OREGON STATE PROGRAMS FOR MANAGING RIPARIAN RESOURCES

REPORT BY THE RIPARIAN MANAGEMENT WORK GROUP

APPENDIX B: OREGON'S WATER QUALITY STANDARDS AND CRITERIA RELATED TO RIPARIAN CORRIDORS

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WATER QUALITY STANDARDS RELATED TO RIPARIAN AREAS

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WATER QUALITY STANDARDS RELATED TO RIPARIAN AREAS

PARAMETER: Biological Criteria

BENEFICIAL USES AFFECTED: Resident Fish and Aquatic Life

STANDARDS or CRITERIA: OAR 340-41-027

Standards applicable to all basins:

Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

"Aquatic species" means any plants or animals which live at least part of their life cycle in waters of the State.

"Biological Criteria": means numerical values or narrative expressions that describe the biological integrity of aquatic communities inhabiting waters of a given designated aquatic life use.

"Resident Biological Community" means aquatic life expected to exist in a particular habitat where water quality standards for a specific ecoregion, basin, or water body are met. This shall be established by accepted biomonitoring techniques.

"Without Detrimental Changes in the Resident Biological Community" means no loss of ecological integrity when compared to natural conditions at an appropriate reference site or region.

"Ecological Integrity" means the summation of chemical, physical and biological integrity capable of supporting and maintaining a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of the natural habitat of the region.

"*Appropriate Reference Site or Region*" means a site on the same water body, or within the same basin or ecoregion that has similar habitat conditions, and represents the water quality and biological community attainable within the areas of concern.

WATER QUALITY LIMITED CRITERIA[1]: Aquatic communities (primarily macroinvertebrates) which are 60% or less of the expected reference community **for both** multimetric scores and multivariate model scores are considered impaired. Streams with either multimetric scores or multivariate scores between 61% and 75% of expected reference communities are considered as streams of concern. Streams greater than 75% of expected reference communities using either multimetric or multivariate models are considered unimpaired.

or

Where monitoring methods determined a Biotic Condition Index, Index of Biotic Integrity, or similar metric rating of poor or a significant departure from reference conditions utilizing a suggested EPA biomonitoring protocol or other technique acceptable to DEQ.

TIME PERIOD: Annual

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[1] The Water Quality Limited Criteria "Fishery data on escapement, redd counts, population survey, etc. that show fish species have declined due to water quality conditions" should not have appeared under the Biological Criteria. This wording was intended to be used as one method to demonstrate a beneficial use impairment under Habitat Modification Flow Modification and Sedimentation and was not used to make listing decisions for biological criteria.

DATA REQUIREMENTS: Similar habitat types sampled in assessed and reference sites, and assessed and reference sites sampled in the same season, if reference sites are used. For macroinvertebrate assessments a minimum of 6 square feet of stream bottom must be sampled per stream reach assessed. Where less than 6 square feet of stream bottom is sampled results that indicate impairment are listed as streams of concern. Data collected since WY 87 (10/86). Earlier data will be considered on a case by case basis.

EXAMPLES OF DATA USED FOR 1998 LISTING:

Department of Environmental Quality, U.S. Forest Service, Bureau of Land Management and Unified Sewage Agency biomonitoring data;

Willamette River and Columbia River Bi-State Studies conducted under contract.

PARAMETER: Dissolved Oxygen

BENEFICIAL USES AFFECTED: Resident Fish and Aquatic Life, Salmonid Spawning and Rearing

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(a)

Dissolved Oxygen concentration shall not be less than the following:

Standards applicable to all basins (adopted January 11, 1996; effective July 1, 1996)

During times and in waters that **support salmonid spawning until fry emergence from the gravels**:

> Dissolved Oxygen shall not be less than 11 mg/l; *unless*
>
> intergravel dissolved oxygen is greater than 8.0 mg/l (as a spatial median minimum), then DO criteria is 9.0; *or*
>
> where conditions of barometric pressure, altitude and naturally occurring temperatures preclude attainment of the 11 or 9 mg/l standard, then dissolved oxygen levels shall not be less than 95% saturation.
>
> Spatial median minimum intergravel dissolved oxygen concentration shall not fall below 6.0 mg/l.

