DEPARTMENT OF NATURAL RESOURCES

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MEMORANDUM

April 16, 2024

TO: Forest Practices Board

FROM: Marc Engel, Senior Policy Planner
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SUBJECT: Type Np Water Buffer Rule

The Board will receive a Type Np Water Buffer rule update at the May 9th regular meeting. This presentation will update the Board on the status of the required analysis of supporting analyses to the Board approved draft rule language.

At the February meeting, the Board accepted staff concerns that only addressing the discreet sections of the Type Np Water rule impacted by the Boards approved buffer recommendations may affect the implementation of the full required protections of Type Np Waters.

In preparation for the May meeting, staff have amended the draft Type Np rule to assure sensitive sites are protected when applying the Board approved buffer options, see attached.

ME

Draft Rule Proposal for Type Np Water Buffer
FOREST PRACTICES BOARD
May 9, 2024

WAC 222-30-021 *Western Washington Type S and F waters riparian management zones.
[Effective 12/30/13]
These rules apply to all ~~t~~Type~~d~~ S and F waters on forest land in Western Washington, except as provided in WAC 222-30-023. RMZs are measured horizontally from the outer edge of the bankfull width or channel migration zone, whichever is greater, and extend to the limits as described in this section. See board manual section 7 for riparian design and layout guidelines.

*(1) **Western Washington RMZs for Type S and F Waters** have three zones: The core zone is nearest to the water, the inner zone is the middle zone, and the outer zone is furthest from the water. (See definitions in WAC 222-16-010.) RMZ dimensions vary depending on the site class of the land, the management harvest option, and the bankfull width of the stream. See tables for management options 1 and 2 below.

None of the limitations on harvest in each of the three zones listed below will preclude or limit the construction and maintenance of roads for the purpose of crossing streams in WAC 222-24-030 and 222-24-050, or the creation and use of yarding corridors in WAC 222-30-060(1).

The shade requirements in WAC 222-30-040 must be met regardless of harvest opportunities provided in the inner zone RMZ rules. See board manual section 1.

(a) **Core zones.** No timber harvest or construction is allowed in the core zone except operations related to forest roads as detailed in subsection (1) of this section. Any trees cut for or damaged by yarding corridors in the core zone must be left on the site. Any trees cut as a result of road construction to cross a stream may be removed from the site, unless used as part of a large woody debris placement strategy or as needed to reach stand requirements.

(b) **Inner zones.** Forest practices in the inner zone must be conducted in such a way as to meet or exceed stand requirements to achieve the goal in WAC 222-30-010(2). The width of the inner zone is determined by site class, bankfull width, and management option. Timber harvest in this zone must be consistent with the stand requirements in order to reach the desired future condition targets.

"Stand requirement" means a number of trees per acre, the basal area and the proportion of conifer in the combined inner zone and adjacent core zone so that the growth of the trees would meet desired future conditions. The following table defines basal area targets when the stand is one hundred forty years old.

Site Class	**Desired future condition target basal area per acre (at 140 years)**
I	325 sq. ft.
II	325 sq. ft.
III	325 sq. ft.
IV	325 sq. ft.
V	325 sq. ft.

Growth modeling is necessary to calculate whether a particular stand meets stand requirement and is on a trajectory towards this desired future condition basal area target. The appropriate growth model will be based on stand characteristics and will include at a minimum, the following components: The number of trees by diameter class, the percent of conifer and hardwood, and the age of the stand. See board manual section 7.

(i) **Hardwood conversion in the inner zone.** When the existing stands in the combined core and inner zone do not meet stand requirements, no harvest is permitted in the inner zone, except in connection with hardwood conversion.

The landowner may elect to convert hardwood-dominated stands in the inner zone to conifer-dominated stands. Harvesting and replanting shall be in accordance with the following limits:

(A) Conversion activities in the **inner zone** of any harvest unit are only allowed where all of the following are present:

- Existing stands in the combined core and inner zone do not meet stand requirements (WAC 222-30-021 (1)(b));
- There are fewer than fifty-seven ~~-~~conifer trees per acre eight inches or larger dbh in the conversion area;
- There are fewer than one hundred conifer trees per acre larger than four inches dbh in the conversion area;
- There is evidence (such as conifer stumps, historical photos, or a conifer understory) that the conversion area can be successfully reforested with conifer and support the development of conifer stands;
- The landowner owns five hundred feet upstream and five hundred feet downstream of the harvest unit;
- The core and inner zones contain no stream adjacent parallel roads;
- Riparian areas contiguous to the proposed harvest unit are owned by the landowner proposing to conduct the conversion activities, and meet shade requirements of WAC 222-30-040 or have a seventy-five foot buffer with trees at least forty feet tall on both sides of the stream for five hundred feet upstream and five hundred feet downstream of the proposed harvest unit (or the length of the stream, if less);
- If the landowner has previously converted hardwood-dominated stands, then post-harvest treatments must have been performed to the satisfaction of the department.

