

Agenda Item No.:	3
Work Plan Title & #:	Private Forests Work Plan 6
IBI # & Title:	IBI 1 Water quality topics, including RipStream research and paired watershed studies, turbidity (e.g., road sediment), and toxics
Presentation Title:	Riparian Protection Rule Analysis Update
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SUMMARY

This agenda item provides a discussion of the meaning of the phrase “maximum extent practicable” (MEP) for the rule analysis of riparian protection standards on small and medium fish streams. This item requests a Board decision on an approach for determining if a rule alternative meets the MEP requirement under ORS 527.765.

CONTEXT

The Board of Forestry’s (Board) 2011 *Forestry Program for Oregon* states that the Board supports an effective, science-based, and adaptive Oregon Forest Practices Act (FPA) as a cornerstone of forest resource protection on private lands in Oregon (Objective A.2). The discussion of Goal A recognizes that the FPA includes a set of best management practices to ensure that forest operations are conducted to meet state water quality standards adopted under the federal Clean Water Act. The Board’s guiding principles and philosophies include a commitment to continuous learning, evaluating and appropriately adjusting forest management policies and programs based upon ongoing monitoring, assessment, and research (Value Statement 11).

This riparian protection rule analysis also directly relates to Goal D: Protecting and improving the physical and biological quality of water resources of Oregon’s forests. The Board states that this goal is important because clean water is critical to our quality of life; more than half of Oregon's population depends on drinking water supplies that originate on, or are protected by, forestlands. Oregonians also depend on high-quality water for fisheries, industry, recreation, and agriculture.

The Board’s objectives under Goal D include: using education, engineering, incentives, and enforcement of the Forest Practices Act to protect water quality on non-federal forestlands (Objective 1); using research on the effectiveness of best management practices (BMPs) in meeting water quality standards (Objective 3); and recognizing that private forest landowners’ contribution to providing Oregonians with high quality drinking water is achieved through compliance with state water quality standards (Objective 7).

BACKGROUND

At their November 2010 meeting, the Board directed the department to make water quality policy a high priority for the Private Forests work plan. At their January 2011 meeting, the Board directed the department to add a focus on water quality to the Private Forests work plan, using an integrated approach including, but not limited to, Riparian Function and Stream Temperature (RipStream) project research, paired watershed studies under the Watershed Research Cooperative, road sediment issues, and toxics. The Department completed the revision of the Private Forests work plan, which was approved in March 2011.

At their November 2011 meeting, the Board reviewed the science findings of the Riparian Function and Stream Temperature (RipStream) Project. The Board decided to consider the implication of the RipStream results relative to the state Protecting Cold Water (PCW) criterion (OAR 340-041-0028(11)) and the potential need to revise the riparian protection standards to increase the maintenance and promotion of shade on small and medium fish streams. The Board also directed staff to prepare an agenda topic to review the Board's rule making process and its relationship to maintaining water quality.

At their January 2012 meeting, The Board reviewed their duties and powers for rules and required consultation with other agencies (ORS 527.710); the types of rules, procedures, necessary findings, and rule analysis (ORS 527.714); the relationship between rules for maintaining water quality (ORS 527.765) and rule analysis (ORS 527.714); and implications for good faith compliance with best management practices i.e., the "BMP shield" (ORS 527.770). The Board determined that there is monitoring or research evidence that documents degradation of resources (i.e., that there is evidence that forest practices conducted under existing regulations do not insure that forest operations meet the state water quality standard for protecting cold water on small and medium fish streams). The Board directed the department to begin a rule analysis process that could lead to revision of the riparian protection standards to increase the maintenance and promotion of shade on small and medium fish streams. The Board determined that the analysis involved the type of rule, which implements the FPA's, resource-protection objectives and which would "provide new or increased standards for forest practices." This type of rule must meet evidentiary criteria specified by ORS 527.714 (5).

At their April 2012 meeting, the Board approved a plan for developing alternatives, including non-regulatory approaches, for the rule analysis of riparian protection standards on small and medium fish streams. The plan included a decision timeline on findings (an "informal checklist") to be made at each step of the process to provide the Board clear information about the legal on-ramps, off-ramps and safety nets that define their decision space at each step. The Board also clearly defined the objective of the rule analysis as follows: "Establish riparian protection measures for small and medium fish-bearing streams that maintain and promote shade conditions that insure, to the maximum extent practicable, the achievement of the Protecting Cold Water criterion."

