

The Oregon Department of Forestry Public Hearing Report on Proposed Riparian Rules April 26, 2017

Introduction

The riparian prescription package was approved at the November 5, 2015, Board of Forestry meeting. Proposed language was approved at the September 7, 2016 meeting and the Notice of Proposed Rulemaking, Statement of Need and Fiscal Impact was filed with the Secretary of State's Office on September 15th. The formal Notice was published in the Oregon Bulletin announcing a Public Comment period that remained open until March 1, 2017. The Department scheduled eleven public hearings across western Oregon. The format of the Public Open House/Public Hearings was consistent with the Attorney General's Model Rules of Procedure under the Administrative Procedures Act.

The purpose of these joint Open House informational sessions and public hearings was to receive public comment on the proposed rule amendment by the Oregon Board of Forestry regarding streamside riparian buffers with Salmon, Steelhead or Bull Trout streams. At each hearing staff provided a brief overview on the rule changes and rulemaking process. The Open House continued with an informal opportunity to answer questions about the proposed rules. Once questions were answered, the public hearing was officially opened for public testimony to the record.

Two hearings were cancelled due to hazardous weather conditions, one was rescheduled. Hearings were held in Silverton, Keizer, Roseburg, Coos Bay, Florence, Astoria, Springfield, Forest Grove and Portland. The public was also given the opportunity to provide comment via mailed/delivered hardcopy or e-mail until March 1st, 2017 close of business.

The Department took the following actions:

- News Release
- Hearings schedule posted on ODF public pages and in the Oregon Bulletin.
- Created a shared Riparian Rule e-mail address (RiparianRule@oregon.gov) to receive public comments.
- Additional outreach provided in published materials from OSWA, OFRI, AOL, Tree Farm
- Held public hearings in areas of the state affected by the rules
- Increased the number of public meetings scheduled (from the norm) per stakeholder requests.
- Published and distributed a brochure on "2016 Proposed Changes to Streamside (Riparian) Area Forest Practices Rules" which provided instructions on how to provide comment. Brochures were made available at west side District/Unit offices.
- In addition, other stakeholder groups conducted their own outreach to promote participation in the process.

Testimony provided at the hearings was recorded for the permanent record and transcribed verbatim into the written record. This hearings report contains a summary of both written and oral comments received during the Comment Period.

The Department received a total of 506 comments in a variety of formats from residents, private and industrial forest landowners, conservation groups, recreationists and other special interests. 87 of those were taken as oral testimony; 370 were e-mailed; and 55 were mailed or personally delivered by the March 1st deadline for comment. These responses will become part of the permanent record of this rulemaking. This report does not attempt to respond to individual comments or capture all facets of the testimony expressed in the public hearing record. All comments were reviewed for content and subject matter and numerically recorded for ease of reference. Each 'theme' noted in this report represents a series of individually expressed but similar concerns.

Staff chose to respond to those themes as representative of the majority of concerns expressed. Relevant references and recommendations are included where appropriate. The staff's objective in reviewing the comments was to ascertain whether there were any options overlooked in the original rule proposal that would achieve a better outcome. There was no information presented that indicated a substantive change was called for.

What follows here is a closer look at the summarized concerns and how the staff considered each issue within the sideboards provided by the Board's original rule decision.

Table 1 – Summarized Public Comment and Agency Response

Table 2 – Detailed Public Comment and Agency Response

Table 1: Summarized Public Comment and Agency Response		
Theme	Summarized Public Comment	Agency Response
1 Proposed buffers are too narrow	1a. Proposed buffers are too narrow.	RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that the proposed rules meet water quality standards to the maximum extent practicable.
	1b. Opposed to narrower buffers on north side of streams.	RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that it was appropriate to reduce the regulatory burden on landowners that would be more affected.
	1c. Buffers in the proposed rules should be at least equal to the standards for federal agencies or other states (Washington and California). [There was one comment that opposed that idea].	The Board developed the proposed rules based on the legal/social context in Oregon, which is different than for federal agencies and other states.
2 Buffers: Objected to increases	2a. The proposed rules would be a heavy burden on landowners while providing little benefit to fish.	The Oregon Department of Forestry economic analysis for the proposed rules showed a relatively minor effect on Oregon’s forest economy as a whole. However, the proposed rules contain elements that would reduce the burden on the more-affected landowners (e.g., variable retention prescriptions, narrower north-sided riparian management areas, and a relief prescription).
	2b. The proposed rules will limit management in riparian management areas that is needed to meet environmental and economic goals.	The proposed rules would continue current management flexibility in riparian management areas via alternative and site-specific prescription.
	2c. Focus on cooperative state-private methods.	The Board recognizes the value of the cooperative state-operator-landowner relationship and intends to continue that approach. However, monitoring data indicated that increased protection of streams with SSBT was needed to meet water quality standards.
3 Buffers: Should be no-cut	The proposed rules would be an improvement over current rules, but the proposed riparian management areas need to be no-cut.	RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that the proposed rules meet water quality standards to the maximum extent practicable.

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4 Agree with Proposed Rules (In general)	4a. Science, monitoring, and law show there is a need for the Board to increase stream protection where SSBT are present.	The Board agrees, based on RipStream data and modeling, and ORS 527.765 and 527.714.
	4b. Proposed rules would be practical for landowners and operators to apply.	The Oregon Department of Forestry economic analysis for the proposed rules showed a relatively minor effect on Oregon’s forest economy as a whole. However, the proposed rules contain elements that would reduce the burden on most-affected landowners (e.g., variable retention prescriptions, narrower north-sided riparian management areas, and a relief prescription).
5 Need Upstream/N Type Protections		The Board had monitoring information on medium and small Type F streams, but not on Type N streams. The Board determined that proposed rules for extending Type SSBT protection upstream in some cases would address the potential for downstream movement of increased water temperatures.
6 Opposed to variable retention options	6a. Opposed to variable retention prescriptions.	RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that the proposed rules meet water quality standards to the maximum extent practicable.
	6b. Opposed to release or alternative prescriptions.	It is important to continue to allow landowners to manage within riparian management areas as needed to better meet the desired future condition (mature streamside stands).
7 Rules too complex (increases cost, will result in no-cut, won’t achieve DFC)	There were comments both in opposition and in support of the proposed rules, mostly relating to the numeric well-distributed standard.	The proposed rules contain a qualitative description of “well-distributed,” but a verifiable numeric standard is needed as well for operators, landowners, and the Oregon Department of Forestry. The Department will work to educate and assist landowners and operators in applying the standard.
8 Supporting hardwoods inclusion		The Board recognized that hardwoods provide shade and that allowing counting of hardwoods to meet basal area targets would allow landowners management flexibility.
9 Prefer effective date of January 1, 2018 to allow sufficient planning time for operators and landowners.		The proposed rules have been available since September 2016, there would be a two-month period after April 2017 (if adopted by the Board at that time) before the rules would take effect, and operations on notifications submitted before July 1, 2017 could be conducted under current rules.
10 Support monitoring of proposed rules		The Board and Oregon Department of Forestry are committed to and engaged in collaborative monitoring and adaptive management, but efforts could be limited by available resources. The Oregon Department of Forestry is currently engaged in documenting voluntary measures completed by landowners.

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11 Siskiyou Geographic Region	Some comments favored including the region in the proposed rules, and some opposed it.	The Board did not have sufficient monitoring information for the Siskiyou Geographic Region. The Board has directed the Oregon Department of Forestry to address the potential need for monitoring in the Siskiyou Geographic Region.
12 Relief Prescriptions	There were comments in support of a 4% encumbrance threshold, and an 8% or greater threshold.	The Board determined that a threshold of 8% of additional encumbrance would appropriately balance the burden on some landowners with the need for meeting water quality standards.
13 Relief: should be compensation, not reduction in protection.		The Board does not have access to compensation mechanisms, however such tools could be developed. The limiting factor is funding to implement such a program.
14 Relief: Against any reductions of buffer widths		RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that it would be appropriate to make relief prescriptions available to landowners more heavily impacted by the proposed rules.
15 Science does not support the proposed rules	15a. The Protecting Cold Water Criterion (Water Quality Standard) is not biologically meaningful and is therefore invalid.	Based on ORS 527.765, the Board is charged with meeting water quality standards, not developing or changing them.
	15b. RipStream is not valid/was not used correctly.	Ripstream results were used in helping the Board determine the appropriate level of increased shade to meet water quality standards. The Board also used other information including paired watershed studies, fish biologist input, and policy construct in the FPA to make their decisions.
	15c. The Board has not integrated relevant information from paired watershed studies and other sources.	The Board recognizes the value of paired watershed studies and other science and monitoring. ORS 527.765 directs the Board to focus on meeting water quality standards to the maximum extent practicable. RipStream indicated that under current forest practice regulations, the Protecting Cold Water Criterion was not always being met.
	15d. Monitoring and Science indicate there is not degradation of resources (fish populations).	ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable. RipStream data predicted that current practices could lead to violations of the Protecting Cold Water Criterion. The Board applied the process and standards from ORS 527.714 in the development of the proposed rules.
	15e. Other factors (e.g., predators, failed regulation, forest health problems) harm fish more than forest practices do.	These comments refer to factors outside the Board's authority, except a comment relating to forest health. The proposed rules allow plans for alternate practices to manage within riparian management areas to address forest health.

