WATERWAY	PREFERRED WORK PERIOD[1]
Alsea River	July 1 - August 31 *(CHF,CHS,CO,STW,CT*)*
Other Coastal Tributaries	July 1 - September 15 *(CO,STW,CT*)*
Siuslaw District - Florence Office - (541) 997-7366	
Pacific	
Yachats River	July 1 - September 15 *(CHF,CO,STW,CT*)*
Siuslaw River	
Siuslaw Bay	October 1 - February 15 *(MAR,SHL,CHF,CO,STW,CT*)*
Siuslaw River	July 1 - September 15 *(CHF,CO,STW,CT*)*
Siltcoos/Tahkenitch Lake system	July 1 - September 15 *(CO,STW,CT*)*
Other Coastal Tributaries	July 1 - September 15 *(CO,STW,CT*)*
West Slope Willamette District - Corvallis Office - (541) 757-4186	
Willamette	
Willamette River (Will. Falls to Newberg)	June 1 - October 31 & December 1 - January 31 *(CHF,RB*)*
Willamette River (Newberg to McKenzie River)	June 1 - August 31 *(CHF,RB*)*
Chehalem Creek	July 1 - October 15 *(CT*)*
Yamhill River	July 1 - October 15 *(STW,CT*)*
Spring Valley Creek	July 1 - October 15 *(CT*)*
Glenn Creek	July 1 - October 15 *(CT*)*
Rickreal Creek	July 1 - October 15 *(STW,CT*)*
Luckiamute River	July 1 - October 15 *(STW,CT*)*
Marys River	July 1 - October 15 *(STW,CT*)*
Long Tom River	July 1 - October 15 *(CT*)*
Other West Bank Will. R. Tribs. (Will. Falls to McKenzie R.)	July 1 - October 15 *(CT*)*
Mid-Willamette District - Salem Office - (503) 378-6925	
Willamette	
Molalla/Pudding River	
Molalla River (below Molalla)	June 1 - August 31 *(CHF,STW,CT*)*
Other Molalla River Tributaries (below Molalla)	June 1 - September 30 *(CT*)*
Molalla River (above Molalla)	July 15 - August 31 *(CHS,STW,CT,RB*)*
N. Fk & M. Fk Molalla	July 15 - August 31 *(CHS,STW,CT,RB*)*
Other Molalla River Tributaries (above Molalla)	July 15 - September 30 *(STW,CT*)*
Pudding River	June 1 - September 15 *(CHS,STW,CT*)*
Butte Creek	July 15 - September 30 *(STW,CT*)*
Abiqua Creek	July 15 - August 31 *(CHS,STW,CT,RB*)*
Silver Creek	July 15 - September 30 *(STW,CT*)*
Other Pudding River Tributaries	June 1 - September 30 *(CT*)*
Mill Creek	June 1 - August 31 *(CHF,STW,CT,RB*)*
Santiam	
Santiam River	June 1 - August 31 *(CHF,STW,CT*)*
North Santiam River (below Big Cliff Dam)	July 15 - August 31 *(CHF,CHS,STW,CT,RB*)*

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WATERWAY	PREFERRED WORK PERIOD [1]
Stout Cr., Rock Cr., & Mad Cr.	July 15 - September 30 *(STW,CT,RB*)*
Other Santiam River Tributaries (below Big Cliff Dam)	June 1 - September 30 *(CT*)*
North Santiam River (above Detroit Dam)	June 1 - September 15 *(K,CT,RB*)*
Breitenbush River	June 1 - September 15 *(K,CT*)*
Lt. N. Fk. Santiam River	July 15 - August 31 *(CHS,STW,CT,RB*)*
Sinker, Elkhorn Cedar Creeks & tributarites	July 15 - September 30 *(STW,CT,RB*)*
Other Tributaries	June 1 - September 30 *(CT*)*
South Santiam River (below Foster Dam)	June 1 - August 31 *(CHF,CHS,CT,RB*)*
Crabtree Cr., & Thomas Cr.	July 15 - August 31 *(CHS,STW,CT,RB*)*
McDowell Cr., Wiley Cr.	July 15 - September 30 *(STW,CT*)*
Other South Santiam River Tributaries (below Foster Dam)	June 1 - September 30 *(CT*)*
South Santiam River (above Foster Dam)	July 15 - August 31 *(CHS,STW,CT,RB*)*
Middle Santiam River	June 1 - September 15 *(K,CT,RB*)*
Calapooia	
Calapooia River (below Holley)	June 1 - September 30 *(CHS,STW,CT*)*
Calapooia River (above Holley)	July 15 - August 31 *(CHS,STW,CT,RB*)*
Other East Bank Will. R. Tribs. (Will. Falls to Harrisburg)	June 1 - September 30 *(CT*)*
Upper Willamette District - Springfield Office - (541) 726-3515	
Willamette	
Willamette River (above McKenzie River)	June 1 - October 31 *(CHS,RB*)*
McKenzie	
McKenzie River (below Blue River)	July 1 - August 31 *(CHS,STW,CT,RB*)*
Tribs. McKenzie River (below Blue River)	July 1 - October 15 *(CT,RB*)*
McKenzie River (above Blue River)	July 1 - August 15 *(CHS,BUT,CT,RB*)*
Middle Fork Willamette	
Middle Fork Willamette River (to Rattlesnake Cr)	July 1 - August 31 *(CHS,STW,CT,RB*)*
Middle Fork Willamette river (Rattlesnake to Hills Cr. Res.)	by specific arrangement *(CHS,STW,CT,RB,OC*)*
Fall Creek	July 1 - August 31 *(CHS,STW,CT,RB*)*
Middle Fork Willamette River tributaries	July 1 - October 15 *(CT,RB*)*
Middle Fork Willamette River (above Hills Creek Reservoir)	July 1 - August 15 *(CHS,BUT,CT,RB*)*
Coast Fork Willamette	
Coast Fork Willamette River	June 1 - October 31 *(CHS,RB*)*
Row River (below Dorena Res.)	June 1 - October 31 *(CHS,RB*)*
Row River (above Dorena Res.)	July 1 - October 15 *(CT,RB*)*
Southwest Region	
Umpqua District - Roseburg Office - (541) 440-3353	
Pacific	
Umpqua River	
Umpqua Bay & Smith Est.	November 1 - January 31 *(MAR,SHL,CHS,CHF,CO,STW,STS,CT*)*
Umpqua River (Scottsburg and above)	July 1 - August 31 *(CHS,CHF,CO,STW,STS,CT*)*
Umpqua River Tribs.	July 1 - September 15 *(CHF,CO,STW,CT*)*

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WATERWAY	PREFERRED WORK PERIOD [1]
North Umpqua	
North Umpqua River (below Soda Springs Dam)	by specific arrangement *(CHF,CHS,CO,STW,STS,CT*)*
Tribs. North Umpqua (below Soda Springs)	July 1 - September 15 *(CHS,CO,STW,STS,CT*)*
North Umpqua River (above Soda Springs Dam)	June 15 - October 15 *(RB,BT,BR*)*
South Umpqua	
South Umpqua River	July 1 - August 31 *(CHF,CHS,CO,STW,CT*)*
South Umpqua Tribs.	July 1 - September 15 *(CHF,CO,STW,CT*)*
Coos-Coquille District - Charleston Office - (541) 888-5515	
Pacific	
Coos	
Coos Bay (Mouth to Catching SL)	October 1 - February 15 *(MAR,SHL,JUV,CHF,CO,STW,CT*)*
Coos R., Millicoma R., SF Coos R. (tidewater)	October 1 - March 31 *(MAR,JUV CHF,CO,STW,CT*)*
Coos River and Tribs.	July 1 - September 15 *(CHF,CO,STW,CT,MD*)*
Coquille	
Coquille River Estuary (Mouth to City of Coquille)	October 1 - February 15 *(MAR,SHL,JUV,CHF,CO,STW,CT*)*
Coquille River (City of Coquille to N. & S. Fks.)	October 1 - March 31 *(MAR,JUV, CHF,CO,STW,CT*)*
Coquille River tributaries	July 1 - September 15 *(CHF,CO,STW,CT*)*
Tenmile	
Tenmile Creek & Lake	October 1 - March 31 *(JUV*)*
Tenmile Lake tributaries	July 1 - September 15 *(CO,STW,CT*)*
Lower Rogue South Coast District - Gold Beach Office - (541) 247-7605	
Pacific	
Sixes/Coastal Tributaries.	
Estuaries (Floras Cr.,Sixes R.)	October 1 - May 31 *(CHF,CO,STW,CT*)*
Floras Creek	July 15 - September 30 *(CHF,CO,STW,CT*)*
Sixes River	July 15 - September 30 *(CHF,CO,STW,CT*)*
Elk	
Elk River Estuary	October 1 - May 31 *(CHF,CO,STW,CT*)*
Elk River	July 15 - September 30 *(CHF,CO,STW,CT*)*
Euchre/Coastal Tributaries	
Euchre Creek Estuary	October 1 - May 31 *(CHF,CO,STW,CT,*)*
Euchre Creek	July 15 - September 30 *(CHF,CO,STW,CT*)*
Hubbard Cr.,Brush Cr.,Mussel Cr.	July 15 - October 31 *(STW,CT*)*
Rogue River	
Rogue River Estuary	October 1 - May 31 *(CHF,STW,CT,*)*
Rogue River (below Marial)	May 1 - September 30 *(CHF*)*
Rogue River Tributaries (below Marial)	July 15 - September 30 *(CHF,STW,CT*)*
Hunter	
Hunter Creek Estuary	October 1 - May 31 *(CHF,STW,CT,*)*
Hunter Creek	July 15 - September 30 *(CHF,STW,CT*)*
Pistol/Coastal Tributaries	
Pistol River Estuary	October 1 - May 31 *(CHF,STW,CT*)*