The April 2012 meeting also included a joint session with the Board and the Environmental Quality Commission (EQC) focused on discussion of water quality rules and responsibilities of the Commission and Board. Department of Forestry and Department of Environmental Quality staff reviewed the roles and responsibilities for water quality regulation on state and private forestlands, recent Commission and Board work, cooperative mechanisms established by the legislature, recent external factors affecting the State's work on forestland water quality, and a summary of the Total Maximum Daily Load (TMDL) process.

At their July 2012 meeting, the Board reviewed a recommended range of initial alternatives for the rule analysis on riparian protection standards for small and medium fish streams. The department developed the initial range of alternatives, including non-regulatory approaches, for the Board of Forestry's review to ensure the process considers an appropriate range of alternatives. The Board found that the department has developed an appropriate range of initial alternatives, including non-regulatory approaches as required under ORS 527.714(5)(e), and directed the department to move forward with the riparian rule analysis, using the approved range of alternatives, the identified upper and lower limits of alternatives ranges, and associated stakeholder comments.

ANALYSIS

The Types of Rules, Procedure, Necessary Findings, and Rule Analysis (ORS 527.714)

ORS 527.714 identifies the types of rule for which the Board has authority, defines a set of findings that must be met if the rule directly affects forest practice standards, and specifies the content of a comprehensive analysis of the economic impact of a proposed rule. This section creates a process and framework for developing new forest practices rules.

Rules which implement the FPA's resource-protection objectives and which would "provide new or increased standards for forest practices" must meet evidentiary criteria specified by ORS 527.714 (5). The board may adopt such a rule only after determining that the following facts exist and standards are met:

- There is monitoring or research evidence that documents the degradation of resources ORS 527.714(5)(a);
- Proposed rule reflects available scientific information (5)(b)-(c);
- Objectives of the proposed rule are clearly defined and restrictions on practices directly relate to, and substantially advance the objective (5)(d);
- Rules must undergo an alternatives analysis, non-regulatory approaches must be considered, and the "least burdensome" alternative must be chosen (5)(e); and
- Resource benefits achieved by the rule must be proportional to the harm caused by forest practices (5)(f).

Best Management Practices to Maintain Water Quality; Rules (ORS 527.765)

ORS 527.765 directs the Board of Forestry to adopt Best Management Practices (BMPs) that insure forest practices – to the maximum extent practicable – “do not impair the achievement and maintenance of water quality standards established by the Oregon Environmental Quality Commission.” The five factors that must be considered in adopting BMPs include (but are not 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.

The Relationship between Rules for Maintaining Water Quality (ORS 527.765) and Rule Analysis (ORS 527.714)

ORS 527.765 requires that the Board adopt BMPs that “to the maximum extent practicable” ensure maintenance of water quality standards. ORS 527.714 requires the Board, when adopting a new or “increased” standard, to choose the “least burdensome” alternative. The perceived difference between those two phrases may lead to confusion over the meaning of the phrase “to the maximum extent practicable” and over the degree of discretion that the Board has to interpret that phrase in such a way as to minimize the perceived conflict between the two statutes.

Attachment 2 presents a Department of Justice (DOJ) legal analysis of the relationship between ORS 527.765 and ORS 527.714 in deciding whether to adopt water quality BMPs. An Oregon court would seek to harmonize the two statutes that address the same subject by giving meaning to all provisions. Under ORS 527.765, any water quality BMP must meet the MEP standard. While the use of the word “maximum” seems to suggest there might be only one BMP that could meet the MEP standard, that conclusion is not necessarily true as a matter of logic. ORS 527.714(5)(e) requires the Board to consider alternatives to the proposed rule, including the current rule (no action) option, and choose the least burdensome alternative for landowners and timber owners that still achieves “the desired level of protection.” Alternate rule formulations of the same BMP approach could equally protect water quality but have different impacts on landowners and timber owners. ORS 527.714 requires only that the Board find that the proposed rule is the least burdensome alternative of the set of alternatives that achieves “the desired level of protection,” i.e., that satisfies the MEP standard.

Meaning of Maximum Extent Practicable (MEP) in ORS 527.765

Attachment 2 also discusses the various interpretations that an Oregon court might reach in evaluating the meaning of the maximum extent practicable (MEP) standard in ORS 527.765. The document examines two approaches a court might take in interpreting MEP: as a term of art or as a function of a dictionary definition.