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16 Science Used: Science supports larger buffers	16a. The Protecting Cold Water Criterion (Water Quality Standard) is legally and biologically meaningful and is therefore valid.	The Board agrees, based on ORS 527.765.
	16b. The Board should consider Total Maximum Daily Loads (TMDLs)	The Board’s rulemaking process has operated within the Total Maximum Daily Load process, i.e., revising regulations of the Oregon Forest Practices Act (the water quality management plan for TMDLs) when information shows increased protection is needed. The Oregon Department of Forestry is the Designated Management Agency for nonpoint sources of pollution which may originate from non-federal forestland.
	16c. Science indicates proposed buffers should be wider.	RipStream modeling predicted that no-harvest buffers of approximately 100 feet would meet the Protecting Cold Water Criterion. However, the Board followed ORS 527.630, 527.714, and 527.765 to determine that the proposed rules meet water quality standards to the maximum extent practicable.
	16d. Consider that the current landscape is degraded when determining appropriate protection.	Under ORS 527.765 and 527.714, the Board is directed to consider past practices and to select the alternative that is the least burdensome to landowners and timber owners, while still achieving the desired level of protection. The Board has determined that the proposed rules adequately address the effects of forest practices on the Protecting Cold Water Criterion in light of ORS 527.765 and 527.714.
	16e. Paired watershed studies have limited utility in this rulemaking process.	The Board recognizes the value of paired watershed studies and other science and monitoring but also recognizes the need to focus on meeting water quality standards to the maximum extent practicable (ORS 527.765).
	16f. Consider that riparian management areas provide benefits in addition to shade, e.g., filtering from sediment and pesticides, wildlife habitat.	Under the proposed rules, current protective regulations for pesticide use, and for protection from sediment (Road and Harvesting rules) would apply to Type SSBT streams. The wider buffers and increased basal area requirements in the proposed rules would provide increased habitat for amphibians and other wildlife.
	16g. Consider stream protection in the context of climate change.	ORS 527.765 and 527.765 require the Board to focus on meeting current water quality standards.
17 Maximum Extent Practicable (MEP)	Comments: The Board has little discretion in apply the maximum extent practicable standard.	ORS 527.765 requires that the Board adopt BMPs that “to the maximum extent practicable” ensure maintenance of water quality standards. 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

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	The Board has considerable discretion.	specifies the content of a comprehensive analysis of the economic impact of a proposed rule.
18 Oregon Department of Forestry economic analysis	Comments: The analysis does not adequately account for operator/landowner costs. The analysis does not consider loss of carbon storage or wildlife benefits.	The economic analysis covered the four topics outlined in ORS 527.714 (7); change in timber harvest, statewide economic impact, economic impact on the forest industry, and consultations with potentially impacted landowners. The Board's review of monitoring and other information addressed the need for increased stream protection.
19 The proposed rules are biased toward economic interests.		The Board considered public comment from diverse interests, including economic and conservation interests.
20 Manage on a holistic, landscape basis.	Need to manage on a landscape basis to protect natural resources	The Oregon Forest Practices Act regulates forest management on a site-specific basis. The Board addresses landscape-scale issues by recognizing the values provided by diverse forest ownerships that emphasize timber production, nature, multiple-use, and residential values.
21 Streams and fish are important environmentally and socially, as well as economically.		The Board agrees. ORS 527.630 (1) directs the Board to encourage economically efficient forest practices, consistent with sound management of soil, air, water, fish and wildlife resources.
22 Current harvesting and pesticide use are damaging forest ecosystems.		The proposed rules would address potential non-attainment of the Protecting Cold Water Criterion. The Board supports a strong and effective regulatory system for forest practices, and the Oregon Department of Forestry administers that system.
23 Stream classification must be accurate.		The proposed rules outline a process to help ensure that streams are accurately classified as Type SSBT (proposed OAR 629-635-0200(12) and (13)).
24 Oregon Department of Forestry Decision Matrix	The process used was flawed.	Ripstream results were used in helping the Board determine the appropriate level of increased shade to meet water quality standards. The Board also used other information including paired watershed studies, fish biologist input, and policy construct in the FPA to make their decisions.
25 Out of Scope	<ul style="list-style-type: none"> The responsibility for stream protection should be shared by all land uses. 	Out of scope of this rulemaking.

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	<ul style="list-style-type: none"> • Use of pesticides for release activities is harmful to people and the environment. 	

Table 2: Detailed Public Comment and Agency Response

Theme	Summarized Public Comment	Agency Response
<p>1 Proposed buffers are too narrow</p>	<p>1a. Proposed buffers are too narrow.</p> <ul style="list-style-type: none"> • Strongly support finding of degradation, but buffers need to be wider and extended onto more streams. • Need wider buffers on steep slopes. • 20-foot no cut zone is much too narrow. • Wider buffers are needed for large wood sources, as well as for temperature protection. • Observation shows that clearcutting with narrow buffers damages streams. • Current and proposed buffers (all relatively narrow) are subject to windthrow, reducing protection they were meant to provide. 	<p>Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. In addition, ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest practices, while providing for sound management of soil, air, water, and fish and wildlife resources. Finally, ORS 527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection.” Based on the direction in those three statutes, the Board selected the alternative with buffers 10 feet wider than current standards, but less than approximately 100 feet, and with a limited allowance for variable retention harvesting.</p>
	<p>1b. Opposed to narrower buffers on north side of streams.</p> <ul style="list-style-type: none"> • There is no science available indicating that allowing the 40-foot north-sided buffer will provide shade sufficient to comply with the Protecting Cold Water criterion. • Narrow buffers on north side of stream are unwarranted, would not provide needed shade, needed large wood, or protection from sedimentation. • North-sided option is too risky and should be dropped. Effectiveness is unproven, and we know it won't protect against sedimentation and other pollutants. Would not retain trees needed for in-stream habitat. 	<p>Based on the following, the Board determined 40-foot wide, no harvest buffers on the north side of streams oriented generally east-west were appropriate.</p> <ul style="list-style-type: none"> • Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). • However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors.

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		<ul style="list-style-type: none"> • ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest practices, while providing for sound management of soil, air, water, and fish and wildlife resources. • ORS 527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection. • Modelling developed by the Department of Environmental Quality suggests that trees on the north side of streams oriented approximately east-west are less likely to shade the streams beyond 40 feet from the stream. • The proposed buffers would be no-harvest, so all trees within that zone that provided shade would be retained.
	<p>1c. Buffers in the proposed rules should be at least equal to the standards for federal agencies or other states (Washington and California). [There was one comment that opposed that idea].</p> <ul style="list-style-type: none"> • Stream protection should be at least equal to U.S. Forest Service standards on public lands. • The U.S. Environmental Protection Agency and the National Marine Fisheries Service disapproved Oregon coastal water quality program partly based on inadequate buffer zones along medium Type F streams—increased buffers could bring Oregon into compliance. • Stream protection in the proposed rules is less than in Washington and California; protection should at least be equal to what those states have. • Oregon should be a leader in environmental protection, but is way behind at this time. Landowners have responsibility not to negatively impact their neighbors and shared resources. 	<p>The Board developed the proposed rules based on meeting Oregon’s state water quality standards to the maximum extent practical in the context of legal and social conditions related to forestlands in Oregon. The legal/social context is different for federal agencies and other states than it is for Oregon.</p>