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WATERWAY	PREFERRED WORK PERIOD [1]
Pistol River	July 15 - September 30 *(CHF,STW,CT*)*
Chetco/Coastal Tributaries	
Chetco River Estuary	October 1 - May 31 *(CHF,STW,CT*)*
Chetco River	July 15 - September 30 *(CHF,STW,CT*)*
Meyers Cr., Thomas Cr., & Whalehead Cr.	July 15 - October 31 *(STW,CT*)*
Winchuck	
Winchuck River Estuary	October 1 - May 31 *(CHF,STW,CT*)*
Winchuck River	July 15 - September 30 *(CHF,STW,CT*)*
Other Coastal Tributaries	July 15 - October 31 *(CT*)*
Upper Rogue District - Central Point Office (541) 826-8774	
Rogue	
Rogue River (above Marial)	June 15 - August 31 *(CHS,STW*)*
Illinois River	June 15 - September 15 *(CHF,STW*)*
Applegate River	July 1 - September 15 *(CHF,STW*)*
Other Rogue River Tributaries (above Marial).	June 15 - September 15 *(CHS,STW*)*
Rogue River (above Lost Cr.)	June 15 - September 15 *(BT,CT*)*
High Deseret Region	
Mid Columbia District - The Dalles Office - (541) 296-8026	
Columbia	
Columbia River (Within District Bonneville to John Day Dam)	November 15 - March 15 *(CHF,CHS,SS,CO,STW,STS*)*
Columbia River (Within District above John Day Dam)	December 15 - March 15 *(CHF,CHS,SS,CO,STS*)*
Columbia River Tributaries	July 1 - September 30 *(STW,CO,RB*)*
Fifteenmile Creek	July 1 - October 31 *(STW,RB*)*
Hood River	
Hood River	July 15 - August 31 *(CHF,CHS,CO,STS,STW*)*
Deschutes	
Deschutes River (below Pelton Dam)	February 1 - March 15 *(CHF,STS,RB*)*
White River	July 1 - October 31 *(RB*)*
Buckhollow Cr.	July 1 - October 31 *(STS,RB*)*
Bakeoven Cr.	July 1 - October 31 *(STS,RB*)*
Trout Cr. July 1 - October 31 *(STS,RB*)*	
Ochoco District - Prineville Office - (541) 447-5111	
Deschutes	
Deschutes River (Pelton Dam through Lake Billy Chinook)	July 1 - September 30 *(RB,BR*)*
Crooked River	
Crooked River (below Prineville Dam)	July 1 - October 31 *(RT*)*
Prineville Reservoir	July 1 - October 31 *(RT*)*
Crooked River (above Prineville Dam)	July 1 - October 31 *(RT*)*
N.Fk. Crooked River (above Big Summit Prairie)	July 1 - September 30 *(RT*)*

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WATERWAY	PREFERRED WORK PERIOD[1]
Deschutes District - Bend Office - (541) 388-6363	
Deschutes	
Metolius	
Metolius River	by specific arrangement *(K,RB,BR,BUT*)*
Spring Creek	July 1 - September 30 *(K,RB*)*
Lake Creek	July 1 - September 30 *(K,RB,BR*)*
Deschutes River (Lake Billy Chinook to Bend)	July 1 - September 30 *(RB,BR,BUT,K*)*
Squaw Creek	July 1 - October 15 *(RB,BR,BUT*)*
Tumalo	July 1 - October 15 *(RB,BR*)*
Deschutes River (Bend-North Canal Dam to Benham Falls)	July 1 - October 15 *(RB,BR*)*
Deschutes River (Benham Falls to Wickiup Dam)	July 1 - October 15 *(RB,BR*)*
Little Deschutes River	July 1 - October 15 *(RB,BR*)*
Fall River	July 1 - October 15 *(RB,BR*)*
Deschutes River (Wickiup Reservoir to Crane Prairie Dam)	July 1 - August 31 *(RB,BR,K*)*
Deschutes River (Crane Prairie Reservoir to Little Lava Lake)	July 1 - August 31 *(RB,BT,K*)*
Klamath District - Klamath Falls Office - (541) 883-5732	
Klamath	
Klamath River (below Keno)	July 1 - March 31 *(RB*)*
Klamath River (above Keno)	July 1 - March 31 *(RB*)*
Lost River	July 1 - March 31 *(RT*)*
Williamson River	August 1 - September 30 *(RB,BT,BR*)*
Sprague River	August 1 - September 30 *(RB,BT,BR*)*
Sycan River	August 1 - September 30 *(RB,BT,BR*)*
Wood River	August 1 - September 30 *(RB,BR*)*
Sevenmile Creek	August 1 - September 30 *(RB*)*
Klamath Lake and Agency Lake	July 1 - January 31 *(RB*)*
Silver Lake tributaries	July 1 - September 15 *(RT,BT*)*
Summer Lake	July 1 - September 15 *(*)*
Chewaucan River	July 1 - September 15 *(RT*)*
Goose Lake tributaries	July 1 - September 15 *(GRT,GLAM,GSUC,GCB,PRCH,PSCL*)*
Warner Valley tributaries	July 1 - September 15 *(WSUC,FD*)*
Southeast District - Hines Office - (541) 573-6582	
Columbia	
Snake	
Snake River (Malhuer County)	Open
Malheur	
Malheur River (below Namorf Dam)	Open
Willow Cr. (below Brogan Cyn.)	Open
Willow Cr. (above Brogan Cyn)	October 1 - March 31 *(RB,RT*)*
Cottonwood, Cr., Squaw Cr.	October 1 - March 31 *(RB,RT*)*
Other Tributaries	October 1 - March 31 *(RB,RT*)*
Malheur River (Namorf Dam to Dreswsey Valley)	November 1 - March 31 *(RT*)*

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WATERWAY	PREFERRED WORK PERIOD[1]
North Fork Malheur (mouth to Beulah Res.)	November 1 - March 31 *(RT,RB*)*
North Fork Malheur (above Beulah Res.)	July 1 - August 31 *(BUT,RT,BT*)*
South Fork Malheur	October 1 - March 31 *(RT*)*
Malheur River (above Drewsey Valley)	July 1 - August 31 *(BUT,RT,BT*)*
Owyhee River	
Owyhee River (below dam)	November 1 - March 31 *(RB,BT*)*
Owyhee River (above dam)	October 1 - March 31 *(RB,RT*)*
Succor Creek	October 1 - March 31 *(RT*)*
Silvies River (above 5mi dam)	October 1 - March 31 *(RT,*)*
Silver Creek (above Hwy 45)	October 1 - March 31 *(RT*)*
Donner Blitzen River (Steen Mtns)	October 1 - March 31 *(RT*)*
Alvord Basin	October 1 - March 31 *(LCT,AC*)*
Catlow Valley tributaries	October 1 - March 31 *(LCT,CTC,RT*)*
Trout Creek Mountains streams	October 1 - March 31 *(LCT,AC,RB,CT*)*
Quinn River	October 1 - March 31 *(LCT,RB,CT*)*

Northeast Region

John Day District - John Day Office - (541) 575-1167

Columbia River	
Lower John Day	
John Day River (below John Day)	July 15 - August 31 *(STS,RT*)*
Rock Creek	
Rock Creek (Gilliam Co.)	July 15 - September 30 *(STS,RT*)*
North Fork John Day	
North Fork John Day River (below U.S. 395)	July 15 - August 31 *(STS,RT*)*
Middle Fork John Day	
Middle Fork John Day River (below US 395)	July 15 - August 31 *(STS,RT*)*
Middle Fork John Day River (above US 395)	July 15 - August 15 *(CHS,STS,RT,BUT*)*
North Fork John Day River (above U.S. 395)	July 15 - August 15 *(CHS,STS,BUT*)*
Upper John Day	
South Fork John Day River	
South Fork John Day River	July 15 - August 31 *(STS,RT*)*
John Day River (above John Day)	July 15 - August 15 *(CHS,STS,BUT,RT,CT*)*
Canyon Creek	July 15 - August 31 *(STS,RB,CT*)*

Umatilla District - Pendleton Office - (541) 276-2344

Columbia	
Columbia River (John Day Dam upstream)	December 1 - March 31 *(CHF,CHS,SS,CO,STS*)*
Willow Creek	July 1 - December 31 *(RT*)*
Umatilla	
Umatilla River (below Pendleton)	July 15 - October 15 *(CHF,CHS,CO,STS*)*
Butter Creek	July 1 - December 31 *(RT*)*
Umatilla River (above Pendleton)	July 1 - August 15 *(CHS,CHF,STS,RT*)*