(B) In addition to the conditions set forth above, permitted conversion activities in the **inner zone** of any harvest unit are limited by the following:

- Each continuous conversion area is not more than five hundred feet in length; two conversion areas will be considered "continuous" unless the no-harvest area separating the two conversion areas is at least half the length of the larger of the two conversion areas.
- Type S and F ~~(Type 1, 2, or 3)~~ Water: Up to fifty percent of the inner zone area of the harvest unit on one side of the stream may be converted provided that:
  - ♦ The landowner owns the opposite side of the stream and the landowner's riparian area on the opposite bank meets the shade requirements of WAC 222-30-040 or has a seventy-five foot buffer of trees at least forty feet tall or:

- ♦ The landowner does not own land on the opposite side of the stream but the riparian area on the opposite bank meets the shade requirements of WAC 222-30-040 or has a seventy-five foot buffer of trees at least forty feet tall.
- Not more than twenty-five percent of the inner zone of the harvest unit on both sides of a Type S or F Water may be converted if the landowner owns both sides.

(C) Where conversion is allowed in the **inner zone**, trees within the conversion area may be harvested except that:

- Conifer trees larger than twenty inches dbh shall not be harvested;
- Not more than ten percent of the conifer stems greater than eight inches dbh, exclusive of the conifer noted above, within the conversion area may be harvested; and
- The landowner must exercise reasonable care in the conduct of harvest activities to minimize damage to all residual conifer trees within the conversion area including conifer trees less than eight inches dbh.

(D) Following harvest in conversion areas, the landowner must:

- Reforest the conversion area with **conifer** tree species suitable to the site in accordance with the requirements of WAC 222-34-010; and
- Conduct post-harvest treatment of the site until the conifer trees necessary to meet acceptable stocking levels in WAC 222-34-010(2) have crowns above the brush or until the conversion area contains a minimum of one hundred fifty conifer trees greater than eight inches dbh per acre.
- Notify the department in writing within three years of the approval of the forest practices application for hardwood conversion, if the hardwood conversion has been completed.

(E) **Tracking hardwood conversion.** The purpose of tracking hardwood conversion is to determine if hardwood conversion is resulting in adequate enhancement of riparian functions toward the desired future condition while minimizing the short term impacts on functions. The department will use existing or updated data bases developed in cooperation with the Washington Hardwoods Commission to identify watershed administrative units (WAUs) with a high percentage of hardwood-dominated riparian areas and, thus have the potential for excessive hardwood conversion under these rules. The department will track the rate of conversion of hardwoods in the riparian zone: (1) Through the application process on an annual basis; and (2) at a WAU scale on a biennial basis as per WAC 222-30-120 through the adaptive management process which will develop thresholds of impact for hardwood conversion at the watershed scale.

(ii) **Harvest options**.

(A) No inner zone management. When the existing stands in the combined core and inner zone do not meet stand requirements, no harvest is permitted in the inner zone. When no harvest is permitted in the inner zone or the landowner chooses not to enter the inner zone, the width of core, inner and outer zones are as provided in the following table:

No inner zone management RMZ widths for Western Washington

Site Class	RMZ width	Core zone width (measured from outer edge of bankfull width or outer edge of CMZ of water)	Inner zone width (measured from outer edge of core zone)		Outer zone width (measured from outer edge of inner zone)	
			stream width ≤10'	stream width >10'	stream width ≤10'	stream width >10'
I	200'	50'	83'	100'	67'	50'
II	170'	50'	63'	78'	57'	42'
III	140'	50'	43'	55'	47'	35'
IV	110'	50'	23'	33'	37'	27'
V	90'	50'	10'	18'	30'	22'

(B) Inner zone management. If trees can be harvested and removed from the inner zone because of surplus basal area consistent with the stand requirement, the harvest and removal of the trees must be undertaken consistent with one of two options:

(I) **Option 1. Thinning from below.** The objective of thinning is to distribute stand requirement trees in such a way as to shorten the time required to meet large wood, fish habitat and water quality needs. This is achieved by increasing the potential for leave trees to grow larger than they otherwise would without thinning. Thinning harvest under option 1 must comply with the following:

- Residual trees left in the combined core and inner zones must meet stand requirements necessary to be on a trajectory to desired future condition. See board manual section 7 for guidelines.
- Thinning must be from below, meaning the smallest dbh trees are selected for harvest first, then progressing to successively larger diameters.
- Thinning cannot decrease the proportion of conifer in the stand.
- Shade retention to meet the shade rule must be confirmed by the landowner for any harvest inside of seventy-five feet from the outer edge of bankfull width or outer edge of CMZ, whichever is greater.
- The number of residual conifer trees per acre in the inner zone will equal or exceed fifty-seven.