Table 2: Detailed Public Comment and Agency Response

Theme	Summarized Public Comment	Agency Response
	<ul style="list-style-type: none"> Many proponents want onerous, prescriptive buffers, often based on the desire for regulations like those in nearby states. Simply because another has enacted these extreme measures does not make them correct. [In opposition to wider buffers.] 	
<p>2 Buffers: Objected to increases</p>	<p>2a. The proposed rules would be a heavy burden on landowners while providing little benefit to fish.</p> <ul style="list-style-type: none"> Landowners are very concerned about increased buffers. Too much of a financial burden on small and large landowners. Some properties have been in family ownership for generations. Other landowners have purchased forestlands. They have planted and managed in compliance and good faith and expectation of harvesting someday. The proposed rules will negate all that. The proposed buffers will devalue private forestland and make management difficult. The proposed rules will result in regulatory taking of private property. Significant costs to landowner, but little benefit to fish. If there is a problem, it is with some loggers damaging resources with bad practices. Don't punish the landowners for that. Proposed rules will lead to loss of jobs, income, taxes, and infrastructure needed to maintain healthy forests. The proposed rules would remove productive ground from use, infringing on policy in ORS 527.630 to maintain growing and harvesting of trees as the leading use on private forestlands. Spawning streams are functioning well now. Added ODF and landowner administration costs are an unfunded mandate. 	<p>The Oregon Department of Forestry economic analysis for the proposed rules showed a relatively minor effect on Oregon's forest economy as a whole. However, the Board understands that the proposed rules could put a greater burden on some landowners. The Board included the following elements in the proposed rules to address that burden (in applying the maximum extent practical standard from ORS 527.765):</p> <ul style="list-style-type: none"> The proposed riparian management area widths are an increase over current requirements, but are less than what some have proposed to meet the Protecting Cold Water Criterion (water quality standard). Landowners may count hardwoods to meet basal area standards. Landowners may retain a reduced-width (40-foot wide) riparian management area along the north side of streams generally oriented east-west. On a parcel where the increased encumbrance from the proposed rules is at least 8%, the landowner may retain a reduced-width riparian management area.
	<p>2b. The proposed rules will limit management in riparian management areas that is needed to meet environmental and economic goals.</p> <ul style="list-style-type: none"> Current rules are adequate; more restrictive rules will limit management beneficial for forest ecosystems, e.g., management for forest health. 	<p>The proposed rules would continue the flexibility in current rule for managing within riparian management areas as needed to better meet the desired future condition (mature streamside stands) or rule objective through the following measures:</p>

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	<ul style="list-style-type: none"> There will be a continuing loss of diversity, loss of forest land to non-productive and/or conflicting uses, the loss of infrastructure necessary to maintain healthy forests and jobs.” 	<ul style="list-style-type: none"> Allowances for precommercial thinning and/or release of desired trees; Use of Alternative Vegetation Retention Prescription for Catastrophic Damage or Hardwood-dominated Stands; and Use of site-specific vegetation retention prescriptions under plans for alternate practices.
	<p>2c. Focus on cooperative state-private methods.</p> <ul style="list-style-type: none"> Focus efforts on state-private cooperation and voluntary work done by landowners and operators. Excessive regulation harms the very effective state-private stewardship relationship 	<p>The Board recognizes that the cooperative state-operator-landowner relationship is critical in the state’s scheme of encouraging the growing and harvesting of forest trees while providing for sound management of natural resources. The Board intends that the Oregon Department of Forestry continue to emphasize that approach. In this instance, RipStream data predicted that current practices could lead to violations of the Protecting Cold Water Criterion, a state water quality standard. The Board is directed by law to ensure that to the maximum extent practicable, forest operations do not impair the achievement and maintenance of water quality standards (ORS 527.765). The Board determined it needed to increase tree retention along SSBT streams to comply with that requirement.</p>
<p>3 Buffers: Should be no-cut</p>	<p>The proposed rules would be an improvement over current rules, but the proposed riparian management areas need to be no-cut.</p> <ul style="list-style-type: none"> The proposal is an improvement over current FPA standards, but harvest within the already too-narrow buffers will lead to unacceptable temperature increases (exceeding the Protecting Cold Water Criterion). Either no-cut and as wide or wider, or no cut and narrower for simplicity. Need wider no-cut buffers. Variable retention is experimental, unproven. Variable retention would allow harvest too close to streams. 	<p>Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. In addition, ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest practices, while providing for sound management of soil, air, water, and fish and wildlife resources. Finally, ORS</p>

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	<ul style="list-style-type: none"> All proposed buffers should be wider and there should be no exemptions. 	<p>527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection. Based on the direction in those three statutes, the Board selected the alternative with buffers narrower than approximately 100 feet, and with a limited allowance for variable retention harvesting.</p>
<p>4 Agree with Proposed Rules (In general)</p>	<p>4a. Science, monitoring, and law show there is a need for the Board to increase stream protection where SSBT are present.</p> <ul style="list-style-type: none"> Strongly support Board's findings that current forest practices cause water pollution and do not ensure compliance with the Protecting Cold Water Criterion to the maximum extent practicable. The Board has no choice but to act (based on not meeting the Protecting Cold Water Criterion). The need for change is urgent; water quality violations have continued in the four years of rule development. Because of stream degradation and low fish populations, the proposed rules are really emergency rules. We must act now. Fish populations are on a downward trend, and action is needed now. Support the proposed rules, but they do not go far enough to protect cold water for fish. Support the rules as drafted, but recognize the difficulty of implementing some of the prescriptions. Rule objective is a good one. Increased buffers are long overdue. Current buffers are grossly inadequate. There has been extensive investment in stream improvement by agencies, watershed councils and others. It is not right to allow continuing water quality problems in light of that investment. It would be a "taking" against those who like fish if current practices caused losses of fish species. 	<p>The Board found that harvesting to the current standards in the Forest Practices Act could lead to violations of the Protecting Cold Water Criterion water quality standard. Based on that finding, the Board determined that "If forest practices continue to be conducted under existing regulations, there is monitoring or research evidence that documents that degradation of resources maintained under ORS 527.710 (2) or (3) is likely..." (ORS 527.714), and the Board developed the proposed rules to address that degradation.</p>

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	<ul style="list-style-type: none"> • Humans can adapt to change better than can salmon, which are very sensitive to excess temperature and turbidity. • "These new rules are reasonable, appropriate, and well-grounded in best available science. The economic impact is light." 	
	<p>4b. Proposed rules would be practical for landowners and operators to apply.</p> <ul style="list-style-type: none"> • Proposed rules are modest, with low impact on landowners. • Business owners (and land owners) always adapt to needed regulations. • Some forestland owners support the proposed rules. • Proposed rules seem practical for operators. • Landowners have the responsibility not to negatively impact their neighbors and shared resources. 	<p>The Oregon Department of Forestry economic analysis for the proposed rules showed a relatively minor effect on Oregon's forest economy as a whole. However, the Board understood that the proposed rules could put a greater burden on some landowners. The Board included the following elements in the proposed rules to address that burden (in applying the maximum extent practical standard from ORS 527.765):</p> <ul style="list-style-type: none"> • The proposed riparian management area widths are an increase over current requirements, but are less than what some have proposed to meet the Protecting Cold Water Criterion (water quality standard). • Landowners may count hardwoods to meet basal area standards. • Landowners may retain a reduced-width (40-foot wide) riparian management area along the north side streams generally oriented east-west. • On a parcel where the increased encumbrance from the proposed rules is at least 8%, the landowner may retain a reduced-width riparian management area.
5 Need Upstream/N Type Protections	<ul style="list-style-type: none"> • ODF analysis and U.S. Environmental Protection Agency recommendations show that increased tree retention is needed for at least 1600 feet upstream of the end of SSBT use to allow temperature recovery. The upstream extent required by the proposed rules is uncertain across the landscape; there is no assurance that SSBT streams will be protected from upstream temperature increases. 	<p>The Board acknowledges that results from RipStream and other monitoring and research show that stream water warms when shade is reduced, and that temperature increases may move downstream in some instances, although temperature recovery is sometimes observed in the downstream direction. In the face of such uncertainty, and in light of statutory direction, the Board has determined that proposed OAR 629-642-0105(3) will</p>