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WATERWAY	PREFERRED WORK PERIOD [1]
Birch Creek	July 1 - October 31 *(STS,RT*)*
McKay Creek	
McKay Creek (below reservoir)	November 1 - March 31 *(CHF,CHS,CO,STS*)*
McKay Creek (above reservoir)	July 1 - December 31 *(RT*)*
Wildhorse Creek	July 1 - October 31 *(CHF,CHS,CO,STS,RT*)*
Meacham Creek	July 1 - August 15 *(CHS,STS,RT,BUT*)*
Walla Walla	
Walla Walla River (below Harris Park)	July 1 - October 31 *(STS,RT,BUT*)*
Mill Creek	July 1 - October 31 *(STS,RT,BUT*)*
Walla Walla River (above Harris Park)	July 1 - August 15 *(STS,RT,BUT*)*
Wallowa District - Enterprise Office - (541) 426-3279	
Columbia	
Grande Ronde	
Grande Ronde River (below Wallowa River)	July 1 - September 15 *(CHF,STS*)*
Wenaha River	July 1 - August 15 *(CHS,STS,BUT*)*
Wallowa River	July 15 - August 15 *(CHS,STS,RB,BT,BUT*)*
Minam River	July 15 - August 15 *(CHS,STS,RB,BT,BUT*)*
Joseph Creek	July 1 - March 31 *(STS*)*
Snake	
Snake River (state line to Hells Canyon Dam)	July 1 - October 15 *(CHF,CHS,SS,STS*)*
Imnaha River	July 15 - August 15 *(CHS,STS*)*
LaGrande District - La Grande Office - (541) 963-2138	
Columbia	
Grande Ronde	
Grande Ronde River (Wallowa River to Meadow Creek)	July 1 - October 15 *(CHS,STS,RB,BUT*)*
Lookingglass Creek	July 1 - August 15 *(CHS,STS,RB,BUT*)*
Catherine Creek	
Catherine Creek (to Little Creek)	July 1 - October 15 *(BR*)*
Catherine Creek (above Little Creek)	July 1 - July 31 *(CHS,STS,RB,BUT*)*
Grande Ronde River (above Meadow Creek)	July 1 - July 31 *(CHS,STS,RB,BUT*)*
Snake	
Snake River Reservoir	July 1 - November 30 *(WW*)*
Snake River Reservoir Tributaries	July 1 - October 31 *(RB*)*
Pine Creek	July 1 - October 31 *(RB,BT,BUT*)*
Powder River	July 1 - October 31 *(RB,BUT*)*
Burnt River	July 1 - October 31 *(RB,BT*)*

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* Coded fish species defined below provide the primary basis for timing guidelines. The species list should be considered general information and is not necessarily comprehensive nor accurate.

AC - Alford chub
BR - brown trout
BT - brook trout
BUT - bull trout
CR - Crappie
CHF - chinook salmon, fall
CHR - chinook salmon, summer
CHS - chinook salmon, spring
CO - coho salmon
CS - chum salmon
CT - cutthroat trout (includes sea run)
CTC - Catlow tui chub
GCB - goose lake chub
GLAM - goose lake lamprey
GSUC - goose lake sucker
JUV - juvenile salmonids
K - kokanee
LCT - Lahontan cutthroat trout
MAR - various marine species of fish
MMS - Malheur mottled sculpin
PRCH - pit roach
PSCL - pit sculpin
RB - rainbow trout
RT - red band trout
SHL - various marine shell fish
SS - sockeye salmon
STS - steelhead summer
STW - steelhead winter
WW - various warm water game fish

1 Work period is established for named stream, all upstream tributaries, and associated lakes within the watershed unless otherwise indicated.

APPENDIX D

Figure 1:
DSL Fill/Removal
Permit Cross Section

DSL FILL/REMOVAL CROSS SECTION

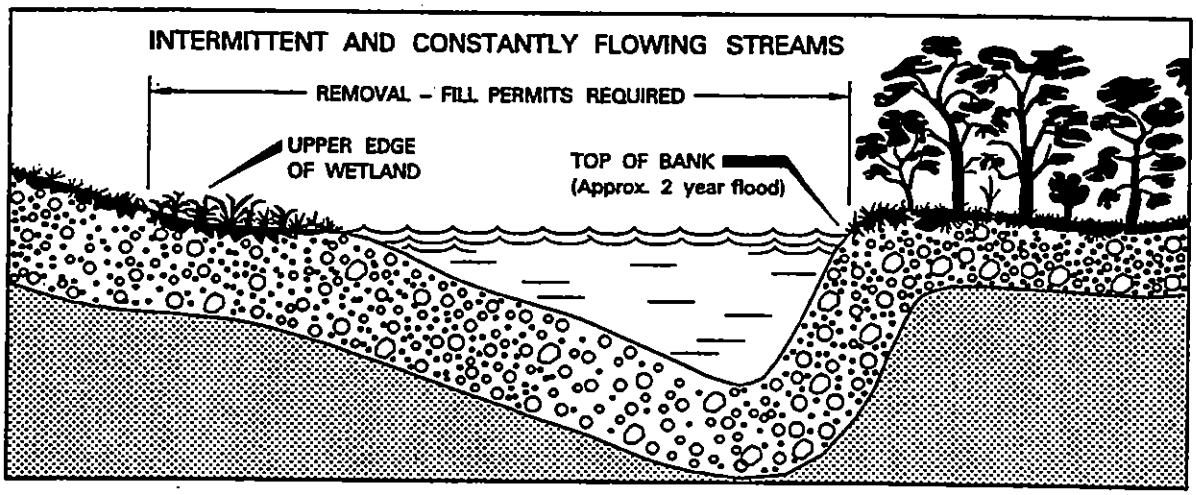


Figure 1

1. Intermittent streams, which are habitats to aquatic life, to the line of non-aquatic vegetation or bankfull stage, whichever is higher.

2. Constantly flowing streams to bankfull stage or the line of non-aquatic vegetation, whichever is higher.

3. Lakes to bankfull stage or the line of non-aquatic vegetation, whichever is higher.

APPENDIX E

Guidance For Maintenance Activities in Wetland Ditches

Oregon

INTEROFFICE MEMO

DATE: June 25, 1999

TO: Maintenance Supervisors, District Managers, Region Environmental Coordinators, Project Leaders, Project Development Leaders, Solution Team Leaders

FROM: Doug Tindall, State Maintenance Engineer
Jeff Scheick, Technical Services Branch Manager

SUBJECT: **Guidance on Maintenance Activities in Wetland Ditches**

Background

ODOT maintenance crews regularly perform a variety of activities related to repair or maintenance of state highways which could involve regulated ditches and other waters of the U.S. or wetlands. When these activities affect waterways or wetlands, a Section 404 permit from the Army Corps of Engineers (ACOE) and a Fill and Removal Permit from the Oregon Division of State Lands (DSL) may be required. Ditch cleaning, reshaping, and possible wetland impacts have been of particular concern.

Guidelines on when a permit may be needed for ditch maintenance have been developed by Environmental Services and the ACOE and DSL to help the ODOT maintenance forces more efficiently do their work in compliance with all applicable state and federal regulations.

We have also attached a guidance tool designed to help maintenance personnel determine when they need to apply for permits for their maintenance work.

Clarification of Maintenance Activities and Section 404/DSL Permits

Two key considerations determine whether a permit will be needed for maintenance activities of a roadside drainage facility:

1. **Is the drainage facility part of, or connected to, a stream system that contains fish or contributes resources that support fish?**

Answering the question "Are fish in the drainage facility?" is the key information that determines if a permit is needed for drainage facility maintenance activities. Contact with the local ODFW fisheries biologist for information about whether fish are likely to be in a roadside drainage facility is the best means of differentiating whether a drainage facility is actually a stream, perennial or intermittent, which has been "captured" by the roadside ditch system.

East of the Cascades and in southern Oregon, the issues of highway drainage ditches and intermittent streams, and their possible contribution to fish resources in the way of food-producing areas is unclear and must be addressed on a case-by-case basis. Since there are more circumstances of intermittent streams in eastern Oregon, contact or coordination of ditch maintenance activities with the local ODFW fisheries biologists prior to ditch maintenance activities is very important in this portion of the state.

If an ODFW fisheries biologist makes a determination that there are fish resources in a drainage facility, it is not considered a ditch and any activity in the drainage facility may require a permit. The ODOT Permit Specialists must be contacted.

2. Is the proposed activity "maintenance" or does it expand or change an existing drainage facility?

All maintenance activities are allowed in a drainage ditch, even if it was constructed in a wetland, as long as the ditch is not expanded, or new structures added. The term "ditch" is used only when fish are not present in the drainage facility.

Maintenance activities allowed in a drainage ditch in a wetland include removal of sedimentation, re-grading the ditchline to the original ditchline, removal of vegetation by clearing, mowing or whatever other method is commonly used for vegetation management, culvert cleaning, and any other regular maintenance activities. Side-casting of material removed from a ditch that lies in a wetland is considered "fill" and is not allowed. Sediments or material removed from a ditch in the ditch cleaning process must be disposed of in an appropriate upland disposal site.

Installing a new or additional culvert to add capacity to an existing culvert is new work, not maintenance, as is expanding the capacity of an existing ditch, adding rip-rap, revetments, or other bank protection materials which were not originally part of the drainage or ditch system. Any of these activities is subject to the permitting process, if the initial drainage ditch or structure was originally constructed in a wetland.

In past years, we understood that ditches in wetland areas needed to be maintained or cleaned every five years to be exempt from permit requirements. This is no longer the case. A ditch, whether it is in a wetland or has wetland characteristics, can be subjected to various maintenance activities even if the ditch has not been cleaned in numerous years, if fish are not present in the drainage facility.