Option 1. Thinning from below.

Site class	RMZ Width	Core zone width (measured from outer edge of bankfull width or outer edge of CMZ of water)	Inner zone width (measured from outer edge of core zone)		Outer zone width (measured from outer edge of inner zone)	
			stream width ≤10'	stream width >10'	stream width ≤10'	stream width >10'
I	200'	50'	83'	100'	67'	50'
II	170'	50'	63'	78'	57'	42'
III	140'	50'	43'	55'	47'	35'
IV	110'	50'	23'	33'	37'	27'
V	90'	50'	10'	18'	30'	22'

(II) **Option 2. Leaving trees closest to the water.** Management option 2 applies only to riparian management zones for site class I, II, and III on streams that are less than or equal to ten feet wide and RMZs in site class I and II for streams greater than ten feet wide. Harvest must comply with the following:

- Harvest is not permitted within thirty feet of the core zone for streams less than or equal to ten feet wide and harvest is not permitted within fifty feet of the core zone for streams greater than ten feet wide;
- Residual leave trees in the combined core and inner zone must meet stand requirements necessary to be on a trajectory to desired future condition. See board manual section 7 for calculating stand requirements;
- A minimum of twenty conifers per acre, with a minimum twelve inch dbh, will be retained in any portion of the inner zone where even-age harvest occurs. These riparian leave trees will be counted towards meeting applicable stand requirements. The number of riparian leave trees cannot be reduced below twenty for any reason.
- Trees are selected for harvest starting from the outer most portion of the inner zone first then progressively closer to the stream.
- If (b)(ii)(B)(II) of this subsection results in surplus basal area per the stand requirement, the landowner may take credit for the surplus by harvesting additional riparian leave trees required to be left in the adjacent outer zone on a basal area-for-basal area basis. The number of leave trees in the outer zone can be reduced only to a minimum of ten trees per acre.

Option 2. Leaving trees closest to water.

Site class	RMZ width	Core zone width (measured from outer edge of bankfull width or outer edge of CMZ of water)	Inner zone width				Outer zone width (measured from outer edge of inner zone)	
			stream width ≤10' (measured from outer edge of core zone)	stream width ≤10' minimum floor distance (measured from outer edge of core zone)	stream width >10' (measured from outer edge of core zone)	stream width >10' minimum floor distance (measured from outer edge of core zone)	stream width ≤10'	stream width >10'
I	200'	50'	84'	30'	84'	50'	66'	66'
II	170'	50'	64'	30'	70'	50'	56'	50'
III	140'	50'	44'	30'	**	**	46'	**

**Option 2 for site class III on streams >10' is not permitted because of the minimum floor (100') constraint.

(iii) **Where the basal area components of the stand requirement cannot be met** within the sum of the areas in the inner and core zone due to the presence of a stream-adjacent parallel road in the inner or core zone, a determination must be made of the approximate basal area that would have been present in the inner and core zones if the road was not occupying space in the core or inner zone and the shortfall in the basal area component of the stand requirement. See definition of "stream-adjacent parallel road" in WAC 222-16-010.

(A) Trees containing basal area equal to the amount determined in (b)(iii) of this subsection will be left elsewhere in the inner or outer zone, or if the zones contain insufficient riparian leave trees, substitute riparian leave trees will be left within the RMZ width of other Type S or F Waters in the same unit or along Type Np or Ns Waters in the same unit in addition to all other RMZ requirements on those same Type S, F, Np or Ns Waters.

(B) When the stream-adjacent road basal area calculated in (b)(iii) of this subsection results in an excess in basal area (above stand requirement) then the landowner may receive credit for such excess which can be applied on a basal area-by-basal area basis against the landowner's obligation to leave trees in the outer zone of the RMZ of such stream or other waters within the same unit, provided that the number of trees per acre in the outer zone is not reduced to less than ten trees per acre.

(C) When the basal area requirement cannot be met, as explained in (b)(iii) of this subsection, the shortfall may be reduced through the implementation of

an acceptable large woody debris placement plan. See board manual section 26 for guidelines.