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	<ul style="list-style-type: none"> • Science shows the proposed rules do not protect SSBT from temperature increases as the Protecting Cold Water Criterion requires. Science temperature increases from shade removal transfer downstream to where SSBT are present. • Many thousands of miles of streams are left out of the rule, i.e., small and medium Type F streams (not SSBT) and all Type N streams. • Many western Oregon streams are impaired for temperature. Headwater streams provide functions critical to downstream fish. • Many studies show the need for increased riparian protection for all streams. • The Oregon Environmental Quality Commission clearly intended that the protection of cold water in upstream reaches was necessary. • Need to have buffers for all streams to restore degradation from human activities. • Sciences shows significant warming happens upstream of fish presence. • Need to add twenty-foot no-cut buffers on ephemeral streams that feed fish-bearing streams. • Need to have buffers on perennial Type N streams to prevent warmed water from moving downstream. • The Board’s decision to limit upstream protection to whatever stream length exists within the unit has not been justified by a credible demonstration of impracticability, which is the only legally permissible reason the Board may choose to not fully comply with a duly promulgated water quality standard. • The Protecting Cold Water Criterion clearly states that protection from upstream warming is required unless “the colder water is not necessary to ensure that downstream temperatures achieve and maintain compliance with the applicable temperature criteria.” • Only 50% of the heat gain is lost within 900 meters downstream of a harvest. 	<p>address meeting the Protecting Cold Water Criterion (water quality standard) to the maximum extent practicable, as directed by ORS 527.765, using process standards established in ORS 527.714.</p> <p>As outlined in ORS 527.714, the Board has based the need for rulemaking on a finding of degradation of natural resources, as informed by RipStream. That study focused only on medium and small Type F streams. That means that the Board had the monitoring and research information only to consider those stream types, not Type N streams.</p>

Table 2: Detailed Public Comment and Agency Response

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<p>6 Opposed to variable retention options</p>	<p>6a. Opposed to variable retention prescriptions.</p> <ul style="list-style-type: none"> • Variable retention is unproven, will not meet the Protecting Cold Water Criterion. Proposed buffers are already too weak to meet the Protecting Cold Water Criterion--allowing harvest within them will make that worse. • Arguments that no-harvest buffers will prevent needed management and restoration are not valid: unharvested stands provide needed down wood, natural disturbances create a matrix, riparian areas are called upon to mitigate the degradation from widespread short-rotation harvesting, post-disturbance harvesting is inconsistent with ecological restoration, and ecologically desirable management can be targeted to specific locations. • Narrow/thinned buffers are much more susceptible to blow down. 	<p>Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. In addition, ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest practices, while providing for sound management of soil, air, water, and fish and wildlife resources. Finally, ORS 527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection.” Based on the direction in those three statutes, the Board selected the alternative with buffers 10 feet wider than current standards, but less than approximately 100 feet, and with a limited allowance for variable retention harvesting.</p>
	<p>6b. Opposed to release or alternative prescriptions.</p> <ul style="list-style-type: none"> • Thinning and release "loopholes" are likely to be harmful--have not been vetted or evaluated, just continued from current rules. • Alternative prescriptions will allow damage to streams, or at best the effects are uncertain. One option would be to plant shade-tolerant conifers such as cedar or hemlock. Or, just recognize the benefits of retaining alder along streams and the value of harvesting some of them. 	<p>The Board determined that it was important to continue to allow landowners opportunities to manage within riparian management areas as needed to better meet the desired future condition (mature streamside stands) when:</p> <ul style="list-style-type: none"> • Release or precommercial thinning of desired trees is needed; • Forests in an area have experienced catastrophic damage; or • Streamside stands that are suitable for conifers are dominated by hardwoods.
<p>7 Rules too complex (increases cost,</p>	<p>In opposition to the proposed rules:</p>	<p>The Board and the Riparian Rule Advisory Committee recognized that harvesting under current rules might allow large canopy gaps in riparian management areas,</p>

Table 2: Detailed Public Comment and Agency Response

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<p>will result in no-cut, won't achieve DFC)</p>	<ul style="list-style-type: none"> • Use proposed qualitative description instead of the complex, multi-zone metrics. Most knowledgeable people could look at a stand and see if it met that description. • Increase in basal area, not being able to count basal area in the first 20 feet, and the qualitative (not numeric) description of "well-distributed" in the proposed rules will lead to generally well-distributed streamside stands. The strict numbers and zones are too complex and are not needed. • The complex metrics will be difficult to apply and enforce. • Use 1000' increment along the streams, not 500'. • Active management, regeneration/restoration of riparian management areas that the Board has encouraged will not happen. Active management is needed but not facilitated. • Landowners are better stewards of the land when they are asked to meet certain protection goals, rather than told how to meet them. The "how" should be the job of the local landowner, in cooperation with his/her local Stewardship Forester. • Many landowners will just not harvest in SSBT riparian management areas. • ODF and Board did not consider the difficulty of laying out the variable retention prescriptions in the real world--steep, broken ground, with lots of brush. • Small landowner will have the extra expense of hiring a consultant. Likely budget cuts will reduce ODF's assistance to landowners in understanding the rules. • Professional foresters tested the variable retention prescription and found it took two to three times the time needed under current rules. That could decrease with experience, but it will still be an additional burden. • Complexity and tree numbers in variable retention are a safety issue for operators. 	<p>contributing to loss of shade over SSBT streams and potential violations of the Protecting Cold Water Criterion (water quality standard). The well-distributed requirement in proposed OAR 629-642-0105(11) addresses that potential problem. That rule includes a qualitative description of "well-distributed," along with numeric standards for tree retention in defined sections of riparian management areas. The numeric standards are needed to establish an objective standard for landowners and operators to use in planning harvesting within riparian management areas, and for the Oregon Department of Forestry to use in evaluating compliance. The Department will work to educate landowners and operators on the tree retention standards, and to help them comply with the requirements.</p> <p>The proposed rules would continue the flexibility in current rule for managing within riparian management areas as needed to better meet the desired future condition (mature streamside stands) or rule objective through the following measures:</p> <ul style="list-style-type: none"> • Allowances for precommercial thinning and/or release of desired trees; • Use of Alternative Vegetation Retention Prescription for Catastrophic Damage or Hardwood-dominated Stands; and • Use of site-specific vegetation retention prescriptions under plans for alternate practices.

Table 2: Detailed Public Comment and Agency Response

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	<ul style="list-style-type: none"> • Oregon should not be like California, where the costs of timber harvest plan preparation and review could exceed revenue from the harvest. • Proposed rules are excessively prescriptive and precautionary. • Precautionary, prescriptive, and complex policies discourage management needed to meet objectives in riparian stands. • Need variety of shade-centric management alternatives (not just basal area as a surrogate for shade). <p>In support of the proposed rules:</p> <ul style="list-style-type: none"> • Need strong, simple, effective rules, i.e., wider no-harvest buffers. Variable retention is too complex for small landowners. • Landowners may choose the simple, no-harvest option. • One-size for all does not work--need to tailor buffers for protection of each specific site. 	
<p>8 Supporting hardwoods inclusion</p>	<ul style="list-style-type: none"> • Support including hardwoods in the basal area calculation. This will help family forestlands, as they are often in the lower portions of watersheds where hardwoods provide significant shade. • Appreciate the opportunity to count hardwoods such as Oregon myrtle. 	<p>The Board recognized that hardwoods provide significant shade in the late-spring through early fall period when sunlight is more likely to warm streams. The Board also recognized that an allowance to count hardwoods to meet basal area targets provides landowners with some flexibility to meet financial objectives while achieving natural resource protection. Therefore, the Board included the allowance to count hardwoods to meet basal area targets in the proposed variable retention prescription (proposed OAR 629-642-0105(11)).</p>
<p>9 Prefer effective date of January 1, 2018 to allow sufficient planning time for operators and landowners.</p>	<ul style="list-style-type: none"> • The three month period between proposed adoption of the rules (April 2017) and their proposed effective date (July 2017) is too short to allow effective planning and contracting. An effective date of January 1, 2018 would be more workable. 	<p>The Board approved the proposed rules for formal rulemaking at its September 2016 meeting. Operators and landowners have had since that time to be aware of the need for planning based on the proposed effective date for the rules. In addition, if the Board were to adopt the Rules at its April 2017 meeting, operators and landowners would still have two months for planning. In addition, based on proposed OAR 629-635-0200(13)(a),</p>