Possibilities for Expediting Permits for Maintenance Activities

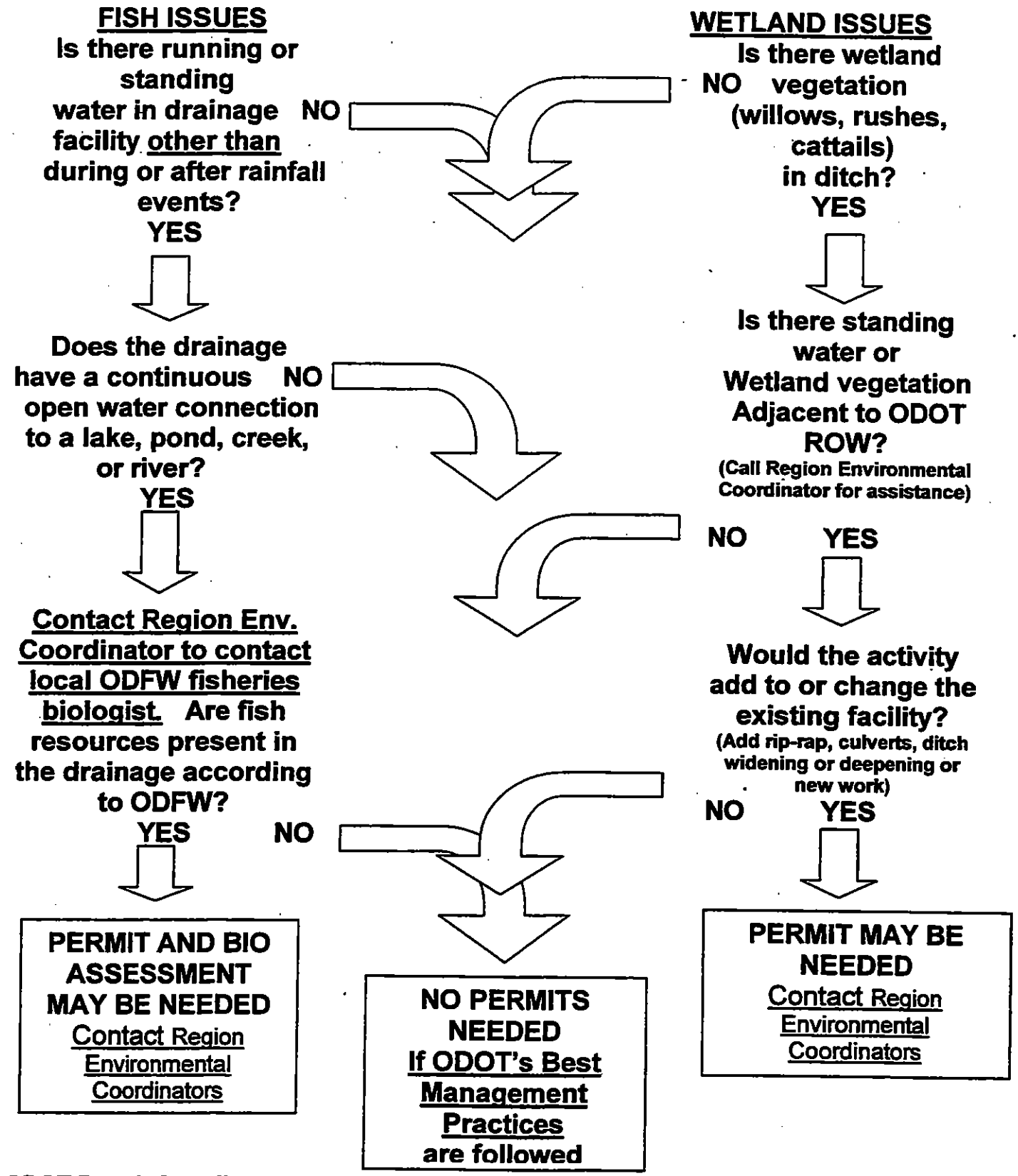
The main criteria for whether a ditch might be sensitive for maintenance activities and require a DSL permit is the presence of fish. Ditch maintenance or culvert cleaning activities could be expedited by compiling an inventory of district ditch and culvert cleaning projects. A district tour with the local ODFW fisheries biologist to get determinations of which drainage facilities support fish (i.e., are not really "ditches" but waterways), and which have no fish, and therefore fit the definition of "drainage ditch" could be conducted. This type of field coordination with ODFW would only need to take place once, if appropriately documented.

Field Guidance

Attached to this memo is a guidance flowchart for determining when permits might be needed for maintenance activities. These worksheets have been reviewed both internally, by wetland and maintenance staff, and by the Division of State Lands staff. Consultation with ACOE has also been conducted to clarify their policy on ditch maintenance activities and Section 404 Permits. The worksheet is intended to help maintenance employees determine when they may need to contact ODOT Permit Specialists before beginning any ditch maintenance activities.

Attachment: "Do We Need A Permit?" Flowchart

WHEN IS A PERMIT NEEDED FOR DITCH MAINTENANCE?



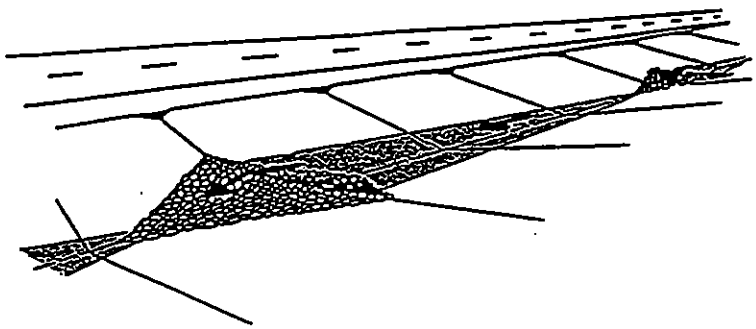
ODOT Permit Coordinators:
Julie Bunnell (503) 986-3783
Alan Lively (503) 986-3782

7/99

ANSWER ALL QUESTIONS FROM BOTH COLUMNS

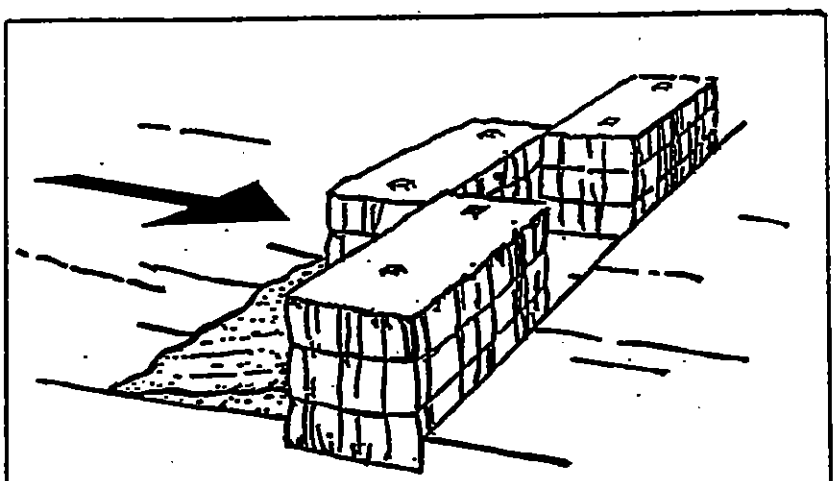
MAINTENANCE ACTION: CLEANING OPERATIONS
Erosion Control Best Management Practices

CHECK DAM



Definition A small temporary dam constructed in a swale or channel.

STRAW BALE BARRIER



Definition A temporary barrier of straw bales used to intercept sediment-laden runoff from small drainage areas of disturbed soil.

For More Information Contact
Geo-Hydro Section
(503) 986-3370

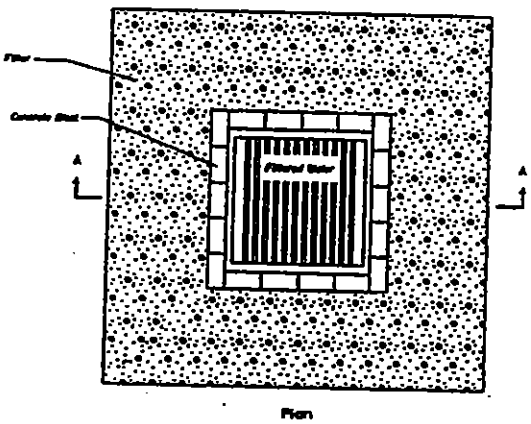
Storm Drain Inlet Protection

Definition: A sediment filter or excavated impounding area around a storm drain drop inlet, or curb inlet.

Purpose: To prevent sediment from entering and clogging storm drain systems prior to permanent stabilization of a disturbed area.

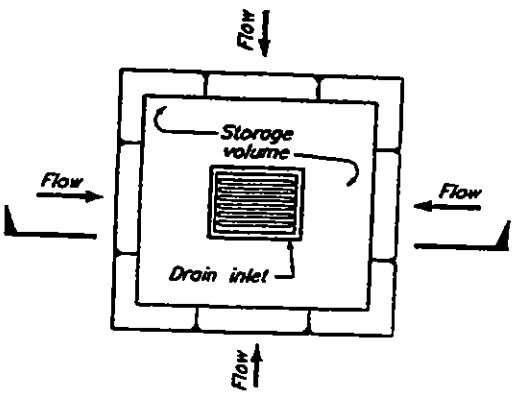
Appropriate Applications:
Protection is to be used where storm drain inlets are in place prior to permanent stabilization of the disturbed drainage area. Different types of protection are used for different structures.

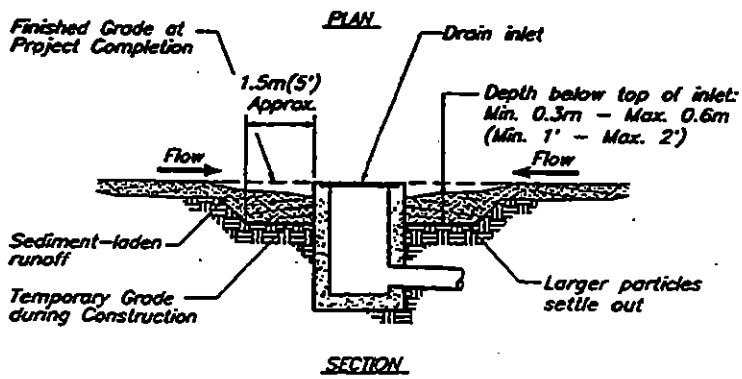
a. **Filter Fabric Covers:** applicable where the inlet is placed in concrete or asphalt, and drains a relatively small flat area (less than 0.4 ha [1 acre]) in size, with less than 5% slope. Do not place fabric under the grate as the collected sediment may fall into the drain when the fabric is retrieved.