(iv) If a harvest operation includes both yarding and harvest activities within the RMZ, all calculations of basal area for stand requirements will be determined as if the yarding corridors were constructed prior to any other harvest activities. If trees cut or damaged by yarding are taken from excess basal area, these trees may be removed from the inner zone. Trees cut or damaged by yarding in a unit which does not meet the basal area target of the stand requirements cannot be removed from the inner zone. Any trees cut or damaged by yarding in the core zone may not be removed.

(c) **Outer zones.** Timber harvest in the outer zone must leave twenty riparian leave trees per acre after harvest. **"Outer zone riparian leave trees"** are trees that must be left after harvest in the outer zone in Western Washington. Riparian leave trees must be left uncut throughout all future harvests:

Outer zone riparian leave tree requirements

Application	Leave tree spacing	Tree species	Minimum dbh required
Outer zone	Dispersed	Conifer	12" dbh or greater
Outer zone	Clumped	Conifer	12" dbh or greater
Protection of sensitive Features	Clumped	Trees representative of the overstory including both hardwood and conifer	8" dbh or greater

The twenty riparian leave trees to be left can be reduced in number under the circumstances delineated in (c)(iv) of this subsection. The riparian leave trees must be left on the landscape according to one of the following two strategies. A third strategy is available to landowners who agree to a LWD placement plan.

(i) **Dispersal strategy.** Riparian leave trees, which means conifer species with a diameter measured at breast height (dbh) of twelve inches or greater, must be left dispersed approximately evenly throughout the outer zone. If riparian leave trees of twelve inches dbh or greater are not available, then the next largest conifers must be left. If conifers are not present, riparian leave trees must be left according to the clumping strategy in (c)(ii) of this subsection.

(ii) **Clumping strategy.** Riparian leave trees must be left clumped in the following way:

(A) Clump trees in or around one or more of the following **sensitive features** to the extent available within the outer zone. When clumping around sensitive features, riparian leave trees must be eight inches dbh or greater and representative of the overstory canopy trees in or around the sensitive feature and may include both hardwood and conifer species. Sensitive features are:

(I) Seeps and springs;

(II) Forested wetlands;

(III) Topographic locations (and orientation) from which leave trees currently on the site will be delivered to the water;

(IV) Areas where riparian leave trees may provide windthrow protection;

(V) Small unstable, or potentially unstable, slopes not of sufficient

area to be detected by other site evaluations. See WAC 222-16-050 (1)(d).

(VI) Archaeological sites or historic archaeological resources as defined in RCW 27.53.030;

(VII) Historic sites eligible for listing on the National Register of Historic Places or the Washington Heritage Register as determined by the Washington state department of archaeology and historic preservation. See WAC 222-16-050 (1)(f); or

(VIII) Sites containing evidence of Native American cairns, graves or glyptic records as provided for in chapters 27.44 and 27.53 RCW. See WAC 222-16-050 (1)(f).

(B) If sensitive features are not present, then clumps must be well distributed throughout the outer zone and the leave trees must be of conifer species with a dbh of twelve inches or greater. When placing clumps, the applicant will consider operational and biological concerns. Tree counts must be satisfied regardless of the presence of stream-adjacent parallel roads in the outer zone.

(iii) **Large woody debris in-channel placement strategy.**

(A) In order to reduce the number of required outer zone trees, a landowner may design a LWD placement plan for department approval consistent with guidelines in board manual sections 5 and 26. Landowners are encouraged to consult with the department and the department of fish and wildlife while designing the plan and prior to submitting a forest practices application.

(B) Reduction of trees in the outer zone must not go below a minimum of ten trees per acre.

(C) If this strategy is chosen, a complete forest practices application must include the LWD placement plan.

(iv) **Twenty riparian leave trees must be left after harvest** with the exception of the following:

(A) If a landowner agrees to implement a placement strategy, see (iii) of this subsection.

(B) If trees are left in an associated channel migration zone, the landowner may reduce the number of trees required to be left according to the following:

(I) Offsets will be measured on a basal area-for-basal area basis.

(II) Conifer in a CMZ equal to or greater than six inches dbh will offset conifer in the outer zone at a one-to-one ratio.

(III) Hardwood in a CMZ equal to or greater than ten inches dbh will offset hardwood in the outer zone at a one-to-one ratio.

(IV) Hardwood in a CMZ equal to or greater than ten inches dbh will offset conifer in the outer zone at a three-to-one ratio.