For waters identified as providing **cold-water aquatic resources**, the dissolved oxygen shall not fall below 8.0 mg/l (unless it is diurnal monitoring data that can be used to estimate the 7-day minimum, then the minimum shall not fall below 6.5) *or* where conditions of barometric pressure, altitude and naturally occurring temperatures preclude attainment of the 8.0 mg/l standard, then dissolved oxygen levels shall not be less than 90 percent saturation.

For waters identified as providing **cool-water aquatic resources**, the dissolved oxygen shall not be less than 6.5 mg/l.

For waters identified as providing **warm-water aquatic resources**, the dissolved oxygen shall not be less than 5.5 mg/l.

For **estuarine waters**, the dissolved oxygen concentrations shall not be less than 6.5 mg/l.

For **marine waters**, no measurable reduction in dissolved oxygen concentration shall be allowed.

WATER QUALITY LIMITED CRITERIA: Greater than 10 percent of the samples exceed the appropriate standard and a minimum of at least two exceedences of the standard for a season of interest.

TIME PERIOD:

Rearing: as identified by ODFW Staff.

Spawning through fry emergence: as identified by ODFW Staff

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86). Earlier data will be considered on a case by case basis. A minimum of 5 representative data points available per site collected on separate days or diurnal data collected on at least two separate days.

EXAMPLES OF DATA USED FOR 1998 LISTING:

Departmental of Environmental Quality, U.S. Geological Survey, U.S. Bureau of Reclamation and Unified Sewage Agency of Washington County routine or intensive monitoring data;

Willamette River and Columbia River Bi-State Studies conducted under contract;

City of Portland and City of Salem data.

PARAMETER: Habitat Modification

BENEFICIAL USES AFFECTED: Resident Fish & Aquatic Life, Salmonid Fish Spawning and Rearing

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(i)

Standards applicable to all basins:

The creation of tastes or odors or toxic or other **conditions that are deleterious to fish or other aquatic life** or affect the potability of drinking water or the palatability of fish or shellfish shall not be allowed.

or

OAR 340-41-027

Standards applicable to all basins:

Waters of the state shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

WATER QUALITY LIMITED CRITERIA: Documentation that habitat conditions are a significant limitation to fish or other aquatic life as indicated by the following information:

> Beneficial uses are impaired. This documentation can consist of data on aquatic community status that shows aquatic communities (primarily macroinvertebrates) which are 60% or less of the expected reference community **for both** multimetric scores and multivariate model scores are considered impaired. Streams with either multimetric scores or multivariate scores between 61% and 75% of expected reference communities are considered as streams of concern. Streams greater than 75% of expected reference communities using either multimetric or multivariate models are considered unimpaired.
>
> *or*
>
> Where monitoring methods determined a Biotic Condition Index, Index of Biotic Integrity, or similar metric rating of poor or a significant departure from reference conditions utilizing a suggested EPA biomonitoring protocol or other technique acceptable to DEQ.
>
> *or*
>
> Fishery data on escapement, redd counts, population survey, etc. that show fish species have declined due to water quality conditions; *and*
>
> Habitat conditions that are a significant limitation to fish or other aquatic life as documented through a watershed analysis or other published report which summarizes the data and utilizes standard protocols, criteria and benchmarks (e.g. those currently used and accepted by Oregon Fish and Wildlife or Federal agencies (PACFISH)). Habitat conditions considered here are represented by data that relate to channel morphology or instream habitat such as Large Woody Material, Pool Frequency, Channel Width:Depth Ratio (other habitat factors are considered elsewhere - cobble embeddedness or percent fines would be considered under sedimentation, stream shading would be factored in under temperature, etc).

TIME PERIOD:

Annual

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86) and included in the most recent watershed analysis or published report. Earlier data will be considered on a case by case basis.

EXAMPLES OF DATA USED FOR 1998 LISTING:

U.S. Forest Service and Bureau of Land Management Watershed Analyses or Wild and Scenic River Environmental Impact Statements or other published reports.