Plan

b. **Excavated Drop Inlet Sediment Trap:** applicable where the inlet is not surrounded by concrete or asphalt. Protection against sediment entering a storm drain inlet can be provided by excavating an area around the inlet. The maximum allowable drainage area is 0.4 hectare.

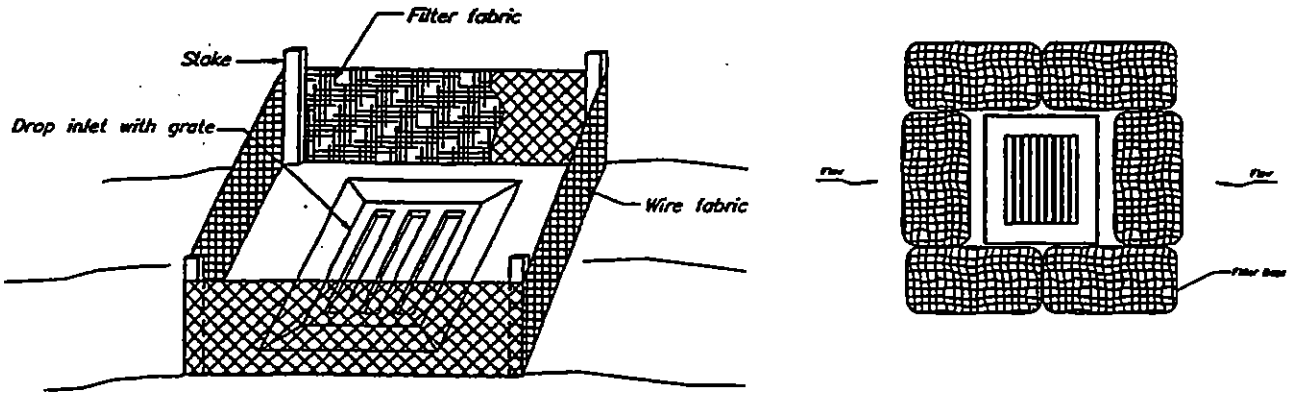




This method of inlet protection is applicable where heavy flows are expected and where an overflow capability and ease of maintenance are desirable.

Storm Drain Protection Continued

c. **Surrounding Sediment Barrier:** Applicable when the inlet is outside of the clear zone for vehicles. This inlet can be surrounded by either a silt fence or straw bale.

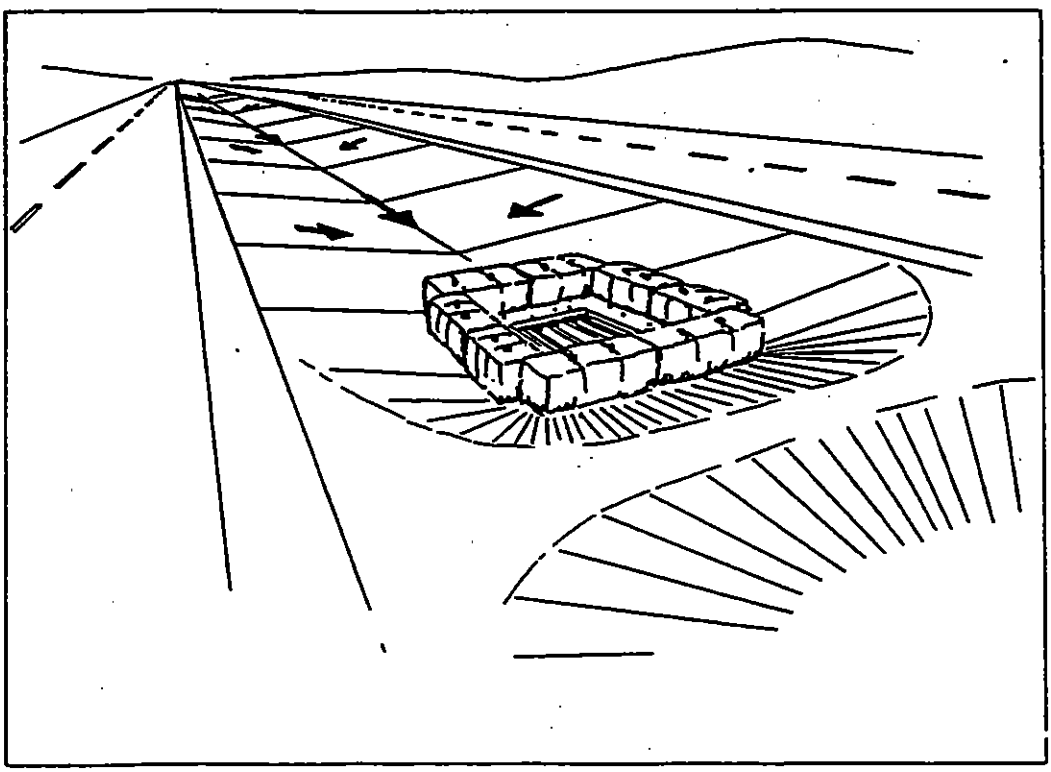


Limitations:

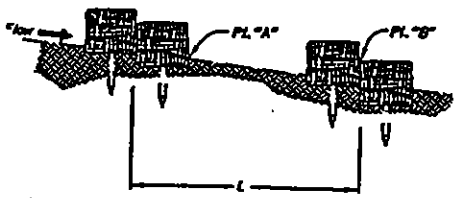
- Ponding may occur at the inlet with possible short term flooding.
- Curb inlets on slopes cannot be effectively protected because the storm water will bypass the inlet and continue downhill.
- Filter fabric is limited to storm drain inlets for small drainage areas of 2 hectares or less. For larger drainage areas, smaller sediment catchment areas are recommended.

Maintenance:

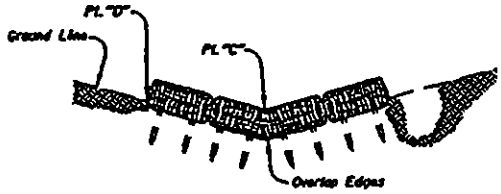
- Filter fabric placed on inlets that are surrounded by concrete or asphalt shall be kept in place by stones large enough to keep storm water velocity from pulling fabric away from the inlet.
- For systems using filter fabric: Inspections should be made on a regular basis, especially after large storm events. If the fabric becomes clogged, it should be replaced. If a sump is used, sediment should be removed when it fills approximately one-half the depth of the hole.



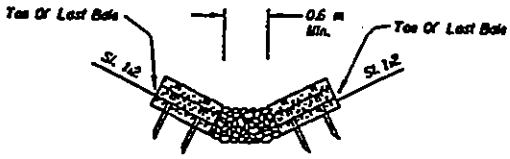
STRAW BALE BARRIERS



SECTION



FRONT VIEW



FLAT BOTTOM DITCH SECTION

A row of straw bales placed in a trench and staked down to decrease flow velocity and act as a sediment barrier. The purpose of a straw bale barrier is to reduce runoff velocity and allow deposition of the transported sediment load behind the barrier.

When to Use it

- Below areas subject to sheet and rill erosion
- On slopes with a drainage area of 0.1 ha per 305 m or barrier length or less and maximum slope of 50% and
- In swales or ditches with a drainage area of 1 ha or less.

Do NOT use straw bales:

- In active streams
- Straw bales should not be used for extended periods of time, as they will decompose.
- Suitable only for sheet flow on slopes no greater than 2%
- Not appropriate for drainage areas larger than 0.4 hectare (1 acre).

Construction Guidelines:

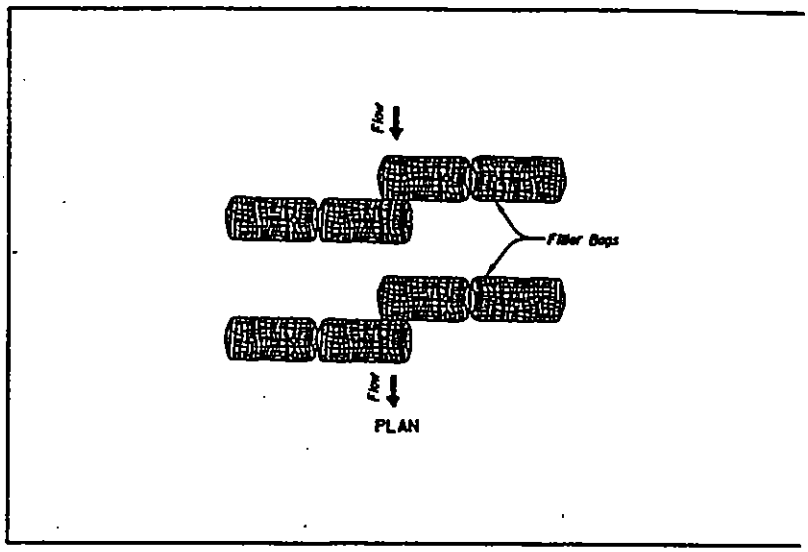
- Rectangular bales of grass seed straw (weighing 20-30 kg) which are wire-bound or string-tied around the long direction. Cereal grain straw from Oregon certified seed fields may be substituted upon approval from the Engineer.
- Stakes: 40m X 40mm wood posts.