~~*(2) **Western Washington protection for Type Np and Ns Waters.**~~

~~(a) An **equipment limitation zone** is a thirty foot wide zone measured horizontally from the outer edge of the bankfull width of a Type Np or Ns Water where equipment use and other forest practices that are specifically limited by these rules. It applies to all perennial and seasonal streams.~~

~~(i) On-site mitigation is required if any of the following activities exposes the soil on more than ten percent of the surface area of the zone:~~

(A) Ground based equipment;
(B) Skid trails;
(C) Stream crossings (other than existing roads); or
(D) Cabled logs that are partially suspended.

(ii) Mitigation must be designed to replace the equivalent of lost functions especially prevention of sediment delivery. Examples include water bars, grass seeding, mulching, etc.

(iii) Nothing in this subsection (2) reduces or eliminates the department's authority to prevent actual or potential material damage to public resources under WAC 222-46-030 or 222-46-040 or any related authority to condition forest practices notifications or applications.

(b) **Sensitive site and RMZs protection along Type Np Waters.** Forest practices must be conducted to protect Type Np RMZs and sensitive sites as detailed below:

(i) A fifty foot, no-harvest buffer, measured horizontally from the outer edge of bankfull width, will be established along each side of the Type Np Water as follows:

Required no-harvest, 50-foot buffers on Type Np Waters.

Length of Type Np Water from the confluence of Type S or F Water	**Length of 50' buffer required on Type Np Water (starting at the confluence of the Type Np and connecting water)**
Greater than 1000'	500'
Greater than 300' but less than 1000'	Distance of the greater of 300' or 50% of the entire length of the Type Np Water
Less than or equal to 300'	The entire length of Type Np Water

(ii) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a headwall seep.

(iii) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a side-slope seep.

(iv) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on the point of intersection of two or more Type Np Waters.

(v) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on a headwater spring or, in the absence of a headwater spring, on a point at the upper most extent of a Type Np Water as defined in WAC 222-16-030(3) and 222-16-031.

(vi) No timber harvest is permitted within an alluvial fan.

(vii) At least fifty percent of a Type Np Waters' length must be protected by buffers on both sides of the stream (2-sided buffers). Buffered segments must be a minimum of one hundred feet in length. If an operating area is located more than five hundred feet upstream from the confluence of a Type S or F Water and the Type Np Water is more than one thousand feet in length, then buffer the Type Np Water according to the following table. If the percentage is not met by protecting sensitive sites listed in (b)(i) through (vii) of this subsection, then additional buffers are required on the Type Np Water to meet the requirements listed in the table.

Minimum percent of length of Type Np Waters to be buffered when more than 500 feet upstream from the confluence of a Type S or F Water

Total length of a Type Np Water upstream from the confluence of a Type S or F Water	Percent of length of Type Np Water that must be protected with a 50 foot no harvest buffer more than 500 feet upstream from the confluence of a Type S or F Water
1000 feet or less	refer to table in this subsection (i) above
1001 - 1300 feet	19%
1301 - 1600 feet	27%
1601 - 2000 feet	33%
2001 - 2500 feet	38%
2501 - 3500 feet	42%
3501 - 5000 feet	44%
Greater than 5000 feet	45%

The landowner must select the necessary priority areas for additional two-sided buffers according to the following priorities:

(A) Low gradient areas;

(B) Perennial water reaches of nonsedimentary rock with gradients greater than twenty percent in the tailed frog habitat range;

(C) Hyporheic and ground water influence zones; and

(D) Areas downstream from other buffered areas.

Except for the construction and maintenance of road crossings and the creation and use of yarding corridors, no timber harvest will be allowed in the designated priority areas. Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a designated priority area buffer.

(c) None of the limitations on harvest in or around Type Np Water RMZs or sensitive sites listed in (b) of this subsection will preclude or limit:

(i) The construction and maintenance of roads for the purpose of crossing streams in WAC 222-24-030 and 222-24-050.

(ii) The creation and use of yarding corridors in WAC 222-30-060(1).

To the extent reasonably practical, the operation will both avoid creating yarding corridors or road crossings through Type Np Water RMZ or sensitive sites and associated buffers, and avoid management activities which would result in soil compaction, the loss of protective vegetation or sedimentation in perennially moist areas.

Where yarding corridors or road crossings through Type Np Water RMZs or sensitive sites and their buffers cannot reasonably be avoided, the buffer area must be expanded to protect the sensitive site by an area equivalent to the disturbed area or by providing comparable functions through other management initiated efforts.

Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a Type Np Water RMZs or sensitive site buffer.

NEW SECTION amended from WAC 222-30-021

WAC 222-30-0211 *Western Washington Type Np water riparian management zones and Type Ns water riparian protections ~~for Type Np and Ns Waters~~.