PARAMETER: Nutrients

BENEFICIAL USES AFFECTED: Aesthetics or use identified under related parameters

STANDARDS or CRITERIA: OAR 370-41-470(5)(a) - Tualatin Subbasin

OAR 340-41-385(1) - Bear Creek Subbasin

Bear Creek: Total Phosphorus as P (mg/l): May 1 through November 30: 0.08

Clear Lake: Total Phosphorus as P as an annual loading: 241 pounds per year

Garrison Lake: Total Phosphorus as P as an annual loading: 562 pounds per year

Tualatin: Total Phosphorus as P (mg/l): May 1 through October 31

Tualatin (RM 0 - 33.3) 0.07

Tualatin (RM 33.3 - 38.5) 0.05

Tualatin (RM 38.6 - 52.8) 0.045

Tualatin (RM 52.9 - 58.8) 0.04

Tualatin (RM 58.9 to 67.8) 0.02

Scoggins Creek 0.06

Gales Creek 0.045

Dairy Creek 0.045

McKay Creek 0.045

Rock Creek 0.07

Fanno Creek 0.07

Chicken Creek 0.07

Yamhill: Total Phosphorus as P (mg/l): May 1 through October 31 0.07

In addition to TMDLs in the Bear Creek, Clear Lake, Coast Fork, Garrison Lake, Tualatin River and Yamhill River, draft or proposed final TMDLs have been established for phosphorus to address pH, dissolved oxygen or other water quality problems in the following water bodies: Grande Ronde, and South Umpqua. Nutrient TMDLs are currently being developed for the Columbia Slough and Klamath River.

WATER QUALITY LIMITED CRITERIA: Greater than 10 percent of the samples exceed standard and a minimum of at least two exceedences of the standard or criteria used in draft TMDLs for a season of interest;

TIME PERIOD:

June through September or as specified under the specific standard above.

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86). Earlier data will be considered on a case by case basis. A minimum of 5 representative data points available per site collected on separate days during peak algal growing season (typically summer).

EXAMPLES OF DATA USED FOR 1998 LISTING:

Departmental of Environmental Quality, U.S. Geological Survey, U.S. Bureau of Reclamation and Unified Sewage Agency of Washington County routine or intensive monitoring data;

Willamette River and Columbia River Bi-State Studies conducted under contract;
Clean Lake Studies and data summaries conducted under contract;

PARAMETER: Sedimentation

BENEFICIAL USES AFFECTED: Resident Fish & Aquatic Life, Salmonid Fish Spawning and Rearing

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(j)

Standards applicable to all basins:

The formation of appreciable bottom or sludge deposits or the formation of any organic or inorganic deposits deleterious to fish or other aquatic life or injurious to public health, recreation, or industry shall not be allowed.

WATER QUALITY LIMITED CRITERIA: Documented that sedimentation is a significant limitation to fish or other aquatic life as indicated by the following information:

> Beneficial uses are impaired. This documentation can consist of data on aquatic community status that shows aquatic communities (primarily macroinvertebrates) which are 60% or less of the expected reference community **for both** multimetric scores and multivariate model scores are considered impaired. Streams with either multimetric scores or multivariate scores between 61% and 75% of expected reference communities are considered as streams of concern. Streams greater than 75% of expected reference communities using either multimetric or multivariate models are considered unimpaired.
>
> *or*
>
> Where monitoring methods determined a Biotic Condition Index, Index of Biotic Integrity, or similar metric rating of poor or a significant departure from reference conditions utilizing a suggested EPA biomonitoring protocol or other technique acceptable to DEQ.
>
> *or*
>
> Fishery data on escapement, redd counts, population survey, etc. that show fish species have declined due to water quality conditions; *and*
>
> documentation through a watershed analysis or other published report which summarizes the data and utilizes standard protocols, criteria and benchmarks (e.g. those currently used and accepted by Oregon Fish and Wildlife or Federal agencies (PACFISH)). Measurements of cobble embeddedness or percent fines are considered under sedimentation. Documentation should indicate that there are conditions that are deleterious to fish or other aquatic life.

TIME PERIOD:

Annual

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86) and included in the most recent watershed analysis or published report. Earlier data will be considered on a case by case basis.

EXAMPLES OF DATA USED FOR 1998 LISTING:

U.S. Forest Service and Bureau of Land Management Watershed Analyses or Wild and Scenic River Environmental Impact Statements or other published reports.