MEP as a term of art

It is possible that an Oregon court could find that the phrase “to the maximum extent practicable,” as used in the context of water quality, is a term of art from the Clean Water Act (CWA). To the extent the Oregon court could determine the established legal meaning of that phrase in federal law, the court would likely construe it in a manner consistent with such meaning in the context of the Clean Water Act (CWA). That is because the CWA requires states to adopt Water Quality Standards, and it is Section 319 of the CWA that requires states to adopt and implement nonpoint source management programs.

The term “maximum extent practicable” appears in numerous places in §319 of the Clean Water Act, as well as in many other federal statutes and rules. Although the “maximum extent practicable” standard is in broad use in federal law, its meaning remains largely undefined. Although “maximum extent practicable” as found in ORS 527.765 was likely derived at least indirectly from the Clean Water Act, the term has not been well-defined in the CWA context. That is not to say that it has been given contradictory meanings. Rather, in the CWA context, courts have tended to avoid defining it precisely, which has left decision-makers with maximum flexibility in applying it in practice.

The DOJ analysis indicates that a court would likely find that “to the maximum extent practicable” as used in ORS 527.765 is a term of art from the Clean Water Act, although its precise meaning as a term of art has not been elaborated upon by courts construing the CWA or other federal regulatory regimes.

MEP as a function of dictionary definitions

If a reviewing court opted not to treat MEP as a term of art used in the CWA, the applicable rule of statutory construction in Oregon case law is that words of common usage typically are given their plain, natural and ordinary meaning. Oregon courts typically use Webster’s Third New International Dictionary (unabridged ed. 1993) for assistance in construing modern statutes.

Webster’s defines “maximum” as “greatest in quantity or highest in degree attainable.” Webster’s defines “practicable” as “possible to practice or perform: capable of being put into practice” and offers “feasible” as a synonym. “Feasible” is similarly defined as: “capable of being done, executed or effected.” Hence, doing something “to the maximum extent practicable” means, in ordinary terms, doing something to the greatest extent that it is capable of being done.

When the standard dictionary definitions are applied, it is clear that doing something “to the maximum extent practicable” requires more than doing something in a cost-effective manner. Considerations of cost-benefit are not central to the core concept of MEP. On the other hand, the word “practicable” is less broad than the concept of “possible.” Neither Congress in the CWA nor the Oregon legislature in ORS 527.765 used the phrase “to the maximum extent possible,” which might have required state agencies to develop new technologies that did not previously exist. It is not likely that a reviewing court applying dictionary definitions of the phrase MEP would require that new methods of technology be invented. Rather, it is more likely that a reviewing court would view “maximum extent practicable” as indicating that something done to the greatest extent feasible, using currently available scientific information and methods.

In determining the meaning of MEP in ORS 527.765, the DOJ analysis indicates that a reviewing court would likely address the question whether the five factors listed in ORS 527.765 serve to define MEP (i.e., the statutory reference to beneficial uses, effects of past forest practices, appropriate practices employed by other forest managers, technical, economic and institutional feasibility, and natural variations in geomorphology and hydrology).

A court would first look to the literal statutory text. The sentence in ORS 527.765 that contains the phrase “to the maximum extent practicable” requires the Board to establish BMPs as necessary to ensure that “to the maximum extent practicable” nonpoint sources of pollution do not impair achievement and maintenance of water quality standards set by the EQC. That first sentence appears to require development of BMPs necessary to achieve and maintain the water quality standards. The five factors are listed in the third sentence of the statute as required considerations for the Board to take into account in developing BMPs, without explicit reference to MEP. Particularly if MEP were to be viewed as a term of art from the CWA, a reviewing court would view those listed factors as not defining or modifying MEP but rather as simply constituting required considerations when the Board is establishing a BMP.

On the other hand, some of the factors listed in ORS 527.765(1)(a-e) seem to be related conceptually to practicability, including “appropriate practices employed by other forest managers,” “technical, economic and institutional feasibility,” and “natural variations in geomorphology and hydrology.” Moreover, the statute does not limit the Board to considering only the factors listed: “Factors to be considered by the board in establishing best management practices shall include, where applicable, but not be limited to:” the five listed factors. Thus, the legislature has conferred a measure of discretion on the Board with respect to the range of factors that it may consider in adopting best management practices.