These rules apply to all Type Np and Ns waters on forest land in Western Washington, except as provided in WAC 222-30-023. Riparian management zones (RMZ~~s~~) are measured horizontally from the outer edge of the bankfull width or channel migration zone, whichever is greater, and extend to the limits as described in this section. See board manual section 7 for guidelines.

(~~a~~1) An **equipment limitation zone** is a thirty foot wide zone measured horizontally from the outer edge of the bankfull width of a Type Np or Ns Water where equipment use and other forest practices ~~that~~ are specifically limited by these rules. It applies to all non-fish perennial and seasonal streams.

(~~i~~a) On-site mitigation is required if any of the following activities exposes the soil on more than ten percent of the surface area of the zone:

(~~A~~i) Ground based equipment;

(~~B~~ii) Skid trails;

(~~C~~iii) Stream crossings (other than existing roads); or

(~~D~~iv) Cabled logs that are partially suspended.

(~~ii~~b) Mitigation must be designed to replace the equivalent of lost functions especially prevention of sediment delivery. Examples include water bars, grass seeding, mulching, etc.

(~~iii~~c) Nothing in this section reduces or eliminates the department's authority to prevent actual or potential material damage to public resources under WAC 222-46-030 or 222-46-040 or any related authority to condition forest practices notifications or applications.

(~~b~~2) **Sensitive site ~~and RMZs~~ protections along Type Np Waters.** Forest practices must be conducted to protect Type Np ~~RMZs and~~ sensitive sites. The sensitive sites must be identified and protected before establishing the Type Np RMZ as required in subsection (3). Sensitive sites and their protections ~~as~~are detailed below:

~~(i) A fifty foot, no-harvest buffer, measured horizontally from the outer edge of bankfull width, will be established along each side of the Type Np Water as follows:~~

~~Required no-harvest, 50-foot buffers on Type Np Waters.~~

~~Length of Type Np Water from the confluence of Type S or F Water~~	~~Length of 50' buffer required on Type Np Water (starting at the confluence of the Type Np and connecting water)~~
~~Greater than 1000'~~	~~500'~~
~~Greater than 300' but less than 1000'~~	~~Distance of the greater of 300' or 50% of the entire length of the Type Np Water~~
~~Less than or equal to 300'~~	~~The entire length of Type Np Water~~

(~~ii~~a) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a headwall seep.

(~~iii~~b) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a side-slope seep.

(~~iv~~c) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on the point of intersection of two or more Type Np Waters.

(~~v~~d) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on a headwater spring or, in the absence of a headwater spring, on a point at the upper most extent of a Type Np Water as defined in WAC 222-16-030(3) and 222-16-031(4).

(~~vi~~e) No timber harvest is permitted within an alluvial fan.

~~(vii) At least fifty percent of a Type Np Waters' length must be protected by buffers on both sides of the stream (2-sided buffers). Buffered segments must be a minimum of one hundred feet in length. If an operating area is located more than five hundred feet upstream from the confluence of a Type S or F Water and the Type Np Water is more than one thousand feet in length, then buffer the Type Np Water according to the following table. If the percentage is not met by protecting sensitive sites listed in (b)(i) through (vii) of this subsection, then additional buffers are required on the Type Np Water to meet the requirements listed in the table.~~

~~Minimum percent of length of Type Np Waters to be buffered when more than 500 feet upstream from the confluence of a Type S or F Water~~

~~Total length of a Type Np Water upstream from the confluence of a Type S or F Water~~	**~~Percent of length of Type Np Water that must be protected with a 50 foot no harvest buffer more than 500 feet upstream from the confluence of a Type S or F Water~~**
~~1000 feet or less~~	~~refer to table in this subsection (i) above~~
~~1001 - 1300 feet~~	~~19%~~
~~1301 - 1600 feet~~	~~27%~~
~~1601 - 2000 feet~~	~~33%~~
~~2001 - 2500 feet~~	~~38%~~
~~2501 - 3500 feet~~	~~42%~~
~~3501 - 5000 feet~~	~~44%~~
~~Greater than 5000 feet~~	~~45%~~

~~The landowner must select the necessary priority areas for additional two-sided buffers according to the following priorities:~~

~~(A) Low gradient areas;~~

~~(B) Perennial water reaches of nonsedimentary rock with gradients greater than twenty percent in the tailed frog habitat range;~~

~~(C) Hyporheic and ground water influence zones; and~~

~~(D) Areas downstream from other buffered areas.~~

(3) Riparian Management Zones (RMZ) protection along Type Np Waters. Forest practices must be conducted to protect Type Np RMZs as detailed below. Where sensitive site protections as outlined in subsection (2) exceed the no-harvest RMZ requirements in this subsection (3), the wider no-harvest buffer requirement shall apply.