Installation

- Bales shall be placed along a level contour and in a row; with ends overlapping each other.
- Maximize ponding areas by locating bales away from toe of slopes. This also provides easier access for sediment removal.

Steps to follow include:

1. Locate the barrier along the slope contour.
2. Recess each bale into the soil a minimum of 100mm (4 inches) deep an as wide as the bales.
3. Anchor the bales with two stakes each. The first stake shall be driven toward the previously laid bale to force the bales together. Drive stakes into the bale so that they are even with the top of the bale.
4. In a channel, make the bottom ends of the end bales 150 mm higher than the top of the lowest bail.
5. Bales shall be removed when they have served their usefulness.



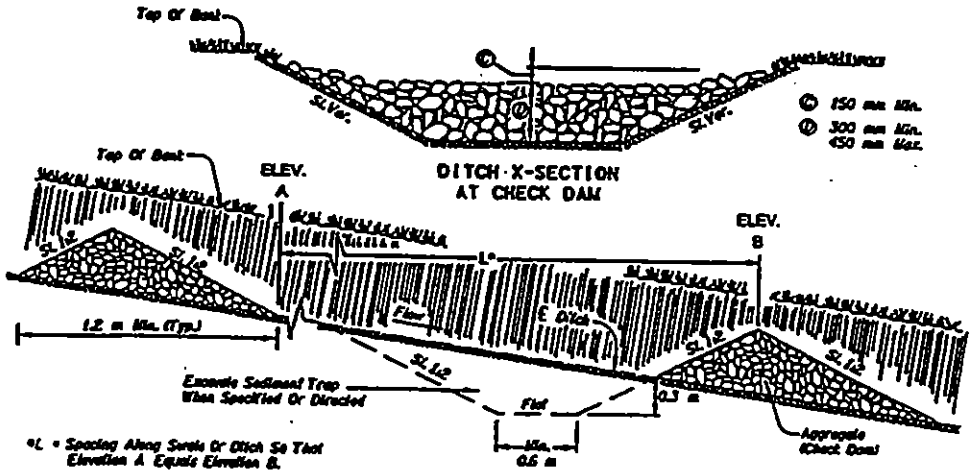
Maintenance

- Immediately repair any damage and replace deteriorated, destroyed, or rotted bales.
- Remove trapped sediment once it has reached 1/3 the height of the barrier.
- If channelization or short-circuiting occurs, correct the installation of the straw barrier.

Alternatives for the use of straw bales

- Sand bags.
- Biofilter bags.

CHECK DAMS



Check dams reduce the velocity of concentrated storm water flows, thereby reducing erosion and allowing sediment to settle out of the water. They are small dams built in swales or ditches.

When and Where to Use It

- In temporary or permanent swales not yet vegetated and where channel lining is not feasible,
- In permanent swales which cannot receive a lining for an extended period of time,
- If flow cannot be diverted to a stabilized outlet, and
- In small open swales which drain 4 ha (10 acres) or less.
- In active stream or rivers.

Limitations:

Check dams should not be used in live streams, and are not needed in channels that have already been lined or vegetated. Check dams can be an obstacle to traffic if they are constructed in the clear-zone.

Construction guidelines

- Construct with aggregate, stone, straw bales, logs (100 – 150 mm in diameter), or bags filled with crushed or pea aggregate.
- Use staples, twine, or other tools to anchor logs to each other.

Installation

- Place in a reasonably straight swale section to minimize erosion of the channel bends and allow ponding behind the dam.
- Space dams so that the bottom of the upstream dam is at the same elevation as the top of the downstream dam. Note that 2% slopes require a 6 mm (25") high check dam every 30 m and 4% slopes require the same check dams every 15 m. Check dams become cost prohibitive on slopes steeper than 4%.
- When channels have been covered with grass, check dams may be removed if the grass has matured sufficiently to protect the soil from erosion. On channels with slopes greater than 4%, the check dams should remain in place to continue to provide erosion control. If they are removed, the area beneath the check dams shall be mulched and seeded.
- Stabilize the area downstream of the last check dam or divert flow to a stabilized outlet.
- Place aggregate by hand or by mechanical means. Do NOT dump the rock into the swale. When large sizes of stone are used, place smaller stones, logs, or brush immediately downstream of the check dam to prevent undercutting of the dam.
- Make the center of the dam 150 mm lower than the edges. Construct the dam across the entire swale. The height of the weir should be half the depth of the swale, but not more than 0.6 m tall.

Maintenance

- Water should pass through the dam rather than under or around it. Repair the dam to stop these diversions.
- Remove sediment once it reaches half the sump depth.
- If stones have been washed downstream, add stones as needed to maintain design height and cross section. Also, be sure that structures below the check dams are not damaged or blocked due to any displaced stones.
- Clogging by leaves in the fall may be a problem.
- Remove check dams from grass-lined swales once the grass is established. Be sure to remove rock which was carried down stream. Then seed and mulch the area where the check dams were.

APPENDIX F

Guidance For Bridge Washing

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
Northwest Regional Office
7118 NE Vandenberg Ave.
Corvallis, OR 97330-9446
(541) 757-4186
FAX (541) 757-4252

Sue Chase
806 Airport Road SE
Salem, Oregon 97310

Dear Sue,

This last fall you requested a set of guidelines that your maintenance forces could use to help them minimize the environmental impacts while performing bridge washing activities. Attached is the set of guidelines that Oregon Department of Fish and Wildlife drafted to minimize the impacts of this activity. We realize that this activity is very critical in being able to prolong the life of the bridge and the safety of the public. These guidelines were drafted with regard to Fish and Wildlife resources statewide and the need to comply with State and Federal regulations.

It will be my responsibility to contact you annually if there are any changes to these guidelines. Please let me know whenever I can assist on other issues.

Sincerely

Randy Reeve

Randy Reeve
ODFW/ODOT Coordinator

Oregon
John A. Kitzhaber, M.D., Governor

Department of Fish and Wildlife
· Northwest Regional Office
7118 NE Vandenberg Ave.
Corvallis, OR 97330-9446
(541) 757-4186
FAX (541) 757-4252

GUIDELINES FOR BRIDGE WASHING

Bridge Washing can occur if the following criteria are met:

1) Occur during the period November 15 to April 1 for East of the Cascades
2) Occur during the period November 15 to March 15 West of the Cascades
3) Must occur during a high water event
4) Use only high pressure water
5) If paint is observed being displaced cease washing operations
6) Avoid washing tight areas (e.g. cracks, crevices) where bats may be present
7) If bats are observed to be displaced cease washing operations
8) If birds are building nests, laying eggs, tending young, no washing will occur
9) If any of the above criteria cannot be met, the local ODFW office must be contacted and the individual bridge will be discussed.

APPENDIX G

Guidance for Emergency Highway Repairs

Guidance for Emergency Highway Repairs

This document provides guidance to ODOT employees for notifying regulatory agencies of emergency highway repairs that will impact streams, rivers, and lakes. (See Attached)

Repairs which require immediate action: The work has already started or will start within a few hours. The repairs will be limited to restoring the structure/roadway to the original fill design. The procedure that will be followed for this type of action is listed below.

1. Immediate action emergencies are declared by the District Manager (DM) or his representative according to ORS 401.025.

2. Weekends and Evening Hours: The DM or representative will contact the Oregon Emergency Response System (OERS) at 1-800-462-0311 and request OERS contact the Department of State Lands (DSL) duty officer. The information listed below will be provided to OERS and the DSL duty officer. On the next working day the DSL Emergency Authorization Application form* will be faxed to DSL and the ODOT staff listed below.

3. Weekday Daytime Hours: The DM or representative will contact the appropriate DSL office for the section of the state in which the work is being performed (see list below). They will identify ODOT is reporting emergency in-water work and request to be connected with the appropriate DSL representative. The information listed below will be provided to the DSL representative. After notification by phone, the DSL Emergency Authorization Application form* will be faxed to DSL and the ODOT staff listed below.

Information to provide
Phone number and name of ODOT contact person
Highway, county, and milepost number of the impact site
Name of impacted waterway
Description of the work, including estimated time to complete the repair, type of material used, size of impact area (height/length), and quantity of fill/removal in the waterway.

