Approved 2023 Site I Fish ≥ 10' BFW

-2 [redacted]

WASHINGTON STATE DEPT OF
NATURAL RESOURCES

For DNR Region Office Use Only
FPA #:
Region:

Western Washington

Overstocked Stand Template for Type S & F Waters for Small Forest Landowners

(F1 - Lower)

This form must be submitted with a Forest Practice Application. For additional information on how to complete this form, please refer to the Forest Practices Board Manual Section 21, or call your DNR region office.

The overstocked stand template is intended to replace the following standard forest practice rules:

1. Western Washington riparian management zones (core and inner) for Type S and F waters: WAC 222-30-021(1)(a) and WAC 222-30-021(1)(b)
2. Western Washington protection for Type Np and Ns waters: WAC 222-30-021(2)(a), WAC 222-30-021(2)(b)(i), and WAC 222-30-021(2)(b)(vii).
3. During the first thinning entry, the shade requirements to maintain water temperature: WAC 222-30-040(2) and WAC 222-30-040(4).

1. Eligibility

A. In order for a stand to be eligible for the Overstocked Stand Template, it must meet the following criteria:

   i. Be at least 70% conifer,
   ii. Have a closed or closing canopy,
   iii. Have a minimum of 300 trees per acre at the time of stand initiation, and
   iv. Be located within a riparian management zone adjacent to a Type S or F water.

B. If the stand is located within 200' of a Type S water, a landowner must contact the county and obtain written approval to harvest trees in this area. A copy of the approval letter must be included with this template.

C. If a landowner intends to place wood in the stream as part of their alternate plan, they must first obtain approval from the Washington Department of Fish and Wildlife. A copy of the approval letter must be included with this template. A landowner may also receive an exemption from placing wood in the stream from WDFW. If WDFW provides an exemption, a copy of the exemption letter must also be attached to this template.

2. Implementation Schedule

List the seasons and the years (up to 5 years) during which activities will take place as part of this alternate plan.

Schedule

2023, 2024, 2025	Spring
2023, 2024, 2025	Summer
2023, 2024, 2025	Fall
2024, 2025, 2026	Winter

Example

2013, 2014, 2015	Spring
2013, 2014	Summer
2014	Fall
2013, 2014, 2015	Winter

3. Prescriptions

When thinning overstocked stands in riparian areas, a three-tiered riparian management zone must still be adhered to, with unique prescriptions in the core, inner and outer zones. The following prescriptions must be followed when thinning overstocked stands using this template:

- Thin from below. Post-thinning average tree diameter must be equal to or greater than pre-thinning average tree diameter.
- Residual stand (inner zone only) must have a minimum of 100 well-distributed conifer trees per acre. If residual stand has *less than* 180 trees/acre, complete: *Section 4. Woody Debris Placement Strategy.*
- A 30' equipment limitation zone is required from edge of bankfull width or channel migration zone.
- On slopes less than or equal to 35%, one end of log must be suspended during ground-based yarding within equipment limitation zone.
- On slopes greater than 35% full suspension yarding is required in inner zone.
- In the outer zone, follow the standard forest practice rules as outlined in WAC 222-30-021(1)(c).

Thinning

Please indicate trees per acre remaining after the following entries:

[x] First entry TPA 100
[ ] Second entry TPA _____
[ ] Additional entries TPA _____

Please indicate the length of the riparian zone affected by this alternate plan:

Type S Water _____ ft. Type F Water 1100 ft.

Core zone

The core zone is a no harvest zone. The width of the core zone is measured horizontally from the edge of bankfull width or channel migration zone and is determined according to the following criteria:

A. A distance equal to ½ the average crown diameter of at least 10 dominant conifer trees closest to the edge of bankfull width or channel migration zone. For compliance and monitoring purposes, the trees used to determine the crown diameter cannot be harvested and must be marked.
B. A minimum of 14' and a maximum of 30' from edge of bankfull width or channel migration zone.

Please indicate the width of the Core Zone: 30 ft.

Inner Zone

The width of the inner zone is measured from the outer edge of the core zone. The combined distance of the core and inner zones, as measured from the outer edge of the bankfull width or channel migration zone, can be no less than 75 feet. To determine the total width of the core and inner zones, use the following table:

Site Class	Combined Widths of Core and Inner Zones (Measured from the outer edge of bankfull width or channel migration zone)	
	Stream width ≤10 feet	Stream width > 10 feet
I	133 feet	150 feet
II	113 feet	128 feet
III	93 feet	105 feet
IV	75 feet	83 feet
V	75 feet	75 feet

Please indicate the width of the inner zone: 120 ft.