PARAMETER: Temperature

BENEFICIAL USES AFFECTED: Resident Fish & Aquatic Life, Salmonid Fish Spawning and Rearing

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(b)

Standards applicable to all basins (adopted January 11, 1996; effective July 1, 1996):

Seven (7) day moving average of the daily maximum shall not exceed the following values unless specifically allowed under a Department-approved basin surface water temperature management plan:

> 64° F (17.8° C);
>
> 55° F (12.8° C) during times and in waters that support salmon spawning, egg incubation and fry emergence from the egg and from the gravels;
>
> 50° F (10° C) in waters that support Oregon Bull Trout;
>
> 68° F (20° C) in the Columbia River (mouth to river mile 309);
>
> 68° F (20° C) in the Willamette River (mouth to river mile 50);
>
> [except when the air temperature during the warmest seven-day period of the year exceeds the 90th percentile of the 7-day average daily maximum air temperature calculated in a yearly series over the historic record]

WATER QUALITY LIMITED CRITERIA: Rolling seven (7) day average of the daily maximum exceeds the appropriate standard listed above. In the cases where data was not collected in a manner to calculate the rolling seven (7) day average of the daily maximum, greater than 25 percent (and a minimum of at least two exceedences) of the samples exceed the appropriate standard based on multi-year monitoring programs that collect representative samples on separate days for the season of concern (typically summer) and time of day of concern (typically mid to late afternoon).

TIME PERIOD:

Rearing: June 1 through September 30;

Spawning through fry emergence: October 1 to May 31 or water body specific as identified by ODFW Biologists;

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86). Earlier data will be considered on a case by case basis. Given the statistical basis of the proposed standard, continuous monitoring data was preferred and should reflect conditions during the warmest months (typically July and August) or period of interest. Multi-year monitoring programs with monthly data collection or single year monitoring programs with weekly data collections (not continuous monitoring data) were utilized to fill in data gaps where there was no continuous monitoring data available and if they had quality assurance available and collected representative samples on separate days for the season of concern (typically summer) and time of day of concern (typically mid to late afternoon).

EXAMPLES OF DATA USED FOR 1998 LISTING:

Continuous temperature monitoring data collected by the Departmental of Environmental Quality, U.S. Geological Survey, U.S. Forest Service, Bureau of Land Management,

Confederated Tribes of the Umatilla Indians, Oregon Department of Fish and Wildlife, and the Cooperative Extension Service.

Departmental of Environmental Quality, U.S. Geological Survey, U.S. Bureau of Reclamation and Unified Sewage Agency of Washington County routine or intensive monitoring data;

PARAMETER: Toxics

BENEFICIAL USES AFFECTED: Resident Fish and Aquatic Life, Drinking Water

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(p)

Standards applicable to all basins:

> OAR 340-41-445(2)(p)(A): Toxic substances shall not be introduced above natural background levels in the waters of the state in amounts, concentrations, or combinations which may be harmful, may chemically change to harmful forms in the environment, or may accumulate in sediments or bioaccumulate in aquatic life or wildlife to levels that adversely affect public health, safety, or welfare; aquatic life; wildlife; or other designated beneficial uses;
>
> OAR 340-41-445(2)(p)(B): Levels of toxic substances shall not exceed the criteria listed in Table 20 which were based on criteria established by EPA and published in Quality Criteria for Water (1986), unless otherwise noted;
>
> OAR 340-41-445(2)(p)(C): . . . Where no published EPA criteria exist for a toxic substance, public health advisories and other published scientific literature may be considered and used, if appropriate, to set guidance values.

WATER QUALITY LIMITED CRITERIA[2]:

Water Quality Standards Violations:

> The water quality standard listed in Table 20 (see OAR 340-41) for the chemical is violated more than 10 percent of the time and for a minimum of two values.

Other Evidence of Impairment of Beneficial Uses:

> A fish or shellfish consumption advisory or recommendation issued by the Health Division specifically refers to this chemical.