(a) When the topographic basin in which harvest will occur is larger than ~~30~~thirty acres and ~~85%~~eighty-five percent or more of the basin is planned, or reasonably expected, to be harvested within a five-year period, the landowner must designate a two-sided ~~75~~seventy-five foot no-harvest buffer along the entire stream reach of each Type Np Water.

(b) For all other topographic basins and harvests, a ~~75~~seventy-five foot no-harvest buffer will be established along both sides of the Type Np Water for the first ~~600~~six hundred feet upstream from the confluence of Type S or F Water or, for Type Np streams without an above-ground confluence to a Type S or F Water, the lowest ~~600~~ six hundred foot length of the isolated ~~streatm~~stream. Upstream of the first ~~600~~six hundred feet of a Type Np Water, the RMZ will be established based on stream bankfull width, as follows:

(i) For each Type Np stream three feet bankfull width or greater, the landowner must identify either a partial management strategy or no cut strategy:

(A) For partial management strategy, the landowner must designate a two-sided seventy-five -foot RMZ along the entire stream reach in the harvest unit, and establish:

(I) A no-harvest buffer measuring fifty feet wide ~~measured~~, or contained within the sensitive site protection area as detailed in section (2) (a)-(c) and (e) and;

(II) A managed zone, either twenty-five feet wide measured from outer edge of the no--harvest buffer, or the remaining width from the outer edge of the sensitive site to the outer edge of the seventy-five-foot RMZ where:

- Up to ~~50~~fifty percent of the trees may be harvested- with an evenly-spaced distribution of leave trees; and
- Leave trees shall be representative of diameters found within the managed zone, and shall be representative of the tree species distribution within the ~~outer~~managed zone.

(B) For no cut strategy, the landowner must designate a two-sided sixty-five -foot no-harvest buffer along the entire stream reach in the harvest unit.

(ii) For each Type Np stream less than three feet bankfull width, the landowner must identify and protect the sensitive sites as detailed in subsection (2), then designate a two-sided no-harvest fifty-foot buffer along the remaining entire stream reach in the harvest unit. Where the outer edge of sensitive sites protections are less than fifty feet from bankfull width or ~~channel migration zone~~the alluvial fan, the fifty-foot buffer shall apply.

(4) Except for the construction and maintenance of road crossings and the creation and use of

yarding corridors, no timber harvest will be allowed in the designated ~~priority areas~~no harvest buffers. Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a designated ~~priority area~~ additional buffer.

(~~c~~5) None of the limitations on harvest in or around Type Np Water RMZs or sensitive sites listed in ~~(b) of~~ this ~~subsection~~ section will preclude or limit:

(~~i~~a) The construction and maintenance of roads for the purpose of crossing streams in WAC 222-24-030 and 222-24-050.

(~~ii~~b) The creation and use of yarding corridors in WAC 222-30-060(1~~).~~):

~~—~~To the extent reasonably practical, the operation will both avoid creating yarding corridors or road crossings through Type Np Water RMZ or sensitive sites and associated buffers, and avoid management activities which would result in soil compaction, the loss of protective vegetation or sedimentation in perennially moist areas.

Where yarding corridors or road crossings through Type Np Water RMZs or sensitive sites and their buffers cannot reasonably be avoided, the buffer area must be expanded to protect the sensitive site by an area equivalent to the disturbed area or by providing comparable functions through other management initiated efforts. Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a Type Np Water RMZ~~s~~ or sensitive site buffer.

NEW SECTION
(Amended from WAC 222-30-021 without strike/change and formatted)

WAC 222-30-0211 *Western Washington Type Np water riparian management zones and Type Ns water riparian protections.

These rules apply to all Type Np and Ns waters on forest land in Western Washington, except as provided in WAC 222-30-023. Riparian management zones (RMZ) are measured horizontally from the outer edge of the bankfull width or channel migration zone, whichever is greater, and extend to the limits as described in this section. See board manual section 7 for guidelines.

(1) An **equipment limitation zone** is a thirty foot wide zone measured horizontally from the outer edge of the bankfull width of a Type Np or Ns Water where equipment use and other forest practices are specifically limited by these rules. It applies to all non-fish perennial and seasonal streams.
   (a) On-site mitigation is required if any of the following activities exposes the soil on more than ten percent of the surface area of the zone:
      (i) Ground based equipment;
      (ii) Skid trails;
      (iii) Stream crossings (other than existing roads); or
      (iv) Cabled logs that are partially suspended.
   (b) Mitigation must be designed to replace the equivalent of lost functions especially prevention of sediment delivery. Examples include water bars, grass seeding, mulching, etc.
   (c) Nothing in this section reduces or eliminates the department's authority to prevent actual or potential material damage to public resources under WAC 222-46-030 or 222-46-040 or any related authority to condition forest practices notifications or applications.