4. Wood Debris Placement Strategy

If the stand will be thinned below 180 trees/acre, an instream woody debris placement strategy is required. Use the following guidelines to develop a strategy.

1. Attach activity map indicating where woody debris will be placed.
2. If thinning will result in a residual stand density of less than 180 trees/acre, the following woody debris placement strategies must be applied:
    a. The woody debris source can be from anywhere except:
        i. The first row of living trees adjacent to bankfull width or the channel migration zone,
        ii. Trees providing bank stability, and
        iii. Trees attributed to the standard down log rules in the forest practice rules.
    b. The length of the woody debris to be placed in the stream should be at least 2 times bank full width, and have a minimum 4" diameter on the small end.

Woody Debris Placement Prescriptions

1. Number of woody debris pieces (check one):
   [×] Place 4 pieces of large woody debris per 300' of stream, or.
   [ ] Place more than minimum requirement. Total Number of pieces ____ .
2. Estimated number of access points through "no harvest zone" for instream placement 3 _____.
3. Average diameter of the small end of woody debris pieces: 5 _____ inches.
4. Placement strategy (check one):
   [ ] distributed [×] grouped
   [ ] floodplain [ ] combination
5. Placement Method (check one):
   [×] shovel [ ] directional falling
   [ ] cable [ ] hand placement
   [ ] yarder [ ] other

Stream Characterization:

1. Gradient: [×] < 2% [ ] 2-4% [ ] > 4%
2. Bankfull width: [ ] < 10 ft. [×] 10-20 ft. [ ] > 20 feet
3. Bankfull depth: 5 _____ ft.

5. Riparian Functions

The following information explains the potential effects of thinning on various riparian functions.

The purpose of thinning an overstocked conifer stand is to reduce crowding and nutrient competition. Once thinned, the growth of the remaining trees will accelerate and more rapidly achieve the minimum basal area and desired future condition targets for riparian forests required by the state forest practice rules. Although the basal area of the overstocked stand may temporarily be taken below the state rule requirements, the objective is to improve riparian habitat over the long-term.

Bank Stability: Retaining trees within the core zone provides the root mass necessary to stabilize a stream bank. Although roots can extend beyond the drip-line of a tree's crown, the bulk of the root mass is contained within this area. In areas of undercut banks, or active erosion, a larger setback may be required.

Woody Debris: Periodic large woody debris input is vital to properly functioning riparian and aquatic systems. Thinning near a stream may reduce the potential source of woody debris in the short term. If no thinning occurred, the woody debris that would recruit to the stream is that which is immediately adjacent to the bank. If a stream is deficient in woody debris and thinning is proposed in the adjacent riparian area, woody debris can be artificially placed in the stream as a stop-gap until natural recruitment begins. This provides an immediate benefit and is preferable to waiting for random recruitment to occur over the long-term. Thinning the overstocked stand will produce larger diameter trees that will serve as a source of naturally recruited large woody debris sooner than would be available from an unmanaged stand.

Leaf Litter / Nutrients: Reducing the canopy density of a conifer stand in a riparian area may result in a short-term reduction in litter-fall to the stream. Needles and leaf litter are an essential component of the nutrient cycle of a stream by serving as food sources for insects and fish. When overstocked stands are thinned according to the aforementioned prescriptions, the canopy should recover within 5-8 years as crowns develop and main trunk epicormic branching occurs. A thinned stand may also result in increased growth and diversity of understory vegetation, further improving nutrient cycling in the riparian area and duff development on the forest floor.

Sediment Filtering: Thinning on overstocked stand may result in 1-2 years of exposed, un-vegetated soil. Depending on the slope of the site, there may be a risk of overland runoff due to decreased canopy interception of rainfall. Management practices such as equipment limitation zones, retention of stream-adjacent trees, leaving ground vegetation undisturbed, and distribution of slash in the core zone can minimize the risk of sediment delivery until groundcover is reestablished.

Shade: A thinned stand may increase sunlight penetration to the stream. When overstocked stands are thinned according to the aforementioned prescriptions, the canopy should approach pre-treatment conditions within 5-8 years as crowns develop and main trunk epicormic branching occurs. Trees retained within the core zone will continue to provide shade.

Other Riparian Features: Microclimate features such as ambient air temperature may be impacted depending on the extent of upland management. Thinned stands may result in temporary soil temperature increases that can affect groundwater and instream water temperatures. However, as understory vegetation fills in and as the canopy of the residual stand recovers, temperature fluctuations will be reduced, resulting in a low likelihood of impact to groundwater or instream temperatures. Additionally, wildlife diversity and abundance is likely to improve as the understory develops and slash is utilized as habitat.