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[2] In the draft listing criteria document, several examples of sediment and fish tissue evaluation methods were found in the toxics listing criteria. However, most sediment and fish tissue data was not evaluated based on the methods outlined below because these methods are very complex and expensive to carry out. In order to clarify how toxics data was evaluated for 1998 listing purposes, those example evaluation methods have been taken out of the listing criteria and are discussed specifically below:

The following methods have been separated from the above Water Quality Limited Criteria to better clarify that these methods are not routinely used for evaluations for listing purposes, but are only considered when the method is applied during the course of a special study. DEQ may use the following two methods to determine whether a beneficial use impairment is occurring if an investigation and study has been completed which allows for the determination of one of the following:

- DEQ may use a partitioning method to determine whether chemicals found in sediments can be expected, via partitioning, to violate water column water quality standards listed in Table 20 (see OAR 340-41). Because of the complexity and intensive resource use this method has not been used to evaluate sediments for the 1998 303(d) list.
- The chemical has been detected in more than 10 percent of available fish tissue samples, and the mean of the detects exceeds a screening value derived from Table 20. The screening value is developed as follows:

  Fish Tissue Screening Value = Table 20 Criteria for Protection of Human Health (ug/l) * BCF (l/kg) * (mg/1000 ug)

  where BCF = Bioconcentration Factor. BCFs were obtained from the EPA Region VIII Criteria Chart (July 1993)... (July 1993).

This method has been used once in the Columbia Slough to list several toxic parameters, but has not been used elsewhere for listing purposes because it is very resource intensive.

The chemical has been found to cause a biological impairment via a field test of significance such as a bioassay. The field test must involve comparison to a reference condition.

TIME PERIOD: Annual

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86). Earlier data will be considered on a case by case basis. As there is limited toxics data available, listings will generally be based on at least two excedences and data will be evaluated based on the Department's best professional judgment.

EXAMPLES OF DATA USED FOR 1998 LISTING[3]:

Departmental of Environmental Quality data or studies;

U.S. Geological Survey toxic studies

Willamette River and Columbia River Bi-State Studies conducted under contract;

Oregon State University studies conducted under contract;

U. S. Fish and Wildlife and National Marine Fisheries Wildlife Studies.

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[3] DEQ has not determined what, if any, numeric sediment guidelines are appropriate for Oregon's sediments and has not propagated numeric sediment standards. Instead DEQ relies on the demonstration of a beneficial use impairment either through a bioassay, health advisory or a study demonstrating a beneficial use impairment exists within a given water body. EPA has also not been able to develop numeric sediment criteria. Additionally, there are few guidance levels available for evaluating sediment quality.

For the studies and reports reviewed by DEQ the authors of these studies and reports (such as, the Lower Columbia River Bi-State Program by Tetra Tech; the National Water-Quality Assessment (NAWQA) program Willamette Basin by the USGS and Phases I, II and III of the Willamette River Basin Water Quality Study by USGS) wished to compare the values they found in the sediments to some reference value. Since there were not local guidance values available the authors choose several guidance documents as screening tools (sediment values for marine waters (Long and Morgan), values developed by Ontario, Canada for the Great Lakes, New York State draft standards, and USGS's Methods for Comparing Water-Quality Conditions among National Water-Quality Assessment Study Units, 1992-1995 (which used EPA's proposed sediment-quality criterion (SQL) and advisory levels (SQAL), effects range-median (ER_M) developed by Long and others (1995), Probable effect level (PEL) developed by MacDonald (1994) for Florida Department of Environmental Protection and apparent effects threshold-high (AET-H) developed by Barrick and others (1988))). These guidance values were used to determine whether a compound's value in the sediment might be considered elevated, recognizing that the guidance values may not be appropriate for use in the local area. The authors noted that the use of the guidance values was only to identify potential problem areas and problem chemicals for screening purposes and to help in planning future studies and were not used as standards. Guidance values were used in this way because "no single type of sediment-quality guideline is generally accepted in the scientific literature, and there may be substantial differences (up to three orders of magnitude) between different guideline values for a given constituent."

Because the studies used certain numerical guideline values for screening purposes, even though the values may not be appropriate, DEQ acknowledged the use of these guidelines in determining elevated levels and has identifying the status of those waters with elevated levels as a "Potential Concern". Only those waters which have demonstrated a beneficial use impairment will be listed on the 303(d) list.

Guidelines differ from criteria (numerical or narrative values recommended by EPA) and standards (criteria adopted by individual states and approved by EPA) and are not legally binding. EPA has not developed sediment criteria and DEQ does not have sediment standards. This is due, in part, to the difficulty of relating concentrations found to be toxic in one area to another area. Factors, such as particle size, hardness of the water, form of contaminant, etc., will affect the toxicity. Similarly,. organisms native to those waters and life stages will differ in their reactivity. For these reasons EPA and DEQ have recommended a tiered approach for screening sediment for dredge disposal purposes, which includes the use of a bioassay for demonstrating whether a beneficial use impairment would exist. Based on these reasons DEQ has chosen not to list segments based on exceeding guidelines used by these studies, but has identified the status of those waters and parameters as a "Potential Concern."