(2) **Sensitive site protections along Type Np Waters.** Forest practices must be conducted to protect Type Np Water sensitive sites. The sensitive sites must be identified and protected before establishing the Type Np RMZ as required in section (3). Sensitive sites and their protections are detailed below:
   (a) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a headwall seep.
   (b) No timber harvest is permitted in an area within fifty feet of the outer perimeter of a soil zone perennially saturated from a side-slope seep.
   (c) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on the point of intersection of two or more Type Np Waters.
   (d) No timber harvest is permitted within a fifty-six foot radius buffer patch centered on a headwater spring or, in the absence of a headwater spring, on a point at the upper most extent of a Type Np Water as defined in WAC 222-16-030(3) and 222-16-031(4).
   (e) No timber harvest is permitted within an alluvial fan.

(3) **Riparian Management Zones (RMZ) protection along Type Np Waters.** Forest practices must be conducted to protect Type Np RMZs as detailed below. Where sensitive site protections as outlined in subsection (2) exceed the no-harvest RMZ requirements in this subsection (3), the wider no-harvest buffer requirement shall apply.
   (a) When the topographic basin in which harvest will occur is larger than 30 acres and 85% or more of the basin is planned, or reasonably expected, to be harvested within a five-year period the landowner must designate a two-sided 75-foot no-harvest buffer along the entire stream reach of each Type Np Water.

(b) For all other topographic basins and harvests, a 75-foot no-harvest buffer will be established along both sides of the Type Np Water for the first 600 feet upstream from the confluence of Type S or F Water or, for Type Np streams without an above-ground confluence to a Type S or F Water, the lowest 600-foot length of the isolated stream. Upstream of the first 600 feet of a Type Np Water, the RMZ will be established based on stream bankfull width, as follows:

(i) For each Type Np stream three feet bankfull width or greater, the landowner must identify either a partial management strategy or no cut strategy:

(A) For partial management strategy, the landowner must designate a two-sided seventy-five-foot RMZ along the entire stream reach in the harvest unit, and establish:

(I) A no-harvest buffer measuring fifty feet wide, or contained within the sensitive site protection area as described in section (2) (a) – (c) and (e);

(II) A managed zone, either twenty-five feet wide measured from outer edge of the no harvest buffer, or the remaining width from the outer edge of the sensitive site to the outer edge of the seventy-five-foot RMZ where:

- Up to 50 percent of the trees may be harvested with an evenly-spaced distribution of leave trees; and
- Leave trees shall be representative of diameters found within the managed zone, and shall be representative of the tree species distribution within the managed zone.

(B) For no cut strategy, the landowner must designate a two-sided sixty-five-foot no-harvest buffer along the entire stream reach in the harvest unit.

(ii) For each Type Np stream less than three feet bankfull width, the landowner must identify and protect the sensitive sites as detailed in subsection (2), then designate a two-sided no-harvest fifty-foot buffer along the entire stream reach in the harvest unit. Where the outer edge of sensitive sites protections are less than fifty-feet from bankfull width or the alluvial fan, the fifty-foot buffer shall apply.

(4) Except for the construction and maintenance of road crossings and the creation and use of yarding corridors, no timber harvest will be allowed in the designated no harvest buffers. Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a designated additional buffer.

(5) None of the limitations on harvest in or around Type Np Water RMZs or sensitive sites listed in this section will preclude or limit:

(a) The construction and maintenance of roads for the purpose of crossing streams in WAC 222-24-030 and 222-24-050.

(b) The creation and use of yarding corridors in WAC 222-30-060(1): To the extent reasonably practical, the operation will both avoid creating yarding corridors or road crossings through Type Np Water RMZ or sensitive sites and associated buffers, and avoid management activities which would result in soil compaction, the loss of protective vegetation or sedimentation in perennially moist areas.

Where yarding corridors or road crossings through Type Np Water RMZs or sensitive sites and their buffers cannot reasonably be avoided, the buffer area must be expanded to protect the sensitive site by an area equivalent to the disturbed area or by providing comparable functions through other management-initiated efforts.

Landowners must leave additional acres equal to the number of acres (including partial acres) occupied by an existing stream-adjacent parallel road within a Type Np Water RMZs or sensitive site buffer.