The DOJ analysis indicates that, on balance, a reviewing court would likely construe the concept “to the maximum extent practicable” to be an independent criterion that a BMP must meet. While the five listed factors do not appear expressly to define the phrase “to the maximum extent practicable,” they are nonetheless considerations the Board must

take into account in establishing best management practices that satisfy the MEP standard. It is unlikely, however, that a reviewing court would view those factors as modifying the water quality standards themselves, which are established by the EQC. Hence, both the MEP standard and the five factors listed in ORS 527.765(1)(a-e) must be considered by the Board of Forestry in establishing best management practices for water quality.

Interpreting Maximum Extent Practicable (MEP) for this Rule Analysis

Past Boards have decided not to develop specific rules and/or formal guidance on procedures for fulfilling statutory requirements under ORS 527.714 and ORS 527.765, including developing a definition for “maximum extent practicable.” At their January 2012 meeting, the Board chose to follow a similar approach and develop a working definition for the concept of maximum extent practicable for this rule analysis. The DOJ analysis indicates that the Board should treat MEP as an independent criterion that any adopted BMP must meet. In the CWA context, courts have tended to avoid defining it precisely, which has left decision-makers flexibility in applying it in practice. Based on common usage of the terms, the Board needs to decide what can be done to the greatest extent feasible, using currently available scientific information and methods.

In the case of this rule analysis the Board must evaluate whether a BMP meets the “maximum” or “highest degree attainable” relative to the PCW criterion and is capable of being put into practice. This evaluation depends on the ability to determine if a stream reach will likely exhibit a greater than 0.3 °C increase post-harvest, given that the BMP is applied.

As indicated in the science findings of the RipStream project, the temperature variability of small and medium streams makes it difficult to determine whether an exceedance of the PCW criterion occurred. The analysis approach required predicting the stream temperature in the treatment reach after accounting for year-to-year variability, and testing the actual temperature against the predicted value. When evaluated in this manner, both treatment and control reaches showed exceedances (increases greater than 0.3 °C). By definition, a control reach cannot violate the PCW criterion, since the standard only applies to human-caused changes. The evaluation of whether a treatment BMP results in a violation of the PCW criterion is difficult to determine on a reach-by-reach basis due to within-site variability. To overcome this difficulty, the RipStream project analyzed the effectiveness of the current FPA and State Forests, Forest Management Plan (FMP) BMPs across all reaches. The analysis compared the frequency of FPA and FMP treatment reach exceedances to frequency of background or control reach exceedances. The magnitude of temperature change was not analyzed on a reach-by-reach basis for similar reasons. The analysis evaluated temperature measures across all study sites to determine the average temperature increase occurring on treatment reaches.

In evaluating whether a proposed BMP meets the PCW criterion to the maximum extent, one would have to decide that, when the BMP is applied across a number of stream reaches, the frequency of exceedances would not be significantly different than background level of exceedances and that the average temperature increase of treatment reaches would not be significantly different than zero. Note that this approach does not mean that a specific number or percentages of exceedances would be expected, as the science findings found a range of exceedances in the control reaches as well as the treatment reaches.

In terms of practicability, this approach is feasible. As indicated in the science findings, the department found no evidence to suggest that timber harvests to FMP standards exceed the PCW more frequently than expected under natural background conditions. The analysis also indicated that the average temperature change on FMP sites were not significantly different than zero (i.e., did not detect a harvest signal for temperature on FMP sites).

RECOMMENDATION

The department recommends that the Board determine that the working definition of “maximum extent practicable” be:

“When a BMP is applied, the expectation is that harvest sites across the landscape will not exhibit exceedances (increases greater than 0.3 °C) more frequently than expected under natural background conditions, and that the expected average temperature increase is not significantly different than zero.”

NEXT STEPS

In accordance with Board decision and guidance, the department will (1) develop a science review outline and approach and (2) evaluate the alternatives to be carried forward in terms of restrictions on practices for the Board’s review in March 2013. The department will continue to work with stakeholders throughout the rule analysis process.

ATTACHMENTS

- (1) Legal Relationship Between ORS 527.765 and ORS 527.714 in Deciding Whether to Adopt BMPs Under the Oregon Forest Practice Act. Jas. Jeffrey Adams, Assistant Attorney-In-Charge, Natural Resources Section. August 23, 2005