PARAMETER: Turbidity

BENEFICIAL USES AFFECTED: Resident Fish and Aquatic Life, Water Supply, Aesthetics

STANDARDS or CRITERIA: OAR 340-41-(basin)(2)(c)

Standards applicable to all basins:

No more than ten percent cumulative increase in natural stream turbidities shall be allowed, as measured relative to a control point immediately upstream of the turbidity causing activities.

WATER QUALITY LIMITED CRITERIA: A systematic or persistent increase (of greater than 10 percent) in turbidity due to an operational activity that occurs on a persistent basis (e.g., dam release or irrigation return, etc).

TIME PERIOD:

Annual

DATA REQUIREMENTS:

Data collected since Water Year 87 (10/86) on a frequent enough basis (e.g. daily) to establish a relationship between water quality and a turbidity causing activity. Earlier data will be considered on a case by case basis.

EXAMPLES OF DATA USED FOR 1998 LISTING:

U.S. Forest Service Wild and Scenic River Study

ENFORCEMENT OF WATER QUALITY STANDARDS

Based on the statutes cited below, the Department of Environmental Quality has the authority to enforce water quality standards in all 'waters of the state.' Normally DEQ would work through and support *designated management agencies* (DMA) implementing their own regulatory authorities to protect water quality. Both the Department of Forestry and Department of Agriculture, whose authorities related to water quality are also cited below, are designated management agencies.

Department of Environmental Quality

ORS 468B.020 Prevention of pollution. (1) Pollution of any of the waters of the state is declared to be not a reasonable or natural use of such waters and to be contrary to the public policy of the State of Oregon, as set forth in ORS 468B.015.

(2) In order to carry out the public policy set forth in ORS 468B.015, the Department of Environmental Quality shall take such action as is necessary for the prevention of new pollution and the abatement of existing pollution by:

(a) Fostering and encouraging the cooperation of the people, industry, cities and counties, in order to prevent, control and reduce pollution of the waters of the state; and

(b) Requiring the use of all available and reasonable methods necessary to achieve the purposes of ORS 468B.015 and to conform to the standards of water quality and purity established under ORS 468B.048. [Formerly 449.095 and then 468.715]

ORS 468B.110 Authority to establish and enforce water quality standards; limitation on authority; instream water quality standards. (1) Except as provided in subsection (2) of this section, as necessary to achieve and maintain standards of water quality or purity adopted under ORS 468B.048, the Environmental Quality Commission or Department of Environmental Quality may, by rule or order, impose and enforce limitations or other controls which may include total maximum daily loads, wasteload allocations for point sources and load allocations for nonpoint sources, as provided in the federal Water Pollution Control Act (33 U.S.C.s. 1321) and federal regulations and guidelines issued pursuant thereto.

(2) Unless required to do so by the provisions of the Federal Clean Water Act, neither the Environmental Quality Commission nor the Department of Environmental Quality shall promulgate or enforce any effluent limitation upon nonpoint source discharges of pollutants resulting from forest operations on forestlands in this state. Implementation of any limitations or controls applying to nonpoint source discharges or pollutants resulting from forest operations are subject to ORS 527.765 and 527.770. However, nothing in this section is intended to affect the authority of the commission or the department provided by law to impose and enforce limitations or other controls on water pollution from sources other than forest operations.

(3) When the Environmental Quality Commission establishes instream water quality standards to protect designated beneficial uses in the waters of the state, it shall consider, where applicable, available scientific information including, but not limited to, stream flow, geomorphology and other factors representing the variability and complexity of hydrologic systems and intrinsic water quality conditions.

