i
SWCP 15.24 - Snow removal controls.	Minimize impacts of snowmelt on road surfaces and embankments and reduce the probability of sediment production resulting from snow removal operations.	MODERATE. IFPA Rule 040: 05a, b
SWCP 15.27 - Trail maintenance and rehabilitation.	Minimize soil erosion and water quality problems resulting from trail erosion.	HIGH. No related rules

BMP Description

Watershed Management

SWCP 11.05 - Wetlands analysis and evaluation.

SWCP 11.07, 11.11 - Oil spill contingency plan. Petroleum storage, delivery facilities, and management.

SWCP 11.09 - Management by closure to use.

SWCP 11.14 - Management of snow survey sites.

Timber

SWCP 14.05, 15.05 - Protection of unstable areas. Slope stabilization and prevention of mass movements.

SWCP 14.17, 15.19 - Stream channel protection. Controlling in- channel excavation. Stream bank protection.

Roads and Trails

SWCP 15.02 - General guidelines for the location and design of roads and trails.

SWCP 15.03 - Road and trail erosion control plan.

SWCP 15.06 - Mitigation of surface erosion and stabilization of slopes.

SWCP 15.07 - Control of permanent road drainage.

SWCP 15.08 - Pioneer road construction.

SWCP 15.09 - Timely erosion control measures for incomplete roads and stream crossings.

SWCP 15.10, 15.18 - Control of road construction excavation and sidecast. Disposal of right-of-way and roadside debris.

SWCP 15.11 - Servicing and refueling of equipment.

SWCP 15.14 - Diversion of flows around construction sites.

SWCP 15.16 - Bridge and culvert installation (disposition of surplus material).

SWCP 15.17 - Regulation of borrow pits, gravel sources, and quarries.

SWCP 15.21 - Maintenance of roads.

SWCP 15.22 - Road surface treatment to prevent loss of materials.

SWCP 15.23 - Traffic control during wet periods.

SWCP 15.24 - Snow removal controls.

SWCP 15.25 - Obliteration of temporary roads.

SWCP 15.27 - Trail maintenance and rehabilitation.

NONPOINT SOURCE CONTROL PROGRAM 319 UPDATE

Division of Environmental Quality (DEQ)

Idaho Department of Health and Welfare DEQ is responsible for the overall coordination and implementation of the state's nonpoint source programs. Implementation of the Nonpoint Source Management Program is accomplished through interagency coordination with local, state, and federal natural resource agencies. The nonpoint source programs are implemented with assistance from public advisory committees, which provide continuous feedback on the direction and acceptability of the nonpoint source control strategy.

The nonpoint source control strategy is based on the feedback loop concept. BMPs are the backbone of this control program. A process for site-specific application of BMPs is developed under each nonpoint source program, and monitoring is used to evaluate the effectiveness of the BMPs. Changes to BMPs are recommended when they do not support the beneficial uses; monitoring continues to ensure that the revised practices are adequate (The 1992 Idaho Water Quality Status Report, Idaho Department of Health and Welfare, DEQ, December 1992). The nonpoint source program places emphasis on the following actions:

- Building on the strength of existing nonpoint programs, such as agriculture and forestry;
- Focusing evaluation and monitoring techniques on beneficial use assessments and BMP effectiveness;
- Creating public awareness and support through information, education, and citizen participation;
- Institutionalizing the feedback loop components in state and federal agency programs using the Clean Water Act requirements; and
- Integrating the nonpoint source control program with implementation of the Antidegradation Policy.

Feedback Loop Process for Nonpoint Source Control