Table 2: Detailed Public Comment and Agency Response		
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		operations for which notifications were submitted before the July 1, 2017 effective date for the proposed rules could be conducted based on water protection rules in place before that date.
10 Support monitoring of proposed rules	<ul style="list-style-type: none"> • Monitor effectiveness of proposed rules to see if the Protecting Cold Water standard is met. Portions of the proposed rules (variable retention and narrow north-sided buffers) are experimental and risky, so intensive monitoring is needed. • Use true adaptive management—be ready to make changes if monitoring so warrants. • Need robust statewide water quality monitoring with true adaptive management. • Monitor and document voluntary measures completed by landowners. • Need information on cumulative effects. 	<p>The Board and Oregon Department of Forestry are committed to and engaged in collaborative monitoring and adaptive management, as is shown by the current process to revise rules based on monitoring evidence indicating a water quality standard is not met. However, efforts are limited to available staff resources, which might be reduced in the 2017-2019 biennium. In addition, at least in the short term, the Board has directed the Oregon Department of Forestry to examine opportunities for monitoring in the Siskiyou Geographic Region. The proposed rules would not apply in that region.</p> <p>The Oregon Department of Forestry is currently engaged in documenting voluntary measures completed by landowners.</p>
11 Siskiyou Geographic Region	<p>Include the Siskiyou Geographic Region in the proposed rules:</p> <ul style="list-style-type: none"> • Hundreds of miles of SSBT streams are in the Siskiyou region; many stream there are on Oregon's 303(d) list for temperature impairment. Current FPA standards are not meeting water quality standards or supporting beneficial uses. Water quality analysis for the Rogue basin shows significant shade deficits. RipStream results can reasonably be extrapolated to the Siskiyou region. • Siskiyou region is included in Oregon's Coastal Nonpoint Pollution Control Program under, which was rejected by the U.S. Environmental Protection Agency and National Oceanic and Atmospheric Administration. Inclusion of the region in the proposed rules could help address the problems identified by those agencies. • There is ample scientific evidence showing need, and no rational basis to exclude the region. 	<p>The Board determined that because RipStream included no sites from the Siskiyou Geographic Region, it did not have sufficient monitoring information to determine that current forest practices would lead to noncompliance with the Protecting Cold Water Criterion (water quality standard) in that region. Therefore, the Board did not include the Siskiyou Geographic Region in the proposed rules. The Board determined that it had sufficient sites in the study to include all other geographic regions in western Oregon.</p> <p>The Board has directed the Oregon Department of Forestry to address the potential need for monitoring in the Siskiyou Geographic Region as follows:</p> <ul style="list-style-type: none"> • Work with stakeholders

Table 2: Detailed Public Comment and Agency Response

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	<ul style="list-style-type: none"> • Siskiyou exemption is unjustified--don't need another long term study while fish suffer. • Need expedited monitoring and scientific review for Siskiyou region. • Umpqua main stem water is too warm for fish now--forces fish to move rapidly upstream to cooler water. • Eastern Oregon should be included as well. <p>Exclude the Siskiyou Geographic Region from the proposed rules:</p> <ul style="list-style-type: none"> • There is no documented evidence to include it. • RipStream results should only be used in the Coast Range geographic regions. 	<ul style="list-style-type: none"> • Propose one or more monitoring questions to address • Proposed methods, timelines to answer question(s) • Report to the Board in July 2017
<p>12 Relief Prescriptions:</p>	<p>Support the relief concept, but the Board should reduce the threshold to 4% increased encumbrance:</p> <ul style="list-style-type: none"> • The proposed rules will have a disproportionate effect on family forestland ownerships, which tend to be on the lower gradient streams lower in watersheds, where SSBT are more likely to occur. • Four percent provides appropriate relief with minimal negative impact on fish over the landscape--(less than 2% of SSBT streams)--this is what the Board originally had in mind. The 2% figure is based on ODF calculations plus the demonstrated behavior of family forestland owners in retaining more trees along streams than the minimum numbers specified in rule. • The encumbrance in the rule is only the additional retention over current rules, not the total encumbrance on a property. <p>Use an 8% or greater threshold:</p> <ul style="list-style-type: none"> • Relief when encumbrance exceeds 8% would be more indicative of "burdensome." • Business owners adapt to changing regulations. Landowners are smart—they can do that, too. • Need careful reconsideration of the equity provision. Current encumbrance threshold is too low--would negatively affect too many SSBT streams. 	<p>The Riparian Rule Advisory Committee considered the tradeoffs between the additional encumbrance and cost to landowners from the proposed rules and the potential reduced certainty that Type SSBT streams would comply with the Protecting Cold Water Criterion (water quality standard) if relief were granted. The committee was able to narrow the encumbrance threshold to a range of 4-10%. The Oregon Department of Forestry recommended a threshold of 8% additional encumbrance based on analysis showing that at that point, each additional decrease in the percent encumbrance threshold would encompass a greater percentage of Type SSBT stream miles. The Board accepted the 8% threshold as a point that would reasonably balance fairness to landowners with resource protection.</p> <p>Proposed OAR 629-642-0110 indicates that landowners would need to submit a written request to the Oregon Department of Forestry to apply the relief prescription. The Department would consult a map showing eligible parcels. The Department would also accept and evaluate information from landowners to determine if specific parcels should be eligible.</p>

Table 2: Detailed Public Comment and Agency Response		
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	<ul style="list-style-type: none"> Do not reduce the encumbrance figure, consider redesigning the policy. Will landowners be notified if they are eligible for the equity provision? How will it work? 	
13 Relief: should be compensation, not reduction in protection.	<ul style="list-style-type: none"> The relief concept makes sense, but the approach should be financial compensation, not reduced buffers, which would harm fish. Utilize the existing maps and identified streams to determine the degree that the owner is affected and offer a sliding scale of relief from the severance and harvest tax. Relief should be based on a means test. Consider restoration of severance tax for ownerships more than 5000 acres, and use the funds to compensate affected family forestland owners. Relief could be given to landowners experiencing large impacts, and who agree to long-term management plans more beneficial to the resources. Treat these situations in more of a site-specific way, allowing landowners flexibility to do such things as retaining the larger trees. 	Oregon Department of Forestry analysis determined that at an 8% encumbrance threshold, 14 % of parcels encumbered by the proposed rules would be eligible for relief. These parcels contain 6% of the small and medium SSBT streams. The Board does not have access to compensation mechanisms, however such tools could be developed. The limiting factor is funding to implement such a program.
14 Relief: Against any reductions of buffer widths	<ul style="list-style-type: none"> Proposed rules are already less than science shows is needed, so there should not be additional reductions in the buffer widths. Proposed rules would affect only a very small percentage of landowners, but allowing the equity provision will result in impairment of the Protecting Cold Water Criterion wherever it is applied. Not needed for larger landowners. Management options within proposed rules already mitigate impact to landowners. The board already reduced what science indicated in favor of landowners. Further relief is not appropriate. Must not cause harm to public waters or threatened and endangered species. Equity proposal might set precedent, making future protection problematic. 	Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. In addition, ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest practices, while providing for sound management of soil, air, water, and fish and wildlife resources. Finally, ORS 527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired

Table 2: Detailed Public Comment and Agency Response

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	<ul style="list-style-type: none"> Will large companies be able to get different names on different parcels to misuse the equity provision? 	<p>level of protection. Based on the direction in those three statutes, the Board determined it would be appropriate to make relief prescriptions available to landowners more heavily impacted by the proposed rules.</p>
<p>15 Science does not support the proposed rules</p>	<p>15a. The Protecting Cold Water Criterion (Water Quality Standard) is not biologically meaningful and is therefore invalid.</p> <ul style="list-style-type: none"> The Protecting Cold Water Criterion is arbitrary, not meaningful for fish, which need optimum temperatures, not just no-warming. The Protecting Cold Water Criterion does not consider the existing variability on streams, sites. No evidence that compliance with the Protecting Cold Water Criterion (more shade) benefits fish. Limiting openings in artificially dense young stands in larger buffers can decrease aquatic productivity. Science shows streams may need more light for optimum fish production. Need more consideration of effects of current management on fish. Stream temperature increases observed in RipStream are immaterial from a biological perspective. RipStream results show a success story for modern forest management--stream temperatures are below numeric criteria. Though the process and Protecting Cold Water Criterion may be flawed, the proposed rules will likely lead to compliance with the standard. Many RipStream sites did not violate the standard, and it is likely that landowners will retain more basal area than would be required in the rules. The proposed rules adequately capture the Board's November 5, 2015 decision. Disagree with the finding of degradation, but if you assume it was correct, the resulting rules make sense, except for the relief provision. 	<p>ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. RipStream data predicted that current practices could lead to violations of the Protecting Cold Water Criterion, which therefore is the water quality standard relevant to the proposed rules. RipStream results did show that current forest practices lead to meeting numeric temperature criteria on medium and small Type F streams, but the study also showed that the Protecting Cold Water Criterion was not always met.</p> <p>While the Board may consult with the Oregon Environmental Quality Commission and the Oregon Department of Environmental Quality regarding water quality standards, state law charges the Board with meeting the standards, not developing or changing them.</p>
	<p>15b. RipStream is not valid/was not used correctly.</p> <ul style="list-style-type: none"> Ripstream is really only valid for the Coast Range, and should not be used for evaluation in other regions. 	<p>Ripstream results were used in helping the Board determine the appropriate level of increased shade to meet water quality standards. Ripstream results were</p>