(4) When the Environmental Quality Commission establishes instream water quality standards, it will also issue guidelines describing how the department and the commission will determine

whether water quality standards in waters affected by nonpoint source activities are being met. In developing these guidelines, the commission shall include, where applicable, those physical characteristics such as stream flow, geomorphology, seasons, frequency, duration, magnitude and other factors which represent the variability and complexity of forested and other appropriate hydrologic systems. [1991 c.919 s.24]

Department of Agriculture

ORS 561.191 Program and rules relating to water quality. (1) The State Department of Agriculture shall develop and implement any program or rules that directly regulate farming practices, as defined in ORS 30.930, that are for the purpose of protecting water quality and that are applicable to areas of the state designated as exclusive farm use zones under ORS 215.203 or other agricultural lands in Oregon, including but not limited to rules related to:

(a) Protection of the quality of surface or ground water;

(b) Wellhead protection areas;

(c) Coastal zone management areas;

(d) Areas of ground water concern; and

(e) Ground water management areas.

(2) Any program or rules adopted by the State Department of Agriculture under subsection (1) of this section shall be designed to assure achievement and maintenance of water quality standards adopted by the Environmental Quality Commission.

(3) If two or more state agencies are required to adopt rules under ORS 468B.150 to 468B.190, the agencies:

(a) Shall consult with one another and coordinate the rules; and

(b) May consolidate the rulemaking proceedings.

(4) Nothing in this section is intended to change or reduce the authority of the Water Resources Commission or the Water Resources Department under ORS chapters 536 to 543. [1995 c.690 s.6a]

Note: 561.191 was enacted into law by the Legislative Assembly but was not added to or made a part of ORS chapter 561 or any series therein by legislative action. See Preface to Oregon Revised Statutes for further explanation.

ORS 568.930 Agricultural activities subject to plan requirements; reduction of civil penalties; consultation with Environmental Quality Commission; review and revision of plans. (1) All agricultural activities conducted on agricultural lands within the boundaries of an area subject to a water quality management plan shall be conducted in full compliance with the plan and rules implementing the plan and with all the rules and standards of the Environmental Quality Commission relating to water pollution control. In addition to any other remedy provided by law, any violation of those rules or standards shall be subject to all remedies and sanctions available to the Department of Environmental Quality or the Environmental Quality Commission.

(2) Any civil penalty imposed under ORS 568.933 shall be reduced by the amount of any civil penalty imposed by the Environmental Quality Commission or the Department of Environmental

Quality for violations of water quality rules or standards, if the latter penalties are imposed on the same person and are based on the same violation.

Department of Forestry

ORS 527.724 Forest operations to comply with air and water pollution control rules and standards; effect of violation. Subject to ORS 527.765 and 527.770, any forest operations on forestlands within this state shall be conducted in full compliance with the rules and standards of the Environmental Quality Commission relating to air and water pollution control. In addition to all other remedies provided by law, any violation of those rules or standards shall be subject to all remedies and sanctions available under statute or rule to the Department of Environmental Quality or the Environmental Quality Commission. [1979 c.400 s.3; 1991 c.919 s.19]

ORS 527.765 Best management practices to maintain water quality. (1) The State Board of Forestry shall establish best management practices and other rules applying to forest practices as necessary to insure that to the maximum extent practicable nonpoint source discharges of pollutants resulting from forest operations on forestlands do not impair the achievement and maintenance of water quality standards established by the Environmental Quality Commission for the waters of the state. Such best management practices shall consist of forest practices rules adopted to prevent or reduce pollution of waters of the state. Factors to be considered by the board in establishing best management practices shall include, where applicable, but not be limited to:

(a) Beneficial uses of waters potentially impacted;

(b) The effects of past forest practices on beneficial uses of water;

(c) Appropriate practices employed by other forest managers;

(d) Technical, economic and institutional feasibility; and

(e) Natural variations in geomorphology and hydrology.

(2) The board shall consult with the Environmental Quality Commission in adoption and review of best management practices and other rules to address nonpoint source discharges of pollutants resulting from forest operations on forestlands.

ORS 527.770 Good faith compliance with best management practices not violation of water quality standards; subsequent enforcement of standards. A forest operator conducting, or in good faith proposing to conduct, operations in accordance with best management practices currently in effect shall not be considered in violation of any water quality standards. When the State Board of Forestry adopts new best management practices and other rules applying to forest operations, such rules shall apply to all current or proposed forest operations upon their effective dates. However, nothing in this section prevents enforcement of water quality standards against a forest operator conducting operations after the time provided in ORS 527.765 (3)(f) for adoption of revised best management practices if the board either has not adopted revised management practices or has not made a finding that such revised best management practices are not required. [1991 c.919 s.21]