DSL normal working hours phone numbers:
Western Counties (503) 378-3805 FAX: (503) 378-4844
All Eastern Counties and Josephine and Jackson (541) 388-6112 FAX: (541) 388-6480

ODOT employee contacts:
Permits – Alan Lively, Julie Bunnell FAX: (503) 986-3989
Environmental – Rose Owens FAX: (503) 986-3524
Region Environmentalist – Varies per region

* *The DSL Emergency Authorization Application form is not a permit or authorization. DSL will determine what regulatory action to take when it is received. ODOT support staff will provide information to other regulatory agencies as appropriate.*

DIVISION OF STATE LANDS
EMERGENCY AUTHORIZATION APPLICATION

DATE _____ **RECEIVED BY:** _____

APPLICANT NAME _____ **PHONE** _____
Other Contact(s)/Phone no.s: _____
ADDRESS _____
_____

PROJECT LOCATION INFORMATION:

Waterway: _____ **River mile:** _____ **County:** _____
Section: _____ **Township:** _____ **Range:** _____ **Nearest City** _____
Federal Wild/Scenic River? _____ Y _____ N **State Scenic Waterway?** _____ Y _____ N

NOTE: If State Scenic Waterway, contact with Oregon Department of Fish & Wildlife and Oregon Parks and Recreation Department is required
Driving Directions:

_____
_____

DESCRIBE NEED FOR THE PROJECT AND POTENTIAL CONSEQUENCES OF NO ACTION:

_____
_____
_____

OTHER AGENCY NOTIFICATION:

☐ **Oregon Dept. of Fish and Wildlife Biologist:** _____ **Phone No.** _____ **FAX:** _____
Date of Contact: _____
☐ **Other:**

PROPOSED PROJECT INFORMATION:

Activity Type: _____ **Waste Material Disposal Location:** _____
Impact Area feet/linear area: _____ **Material Used:** _____
Brief Description of Project: _____
_____
_____

Oregon Division of State Lands Office Use Only

ADDITIONAL INFORMATION REQUESTED:

☐ **Photos** ☐ **Cross Section Drawings**
☐ **Plan view showing intended work, site preparation, staging areas and temporary impacts**
☐ **Other:** _____
Date of Request:
☐ **DSL TELEPHONE/VERBAL APPROVAL BY:** _____ **Date:** _____
☐ **SITE INSPECTION CONDUCTED BY:** _____ **Date:** _____
☐ **Special Permit Conditions** _____
_____

☐ **Entered in Data Base** **Permit No.** _____ ☐ **File Set Up**
☐ **Final Authorization Signed Date:** _____ ☐ **Monthly Report** ☐ **Final Log Out**
Copies Distributed to: _____ _____
_____ _____

DSL FILL/REMOVAL CROSS SECTION

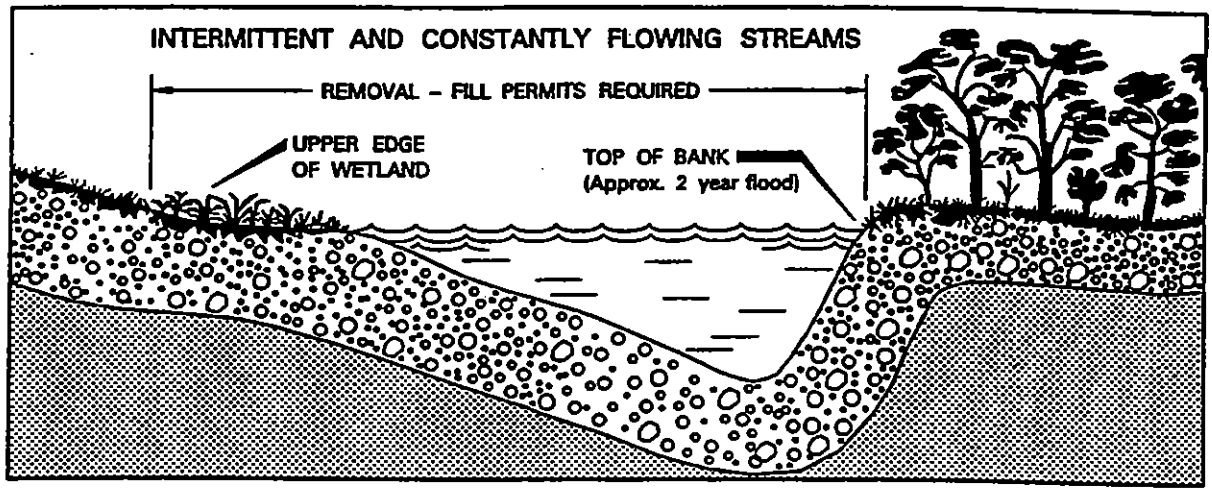


Figure 1

1. Intermittent streams, which are habitats to aquatic life, to the line of non-aquatic vegetation or bankfull stage, whichever is higher.

2. Constantly flowing streams to bankfull stage or the line of non-aquatic vegetation, whichever is higher.

3. Lakes to bankfull stage or the line of non-aquatic vegetation, whichever is higher.

Lane County Public Works

*R*outine

*R*oad

*M*aintenance

Water Quality and Habitat Guide
Best Management Practices

March 2004

TABLE OF CONTENTS

ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
ARC	Annual Report on Carcinogens
BMP	Best Management Practices
DSL	Department of State Lands
ESA	Endangered Species Act
ESU	Evolutionary Significant Unit
FHSA	Federal Hazardous Substances Act
LCPW	Lane County Public Works
MMS	Maintenance Management System
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NTP	National Toxicology Program
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OSHA	Occupational Safety and Health Administration
RMA	Riparian Management Area
SARA	Superfund Amendments and Reauthorization Act of 1986
USFWS	U.S. Fish and Wildlife Service

DEFINITION OF TERMS

Ditch: A facility, typically parallel to the road, that carries stormwater runoff draining from the LCPW facility and adjacent properties. It is not a channelized stream, or fish bearing stream.

Emergency: As defined under OAR 125-310-030 and ORS 401.025(4).

OAR 125-310030"...the emergency consists of circumstances creating a substantial risk of loss, damage, interruption of services or threat to public health or safety that could not have been reasonably foreseen..."

ORS 401.025 (4) "Emergency" includes any man-made or natural event or circumstances causing or threatening loss of life, injury to person or property, human suffering or financial loss, including, but not limited to, fire, explosion, flood, severe weather, drought, earthquake, volcanic activity, spills, or releases of oil or hazardous material as defined in ORS 466.605, contamination, actual or imminent loss or restriction of transportation facilities, civil disturbance, riot, sabotage and war."

The distinction must be made as to when the emergency is over and clean up begins. It is during the clean up and permanent repairs that consideration must be given to: disposal of material in approved manner, in approved location; and providing fish passage.

An emergency ends when threats of loss of life, injury, suffering or financial loss is mitigated and pre-emergency service is restored.

Maintenance Management System (MMS): A specialized budget and accounting system for managers. The MMS is used for work planning, scheduling, performance evaluation, and budgeting and expenditure control of maintenance activities.

Riparian Management Area (RMA): A classification of management areas for streams and rivers based on their relative size.

SIZE	RIPARIAN MANAGEMENT WIDTHS	EXAMPLES
Large	100 feet	McKenzie River, Siuslaw River, Willamette River
Medium	70 feet	Mohawk River, Deadwood Creek, Brice Creek
Small	50 feet	Most streams (first-second order tributaries)

Routine Maintenance: Recurring activities (scheduled or predictable) that are needed to maintain the functional integrity of the existing transportation facility.

Significant Resource Area/Significant Aquatic Resource: Areas that are currently protected, or potentially protected for species. This term applies to areas designated as 'core area' (ODFW); "essential indigenous anadromous salmonid habitat" (DSL); "Type F" streams (ODF); as well as areas to be included in any designated critical habitat for listed species (NMFS, USFWS). This designation also incorporates LCPW transportation corridor proximity: an area will only be designated as a Significant Aquatic Resource if LCPW maintenance activities have a potential of impacting it.

INTRODUCTION AND PURPOSE

Lane County Public Works Road Maintenance Department has formally adopted the Oregon Department of Transportation Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices dated July 1999. The guide will govern the manner in which Lane County maintenance crews will proceed on a wide variety of routine maintenance activities, including surface and shoulder work, ditch, bridge, culvert maintenance, snow and ice removal, emergency maintenance, mowing, brush control and other vegetation management for all of Lane County.

The Oregon Department of Transportation Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices does not cover two road maintenance activities that LCPW maintenance crews perform. (1) Dust Abatement, (2) Gravel Road Maintenance. We have complemented the ODOT Guide with Best Management Practices (BMP) that cover Dust Abatement and Gravel Road Maintenance. The BMP's that were added are designed to eliminate the adverse impacts of road maintenance activities on salmonid habitat while preserving our ability to maintain the functional integrity of the existing transportation facility.

This manual covers five key areas:

- Descriptions of maintenance activities with minimization/avoidance actions
- Description of the LCPW training program for routine maintenance and environmental considerations
- Description of the process for review, documentation and monitoring implementation and effectiveness of the actions
- Relevant references or examples
- Definitions of terms

The purpose of this manual is to:

- To establish a set of BMPs to minimize the impacts of LCPW activities on salmon runs.
- To train LCPW personnel on these BMPs.
- To insure that LCPW complies with the 4(d) rules published by NMFS, prohibiting a "take" of listed species by securing a programmatic limitation under Limit 10: Routine Road Maintenance.

Geographic Area

The area of Lane County, Oregon is approximately 4,620 square miles. It borders the Pacific Ocean to the west and the Cascade Mountains to the east. Lane County maintains 1264 miles of paved roads, 168 miles of gravel road, and 413 bridges.

The Listed Species

The following Evolutionary Significant Units (ESUs) are listed as threatened under the Endangered Species Act (ESA) in Lane County:

- Upper Willamette Spring Chinook Salmon
- Oregon Coast Coho Salmon

Salmon Runs in Lane County, Critical Habitat

Upper Willamette Spring Chinook, Oregon Coast Coho, and other anadromous salmonids migrate between the Pacific Ocean and inland freshwater streams. In Lane County, designated critical habitat for both Chinook salmon and Coastal Coho occur throughout the County.

Recovery

The factors that are within human control that LCPW has addressed in order to provide the greatest likelihood of salmonids recovery:

- **Habitat Modification:** Maintain and restore the physical integrity of the aquatic system, including shorelines, banks and bottom configurations. Maintain and restore water quality necessary to support healthy riparian, aquatic and wetland ecosystems.

This plan focuses on implementing, Habitat Modification, in Lane County. The section, " Best Management Practices," identifies all LCPW activities not covered by ODOT Manual that may adversely impact salmonid habitat. Guidelines are provided for each action to minimize such impacts and insure that they comply with the NMFS 4(d) regulations and do not constitute a "take."