Table 2: Detailed Public Comment and Agency Response

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	<ul style="list-style-type: none"> • ODF modeling based on RipStream cannot predict the efficacy of the proposed rule package in meeting the Protecting Cold Water Criterion. The study was designed to observe temperature increase, not model buffer widths, and it did not consider multiple confounding factors. ODF models focus on unharvested buffers, and do not account for variable retention harvesting. • RipStream was seriously flawed. • Basal area may not be an effective metric for achieving desired shade. 	<p>extrapolated only to geographic regions on the west-side of Oregon except for the Siskiyou geographic region. The Oregon Department of Forestry is committed to future monitoring and adaptive management which may include future stream temperature monitoring. The Board was made aware of the limitations of Ripstream modelling including confounding factors, stream buffer types (unharvested vs. variable retention), and study design. The Board also used other information including paired watershed studies, fish biologist input, and policy construct in the FPA to make their decisions. Basal area is a common and repeatable tool for measuring density of trees.</p>
	<p>15c. The Board has not integrated relevant information from paired watershed studies and other sources.</p> <ul style="list-style-type: none"> • The Board has not integrated results from paired watershed studies, which show current practices are adequate and do not harm fish. • Paired watershed studies show little detrimental effects to fish under current rules. • Paired watershed studies show temperature increases in streams recover 1000 feet downstream. • Monitoring in Oregon shows water quality is generally good. • State water quality data shows high water quality on forestlands. • Studies show temperature increases recover quickly and do not accumulate downstream, so small increases are not biologically meaningful. • There were good runs of Chinook, Coho, and Steelhead in 1940-1970 period when there was a lot of clearcutting. • Narrower buffers provide adequate shade when needed, based on calculations of the sun position. • What is the benefit of leaving trees farther from the stream, i.e., in providing large wood? 	<p>The Board recognizes the value of paired watershed studies and other science and monitoring, and has reviewed such information. However, ORS 527.765 directs the Board to focus on meeting water quality standards to the maximum extent practicable. In this instance, the water quality standard is the Protecting Cold Water Criterion. The purpose of that standard is to prevent anthropogenic warming in stream reaches that consistently meet the numeric temperature criteria throughout the summer. Protecting a range of cold water habitats is important for temperature sensitive fish and other cold water biota (DEQ 2011, Internal Management Directive for Nonpoint Source Compliance with the Protecting Cold Water Criterion of the Temperature Standard. The Board is directed to meet water quality standards, not to develop or change them.</p> <p>The Board acknowledges that water quality on forestlands is generally good, and that fish populations have varied over time and under different conditions. However,</p>

Table 2: Detailed Public Comment and Agency Response

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		RipStream indicated that under current forest practice regulations, the Protecting Cold Water Criterion was not always being met, and based on ORS 527.765 action was needed.
	<p>15d. Monitoring and Science indicate there is not degradation of resources (fish populations).</p> <ul style="list-style-type: none"> • In light of available monitoring and science, a finding of degradation to resources does not make sense. • The proposed rules are just an attempt to be politically correct; they are not based on science or achievable goals. • RipStream showed only a small amount of warming that is alleviated over short times and distances—very low impact to fish, but high economic impacts to people. Adjacent harvests are already prohibited for the four years after a harvest. • The proposed rules fail to meet evidentiary criteria for ORS 527.714 on several counts: lack of monitoring evidence of resource degradation; lack of consideration of alternatives including non-regulatory approaches; failing to choose the least burdensome alternative; and failing to determine that resource benefits achieved are proportional by the harm caused by forest practices. 	<p>ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. RipStream data predicted that current practices could lead to violations of the Protecting Cold Water Criterion, which is the water quality standard relevant to the proposed rules. The Board applied the process and standards from ORS 527.714 in the development of the proposed rules.</p>
	<p>15e. Other factors harm fish more than forest practices do.</p> <ul style="list-style-type: none"> • Seals and sea lions in lower river areas consume large amounts of salmon, and the landowners are left to pay for that with larger stream buffers. • Predation from herons and bald eagles is a problem. • Other problems--low summer water levels, degradation of streams from sewage, etc., when other regulations are not enforced. • Misguided "restoration" on federal lands is causing more harm than timber harvest--an example of a larger problem of government taking and acting, while landowners manage responsibly and pay taxes. • Forests are dying from insects and disease, reducing shade. 	<p>These comments refer to factors that are outside the Board's authority, except the comment relating to forest health. The proposed rules would continue the current allowance for landowners and operators to submit plans for alternate practices to manage within riparian management areas to address forest health.</p>

Table 2: Detailed Public Comment and Agency Response

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<p>16 Science Used: Science supports larger buffers</p>	<p>16a. The Protecting Cold Water Criterion (Water Quality Standard) is legally and biologically meaningful and is therefore valid.</p> <ul style="list-style-type: none"> • The Protecting Cold Water Criterion is a meaningful and well-considered standard. • The Protecting Coldwater Criterion is a duly promulgated water quality standard that the Board has a duty to meet and which it must presume is necessary to fully protect beneficial uses. It is not valid to indicate that the Board must tie specific fish response to a .3 degree temperature increase. Unless all streams are restored to natural temperature regimes, it is not valid to say that small temperature increases are not harmful to fish if the numeric temperature criteria are met. • Science shows the Protecting Cold Water Criterion is needed to protect cold-water fish. • The Protecting Cold Water Criterion is a vetted, legal standard. • The Protecting Cold Water allows exceptions for low flow or high air temperature conditions. • Not scientifically defensible to say increased light and temperature benefit fish. The potential for increased sunlight and other factors to increase production in a way that biologically compensates for summer stream warming has already been factored into the cold water criteria. • Thermal diversity across the landscape is biologically necessary. • Small increases in temperature at different places across the landscape can have negative effects on fish populations. The Protecting Cold Water Criterion is needed to maintain cold water during natural variations in temperatures. • Science shows temperature increases are generally harmful to cold water fish. • There is a clear requirement in the Oregon Forest Practices Act that it must not interfere with attainment of water quality standards. 	<p>ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. RipStream data showed that current practices could lead to violations of the Protecting Cold Water Criterion, which is the water quality standard relevant to the proposed rules. While the Board may consult with the Oregon Environmental Quality Commission and the Oregon Department of Environmental Quality regarding water quality standards, state law charges the Board with meeting the standards, not developing or changing them.</p>

Table 2: Detailed Public Comment and Agency Response

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	<p>16b. The Board should consider Total Maximum Daily Loads (TMDLs)</p> <ul style="list-style-type: none"> • The Board must consider water quality data and Oregon Department of Environmental Quality rules and findings. Proposed rules should (but do not) consider TMDLs for stream temperature in western Oregon, which are relevant to the proposed rule because they are based on restoring streams to natural potential vegetation. • Many Oregon streams are on the 303(d) list for temperature. 	<p>Total Maximum Daily Loads (TMDLs) are written plans with analysis that determine the total amount of a pollutant (from all sources) that can be present in a specific waterbody and still meet water quality standards. Load allocations are portions of the Total Maximum Daily Load that are attributed to either natural background sources or from nonpoint sources, such as urban, agriculture or forestry activities or from dams. The Oregon Department of Environmental Quality and other agencies implement TMDLs through Water Quality Management Plans for specific basins. The Oregon Forest Practices Act is the primary method for implementation of TMDLs on forestland.</p> <p>RipStream results showed that current rules result in attainment of numeric temperature standards, but that there were violations of the Protecting Cold Water Criterion (water quality standard) at times, in certain geographic regions. The Board has determined that proposed rules will bring forest practice regulations into compliance with the Protecting Cold Water Criterion (water quality standard) to the maximum extent practicable, as directed by ORS 527.765, using the process standards established in ORS 527.714.</p>
	<p>16c. Science indicates proposed buffers should be wider.</p> <ul style="list-style-type: none"> • Science shows that the proposed rules would not meet their stated purpose, to meet the Protecting Cold Water Criterion. • Science shows wider buffers (90-120 feet; some said 5-10 times wider than proposed rules) are needed to meet the Protecting Cold Water Criterion and to protect fish and water quality. • There is science that shows if you are trying to protect wildlife you need 300' being the most effective corridors. Also if you are trying to protect from pesticide movement you need 100 to 300' especially if you have aerial applications which I believe is the preponderance of 	<p>Modeling based on RipStream data did indicate that no-harvest buffers of approximately 100 feet would be needed for a high level of certainty that Type SSBT streams would meet the Protecting Cold Water Criterion (water quality standard). However, ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. In addition, ORS 527.630 declares as policy of the state of Oregon to encourage economically efficient forest</p>