TRAINING

It is the responsibility of maintenance personnel to understand and correctly implement BMP for a variety of maintenance activities as they conduct their daily tasks. Lane County has an extensive outreach/training program for its maintenance personnel on environmental issues. The corner stone of our ESA training for maintenance personnel will be a training course that is comprised of an ESA and BMP overview. This training course will be provided to all LCPW maintenance personnel. Elements of the maintenance training and outreach program include:

- New employee orientation
- Annual field visits
- Erosion and sediment control training
- Excavation Safety
- NPDES requirements
- Fish passage training
- Bi-Weekly Maintenance Supervisor Meetings
- Maintenance Short School training (In-House)
- American Public Works Association (Short Schools)
- Equipment Operator Skills Demonstration & Technical Training

Bi-Weekly Maintenance Supervisors Meetings - These meetings will be utilized to discuss ESA-related policy and operational issues with maintenance supervisors.

Examples include:

Update on newly listed species
Identify and document thresholds for making changes in maintenance actions
Update and/or new BMPs along with equipment that becomes available
Product use and evaluation
Recognizing when permits are required
Develop planning for BMPs

Maintenance Short School Training (In House Training) - Is held once a year for two days for all maintenance staff. The curriculum will be updated to meet today's needs.

Examples include:

Environmental Permit & Commitment Compliance
ESA
Water Quality Issues
Contamination Issues
Best Management Practices
Erosion Control Devices & Methods

American Public Works Association Short Schools - Training classes at the conference are "awareness level" in nature and serve to keep state and local road maintenance personnel updated on related ESA issues.
Examples include:

Road Waste Management
Liquid Chemical Deicers
Clean Water Practices
Inside Dirt on Erosion Control

Equipment Operators Skills Demonstration & Technical Training - Training classes at the conferences are based on the results of solicited concerns. This annual training event covers a wide variety of topics including ESA related training courses.

Examples include:

ODOT's Best Management Practices Handbook
Environmental Concerns of Road Maintenance
Gravel Road Maintenance
Deicer & Anti-icer Applications & Alternatives
Culvert Retrofit & New Products

Training continues to be an integral component of Lane County Public Works Road Maintenance Department. We are in the process of developing a formal Maintenance Short School for our maintenance personnel. The program will be used for training needs where it is apparent adequate training courses are not available. Courses will be developed for maintenance personnel so they can obtain the information necessary to properly carry out their work tasks.

DOCUMENTATION/REPORTING

The Lane County Public Works Maintenance Department will develop and submit an annual report to the NMFS that will depict ESA related complaints. The annual report will contain:

- Investigations of ESA-related complaints (i.e. adverse impacts to water quality of aquatic habitat) received from/by Lane County staff, other agencies or members of the public on impacts to the environment by maintenance activities.
- Investigations of complaints received from/by ODOT staff, other agencies, or members of the public on impacts to the environment by maintenance activities. The document will include basis of complaint, results of the investigation, and resolution of issue, or recommendations.
- Modifications or, improvements to, any minimization/avoidance actions including summaries of challenges or successes in applications.
- Investigations of illicit discharges to LCPW rights-of-way or drainage pipes.
- Overall summary of contacts and coordination with ODFW, NMFS, and USFWS on specific issues.
- Reporting: The documentation will include basis of complaint, list of names and phone numbers of individuals who lodged the complaint, results of investigation, and resolution of issue, or recommendation.

MONITORING

The LCPW compliance-monitoring program is intended to meet environmental protection requirements in regards to highway maintenance activities in all areas of Lane County. Compliance monitoring activities will demonstrate the environmental protection commitments made as part of the 4(d) rule exemption are in fact being met.

Training: The tools for effective compliance monitoring are initially developed when maintenance personnel are trained on ESA and other related environmental protection matters. Information regarding compliance monitoring, checklists, roles and responsibilities will be incorporated in our Maintenance Academy.

Planning: Road maintenance personnel (i.e. managers, supervisors, lead workers) will identify upcoming projects which have the potential for adversely impacting water quality and/or aquatic habitat. Permits, environmental BMPs, in-water work periods, and other environmental issues will be discussed at our quarterly Maintenance Project Meetings.

Deficiencies: In the event that deficiencies are found in how environmental protection BMPs are utilized, corrective actions, appropriate to the applicable circumstances, will be implemented. Corrective actions include additional training, providing improved information to maintenance personnel and mitigation if needed. If deficiencies are related to the absence of adequate equipment and/or materials, procurement of needed items will be sought through normal departmental means.

LCPW will document the complaints received from/by LCPW staff, other agencies or members of the public on impacts to the environment by maintenance activities. The documentation will include basis of complaint, results of the investigation, and resolution of issue, or recommendations.

In addition, LCPW will continue to network with other agencies, and municipalities on effective monitoring of non-point source pollution. With the 2003 requirements of NPDES Phase II, Lane County will be partnering with both the City of Eugene and Springfield in regards to various elements of the six minimum measures. The goal of this partnering is to implement a basin wide approach for minimizing impacts to salmonid habitat.

PROCESS FOR REVIEW

LCPW will utilize the Maintenance Supervisor Meetings and field visits to identify and announce any modifications/changes to the minimization/avoidance actions identified in this document. New technologies and design standards will also be presented at the supervisor meetings.

Every five years LCPW will evaluate the need to rewrite the Guide. The decision will be made on the number of changes needed and new technologies to be incorporated.

LCPW MAINTENANCE MANAGEMENT SYSTEM (MMS)
Descriptions and Minimization and Avoidance Best Management Practices

Gravel Road Blading (MMS 416)

Overview: LCPW maintains 168.57 miles of gravel road, of which 19.21 miles are within 100 feet of the Riparian Management Area (RMA).

Purpose: BMP in this section are designed to eliminate the adverse impacts of road maintenance on salmonids habitat without compromising safety. Proper, timely, and selective surface maintenance, which includes water disposal, prevents and minimizes erosion problems, thereby lengthening the life of the road surface which in turn lessens frequency and cost of maintenance. This will also decrease the amount of sediment carried into surface waters.

Description: Restoring the roadway cross slope, drainage and grade by blading, reshaping and smoothing of existing gravel surface materials. Rehabilitating non-paved surfaces by adding gravel and then blading it to restore/establish a smooth stable surface with proper drainage.

Minimization/Avoidance: Grading will be conducted in a manner, which minimizes disturbance to vegetation beyond widths needed for safety purposes.

- Lane County Maintenance Supervisor will determine if weather conditions are appropriate (i.e. heavy rainfall) that could result in adverse impacts to water quality or aquatic habitat.

- Cut and pull surfacing near the shoulder so as not to create a secondary ditch between travel way and ditch, in sensitive areas.

- Use temporary and industry standard erosion and sediment control devices such as check dams, silt fences, bio-bags and other acceptable techniques, when the potential exists to have sediment or other materials enter waters of the State.

Dust Abatement (MMS 421, 422)

Overview: LCPW applies a dust palliative to 30.36 miles of gravel road annually, of which 3.84 miles are within 100 feet of the RMA.

Dust from unpaved roads is not only a nuisance but creates a safety hazard by reducing the driver's visibility. Dust also affects the health of road users and increases wear-and-tear on vehicles. Dust is always considered an intruder at residences that are located near gravel roads.

Fine particles, including dust, act to help hold the surface of unpaved roads together. With a loss of fine particles from the roadway, there is an increase in roadway surface raveling and maintenance costs.

Based on the characteristics listed below, LCPW will mitigate the environmental impacts by following the BMPs for dust abatement.

Purpose: Dust suppressants work by either agglomerating the fine particles, adhering/binding the surface particles together, or increasing the density of the road surface material. They reduce the ability of the surface particles to be lifted and suspended by either vehicle tires or wind.

Description: Dust abatement involves application of a dust palliative to non-paved road surfaces to temporarily stabilize surface soils, leading to a reduction of dust during the dry season. Palliatives are applied in liquid form and could include calcium magnesium acetate, magnesium chloride, emulsified asphalts, or lignosulfonates.

Product Identification: Lane County's proposal is to use Calcium/Ammonium Lignosulfonate. The liquid palliative is diluted to a 50:50 solution with water prior to application.

Toxicity Data: This material is not toxic when administered orally to rats under the Federal Hazardous Substance Act (FHSA) criteria. This material is not an irritant when applied to the skin of rabbits under the FHSA criteria. Four-hour exposure of 198 mg/m3 of dust has resulted in neither mortality nor observable sign of toxicity. It is not listed as a carcinogen by ARC, NTP, OSHA, or ACGIH.

Spill, Leakage, and Disposal Procedures: Wash area with water. Spills or releases of this material do not currently trigger the emergency release reporting requirements under the federal Superfund Amendments and Reauthorization Act of 1986 (SARA).

Environmental Impacts: The primary environmental concern with dust palliatives is how they impact the groundwater quality, freshwater aquatic environment, and plant community. The impact of dust palliatives on groundwater quality is based on how the suppressant migrates to the local groundwater table.

Mitigation and Avoidance:

- During preparation for application of dust palliatives, gravel berms will be constructed at the low shoulders of the roadway to inhibit liquid palliatives from entering waters of the State.
- Dust palliatives will not be applied during rain.
- Methods and materials shall be applied in a matter that is not detrimental to either water or vegetation.
- Carrying adequate supplies for spill containment. (Diapers, Rice Ash, Shovel, etc.)
- Using environmentally sensitive cleaning agents.
- Disposing of excess materials at appropriate sites.

APPENDICES:

This manual references but does not attach the following appendices of the Oregon Department of Transportation Routine Road Maintenance Water Quality and Habitat Guide Best Management Practices dated July 1999:

A: Guidance for Emergency Highway Repair