Table 2: Detailed Public Comment and Agency Response

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	<p>ours is. If you want to stop debris torrents from washing down you need 100 to 330’ and if you want to improve the temperature you need up to 230’ and the test site has to support a high level of biodiversity.</p> <ul style="list-style-type: none"> • Use the precautionary principle with at least 120 -foot wide buffers on all streams. • RipStream is good science, but the rulemaking process did not use that science properly, i.e., RipStream modeling indicated buffers should be 90-120 feet to meet the Protecting Cold Water Criterion. • The Water Quality Standard that the Board is trying to meet with this rule is designed to prevent cumulative watershed and landscape scale effects by preventing site level effects, so the rule needs be more protective. • Proposed rules a step in the right direction, but modeling and science show wider buffers are needed to meet the Protecting Cold Water Criterion. • Just a guess that the proposed rules will be good enough. • We have strong monitoring data to support even more protective rules, and there is a strong legal requirement to act. • A long-term study in northeast Oregon indicated that temperature is the number one issue in depressing spring Chinook populations. • Fish died in the summer of 2015 because stream temperatures were very high. Residents have seen that streams are getting warmer. • Current approaches allow too much for timber economy, at the expense of environment and jobs from other sources, e.g., fishing, tourism. 	<p>practices, while providing for sound management of soil, air, water, and fish and wildlife resources. Finally, ORS 527.714 (5)(e) directs the Board to choose the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection. Based on the direction in those three statutes, the Board selected the alternative with buffers 10 feet wider than current standards, but less than approximately 100 feet, and with a limited allowance for variable retention harvesting.</p>
	<p>16d. Consider that the current landscape is degraded when determining appropriate protection.</p> <ul style="list-style-type: none"> • We are working with a landscape that has been degraded from 100 years of management—current conditions are not a valid reference point. Any further degradation would be very harmful. • Coastal Coho have not recovered to historic levels. Continued restoration and increased protection is needed. 	<p>ORS 527.765 (1)(b) directs the Board to consider past practices when developing best management practices 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. The Board</p>

Table 2: Detailed Public Comment and Agency Response

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	<ul style="list-style-type: none"> Consider that current management is not similar to pre-settlement disturbance regimes. Now, more streams are in thermal recovery stages, not in the desired or needed temperature conditions. The reference point for fish presence should be the historical condition, not the current distribution of fish. Washington often found fish upstream of the end of fish use shown on their maps. Stream temperatures are already increased by human activity. Degradation of natural systems is extensive--need faster and more vigorous protection and restoration. Wait until average conditions across the landscape became similar to mature forest conditions and water temperatures meet water quality standards before considering if harvesting nearer streams is appropriate. 	<p>recognizes that the current forest environment has been affected by past practices.</p> <p>However, ORS 527.714 also directs the Board to base rulemaking decisions on monitoring and science results that indicate there is a degradation of resources under existing regulations, and on selecting the alternative that is the least burdensome to landowners and timber owners, in the aggregate, while still achieving the desired level of protection.</p> <p>The Board has determined that the proposed rules adequately address the effects of forest practices on the Protecting Cold Water Criterion (water quality standard) in light of ORS 527.765 and 527.714.</p>
	<p>16e. Paired watershed studies have limited utility in this rulemaking process.</p> <ul style="list-style-type: none"> Paired watershed studies are helpful, but have significant limitations in evaluating effects of current forest practices on fish, e.g., they use a managed forest reference point, which is not the same as pre-settlement conditions, they are short-term, and they are limited in extent across the landscape. Because of a number of limitations, paired watershed studies are not useful in evaluating effects of management options on fish. Hinkle Creek study is biased toward forest landowners. 	<p>The Board recognizes the value of paired watershed studies and other science and monitoring, and has reviewed such information. However, ORS 527.765 directs the Board to focus on meeting water quality standards to the maximum extent practicable. In this instance, the water quality standard is the Protecting Cold Water Criterion. The purpose of that standard is to prevent anthropogenic warming in stream reaches that consistently meet the numeric temperature criteria throughout the summer. Protecting a range of cold water habitats is important for temperature sensitive fish and other cold water biota (DEQ 2011, Internal Management Directive for Nonpoint Source Compliance with the Protecting Cold Water Criterion of the Temperature Standard). The Board is directed to meet water quality standards, not to develop or change them.</p>
	<p>16f. Consider that riparian management areas provide benefits in addition to shade, e.g., sediment filtering and wildlife habitat.</p> <ul style="list-style-type: none"> Streamside buffers protect against temperature increases, but also are filtering buffers for pesticides and fertilizers. 	<p>The requirements in the current Chemical and Other Petroleum Product Rules (OAR 629-620-0400) for protection of Type F streams would apply to Type SSBT</p>

Table 2: Detailed Public Comment and Agency Response

Theme	Summarized Public Comment	Agency Response
	<ul style="list-style-type: none"> • Need wider buffers for protection from pesticide application. • Need to provide for large wood, sediment filtering, wildlife (amphibian) habitat. • Need to retain larger trees in the riparian management areas. 	<p>streams as well under the proposed rules. The requirements are:</p> <ul style="list-style-type: none"> • Protective, no-direct-application zones along the streams. • Operators must protect all streamside trees and other vegetation required to be retained by the Water Protection Rules (proposed OAR 629-642). <p>Protections against sedimentation in the current Road Rules (OAR 629-625) and Harvesting Rules (OAR 629-630) would apply to Type SSBT streams under the proposed rules. Riparian management areas for Type SSBT streams in the proposed rules would be wider than those in the current rules for Type F streams, and basal area requirements would be increased; those measures would provide increased habitat for amphibians and other wildlife.</p>
	<p>16g. Consider stream protection in the context of climate change.</p> <ul style="list-style-type: none"> • Need to include climate change in science review (cold water fish in warmer water, more intense storms). • Modeling shows stream restoration (riparian restoration and channel narrowing) on the Upper Grande Ronde and Catherine Creek basins could help mitigate temperature increases expected from climate change. 	<p>ORS 527.765 charges the Board with developing best management practices that will meet water quality standards to the maximum extent practicable, while considering other factors. RipStream data showed that current practices could lead to violations of the Protecting Cold Water Criterion, a state water quality standard. ORS 527.714 provides direction to the Board on how to approach rulemaking. All of that means that the Board needs to adopt more protective rules to meet current water quality standards, not to consider what might happen in the future. The Board remains committed to taking further action if future information indicates a need to do so.</p>
<p>17 Maximum Extent Practicable (MEP)</p>	<p>The Board has little discretion in applying “Maximum Extent Practicable” to allow for landowner concerns or difficulties.</p> <ul style="list-style-type: none"> • MEP is included in our OAR’s to cover us when topography and/or geology really limit being able to expressly carry out to the letter to 	<p>ORS 527.765 requires that the Board adopt BMPs that “to the maximum extent practicable” ensure maintenance of water quality standards.</p>

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	<p>our harvest rules. I have a very hard time believing that MEP was intended to cover the type and extent of impact on economic return to landowners as was calculated by our staff that would occur if we increased our buffers to the 90 foot no-cut buffers that have been shown to at least have a 50% chance of preventing increased water temperature. It is practicable to leave wider buffers because it is operationally feasible. Wider buffers have been implemented in Washington and California. Landowners are doing it voluntarily in Oregon.</p> <ul style="list-style-type: none"> Given the quantitative analysis regarding the efficacy of various buffer alternatives, and a wealth of other supporting information, from NOAA Fisheries, EPA and other sources, the Board does not have an adequate basis to find that the proposed rule meets the target standard to the maximum extent practicable. The most recent evidence of this is that the Federal agency charged with the oversight of salmon recovery expressed its opinion in its Recovery Plan for Oregon Coastal Coho. It said if this proposal is not significantly strengthened it will still be concerned that it doesn't provide adequate protections for shade and wood recruitment parameters. The Board has assumed unwarranted discretion in meeting the Maximum Extent Practical standard. The Oregon legislature has pointed the Board to the federal Clean Water Act. Courts have said that a standard is feasible if it does not threaten the mass dislocation to or threatens the very existence of an industry. Therefore a rule is not infeasible simply because it is financially burdensome or because it threatens the survival of some components of an industry. So just because a rule may push the weakest of the industry out of business. Those who simply choose not to comply with the rule does not mean that that rule is not feasible. The Board and ODF have presented no evidence that retaining at least 90-foot buffers is not practicable. Survey shows most small LOs would not change practices with wider, no-cut buffers. 	<p>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. The Board, when adopting a new or "increased" standard, must choose the "least burdensome" alternative.</p> <p>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.</p> <p>Under ORS 527.765, any water quality BMP must meet the MEP standard.</p> <p>At the Board's November 7, 2012 meeting, the Board directed the Department to use the following guidance of the meaning "maximum extent practicable" for the purpose of evaluating the approved range of alternatives for this rule analysis on riparian protection standards to increase the maintenance of promotion of shade on small and medium fish streams:</p> <p>"When applied, BMP(s) are expected to insure the harvest sites with Small and Medium Type F streams will not, on average and across the landscape, result in stream temperature increases greater or more frequent than can be expected under background conditions."</p>

Table 2: Detailed Public Comment and Agency Response

Theme	Summarized Public Comment	Agency Response
	<ul style="list-style-type: none"> • It is practicable to leave wider buffers because it is operationally feasible. <p>The Board has broad discretion in applying “Maximum Extent Practicable” to allow for landowner concerns and difficulties.</p> <ul style="list-style-type: none"> • ORS 527.765 includes the concept of "practicability." Requires the Board to consider water quality standards, "beneficial use", and technical, economic, and institutional feasibility." Stated legislative intent is that the Board must apply a clear cost/benefit test, an implement regulations only if they provide appropriate benefits and have reasonable cost to landowners. "Maximum extent practical" is used in federal statutes, but none include the five factors the Board must consider in ORS 527.714(1)(a)-(e). • The Board must provide for overall maintenance of resources while ensuring the continuous growing and harvesting of forest trees as the leading use on private forestlands. The Board's charge is limited to what is "practicable." The initial trigger is water quality, but as the Board considers BMPs, it may consider beneficial uses to be protected. Therefore, the Board has board discretion in crafting rules responsive to water quality standards. • BOF did not apply the process in ORS 527.714 properly--MEP is not the same as the tests and standards in that statute--need to consider beneficial use as well as water quality. • “Maximum Extent Practicable" is used in federal statutes, but none include the five factors the Board must consider in ORS 527.714(1)(a)-(e). 	

Table 2: Detailed Public Comment and Agency Response

Theme	Summarized Public Comment	Agency Response
<p>18 Oregon Department of Forestry economic analysis is incomplete.</p>	<p>Does not adequately account for operator/landowner costs</p> <ul style="list-style-type: none"> • ODF economic analysis does not adequately account for the increased costs to landowners and operators, both in administration (planning and laying out buffers on the ground) and in additional trees that must be left. Also, standing private timber is skewed toward older age classes, meaning the value of retained trees will be higher than was assumed. • It is difficult to fully analyze costs without more finalized maps of SSBT streams. <p>Does not account for external costs, e.g., reduced carbon storage or wildlife habitat.</p> <ul style="list-style-type: none"> • The ODF economic analysis is seriously flawed. It does not include substantial external costs and benefits from functioning streams and ecosystems (carbon storage, quality of life, wildlife, etc.). It only looks at costs to operators and landowners. 	<p>As required in ORS 527.714 (7), the Board’s economic analysis included the following:</p> <ul style="list-style-type: none"> • An estimate of the potential change in timber harvest; • An estimate of statewide economic impact, including changes in output, employment and income; • An estimate of the total economic impact on the forest products industry and common school and county forest trust land revenues; and • Information from consultation with potentially affected landowners and timber owners and an assessment of the economic impact of the proposed rule. <p>Monitoring, science review, and analysis in the rulemaking process for Type SSBT streams addressed the need for increased stream and fish protection, i.e., the need to retain more shade along medium and small streams with SSBT species.</p>
<p>19 The proposed rules are biased toward economic interests.</p>	<ul style="list-style-type: none"> • ODF is catering to timber interests. • Don't let influence of timber interests override science and the need for strong protection. • Forest industry has had too much influence--current rules are inadequate. • Need to revise FPA in favor of environment for truly balanced process and protection. 	<p>The Board has provided multiple opportunities for the public, including interest groups, to provide comment. The Board appointed the Riparian Rule Advisory Committee to develop the proposed rule language. Committee members represented a broad range of conservation and economic interests. The Board has considered all the input it has received in developing the proposed rules.</p>
<p>20 Manage on a holistic, landscape basis.</p>	<p>Need to manage on a landscape basis to protect natural resources</p> <ul style="list-style-type: none"> • Need to protect streams on a landscape basis. Protection schemes based on effects the unit level will not work. • Need to consider cumulative, downstream effects. • Need to look at effects on fish at a landscape spatial scale, not just a local site scale. Need to be holistic--e.g., interaction of large wood habitat, temperature. 	<p>For the most part, the Oregon Forest Practices Act and Forest Practice Rules take a site-specific approach in regulating forest management activities. However, the Board recognizes that the diverse types of forests across Oregon can provide a wide variety of economic, environmental, and social benefits. The types of forests the Board has recognized in its Forestry Program for Oregon are:</p>

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	<ul style="list-style-type: none"> • Ecosystems are interconnected--we need to protect all components. • Need to focus on ecosystem protection, not just economic concerns. 	<ul style="list-style-type: none"> • Production emphasis (forest industry and others); • Nature emphasis (parks, wilderness and wild areas); • Multiple-use emphasis (mostly state, tribal, some family forestland owners, some federal); and • Residential value emphasis (where most people live).
<p>21 Streams and fish are important environmentally and socially, as well as economically.</p>	<ul style="list-style-type: none"> • Need to protect fisheries and tourism. • Streams are our "life blood." • Provide needed protection now, we are at a tipping point because of degradation of forests. • Consider what we are leaving to future generations. • Salmon and steelhead fishery is important for Oregon for both economic and recreational reasons. • Anadromous fish transport nitrogen from the ocean to nitrogen-deficient forestlands; a win-win for economic and environmental interests. • Need to provide for fish habitat. • Lamprey are gone from the South Umpqua River. Need to gain back water quality, gravel beds for spawning, and temperature. 	<p>The Board agrees that streams and fish are important to Oregon from economic, environmental, and social standpoints. Oregon’s policy regarding forest management on private lands is to encourage economically efficient forest practices, consistent with sound management of soil, air, water, fish and wildlife resources and scenic resources (ORS 527.630 (1)). The Board works to protect natural resources on forestland within that policy.</p>
<p>22 Current harvesting and pesticide use are damaging forest ecosystems.</p>	<ul style="list-style-type: none"> • Clearcutting and pesticide use have severely degraded ecosystems, damaging water quality and fish habitat. • Millions of dollars spent on recovering fish populations, but logging continues to damage streams. • Irresponsible logging damages fish and water quality. • Forests are being destroyed, no one is watching the landowners and operators, and increased protections are needed. 	<p>The proposed rules would address potential non-attainment of the Protecting Cold Water Criterion (water quality standard). The Board supports a strong and effective regulatory system for forest practices, and the Oregon Department of Forestry administers that system.</p>
<p>23 Stream classification must be accurate.</p>	<ul style="list-style-type: none"> • You must be sure that no non-fish streams get classified as SSBT streams. 	<p>The proposed rules outline a process to help ensure that streams are accurately classified as Type SSBT (proposed OAR 629-635-0200(12) and (13)).</p>

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24 Oregon Department of Forestry Decision Matrix	ODF Decision Matrix: As presented, the responses create an impression that fishery biologists are so conflicted in their opinions that they cannot provide anything but uncertainty in the discussion about the impact of shade reduction in riparian management. This is largely the result of the flawed questioning process, not the state of the science, and I am concerned that the answers may be used inappropriately by policymakers to erroneously justify non-retention of riparian shade.	The Board requested information on how potential riparian buffers prescriptions may influence fish response. A range of answers from positive, negative, unchanged, or unknown were possible responses. The information provides a range of opinions from professional fish biologists.
25 Out of Scope	<ul style="list-style-type: none"><li data-bbox="394 440 1255 500">• The responsibility for stream protection should be shared by all land uses.<li data-bbox="394 508 1255 576">• Use of pesticides for release activities is harmful to people and the environment.	Out of scope of this rulemaking.