

Washington State Department of Natural Resources - Adaptive Management Program



Quarterly Update to the Forest Practices Board



Summary

May 2025

Cooperative Monitoring, Evaluation and Research Committee (CMER) held regular monthly meetings this quarter. The Committee approved or advanced to TFW Policy the following Adaptive Management Program (AMP) project deliverables:

- Riparian Function Literature Review
- PSM Edits – SAG and Project Team Participation

The Timber, Fish, and Wildlife (TFW) Policy Committee held regular monthly, in-person meetings this quarter. The committee approved the following Adaptive Management Program (AMP) project deliverables:

- 2025-2027 CMER Work Plan
- Alternative Harvest Prescription Dispute Resolved

AMP participants continue to make progress on advancing State Auditor's Office (SAO) Recommendations to improve the Adaptive Management Program.

TABLE OF CONTEXTS

Summary.....	1
Project Updates.....	2
Schedule L-1.....	8
SDM and Disputes.....	8

ADAPTIVE
MANAGEMENT TEAM



LORI CLARK
Adaptive
Management Program
Administrator
Lori.Clark@dnr.wa.gov



NATALIE CHURCH
Adaptive Management
Program Coordinator
Natalie.Church@dnr.wa.gov

PROJECT UPDATES

ROADS PRESCRIPTION SCALE EFFECTIVENESS MONITORING PROJECT

The **Roads Prescription-Scale Effectiveness Monitoring Project** examines high-traffic, near-stream forest logging roads as sources of sediment and seeks to better understand and evaluate mitigating best management practices. To date, the project has collected 5 water years of precipitation, discharge, sediment, and traffic data associated with each of our 75+ study plots. The 6th and final water year of data collection started October 1st, 2024. In this reporting period the project team continued to implement the main experiment, analyze flow/sediment/traffic data, and execute parametrization experiments. Earlier this year the Project Team developed a detailed implementation plan (DIP) for the GRAIP/WARSEM (Geomorphic Road Analysis and Inventory Package/ Washington Road Surface Erosion Model) Survey and Analysis Experiment. This DIP was approved by the Cooperative Monitoring, Evaluation, and Research Committee (CMER) at the December meeting and has since been executed, starting March 2025. The Project Team had planned to implement the Short Time Scale parameterization experiment this winter but were again stymied by unsuitable weather. Given this, the project team developed a simplified and passive methodology to collect some of the most important data from this experiment and early data results look promising. Project team member Dr. Amanda Alvis has also had another paper published related to Roads Project, titled “Spatiotemporal Evolution of Forest Road Rutting and Flow Pathways Examined Using Unoccupied Aerial Vehicles (UAVs),” specifically the Microtopography Parameterization Experiment.

EXTENSIVE RIPARIAN STATUS AND TRENDS MONITORING PROGRAM – RIPARIAN VEGETATION AND STREAM TEMPERATURE

The **Extensive Riparian Status and Trends Monitoring Program – Riparian Vegetation and Stream Temperature** Project’s purpose is to provide data needed to evaluate landscape-scale effects and changes over time of implementing forest practices riparian prescriptions. The objective is to build and maintain a status and trends monitoring program that will evaluate how aquatic conditions, riparian forest structure and functions, and the desired habitat conditions they support, change on a landscape scale. This project is in an early stage of development, considering design and methodology alternatives. During this reporting period, the Project Team developed drafts of the scoping document and the best available science (BAS) document for review by the Riparian Scientific Advisory Group (RSAG). In the next reporting period, the Project Team intends to prepare and deliver revised final drafts of both documents to RSAG for their final review and approval. Thereafter, the documents will be submitted to CMER and TFW Policy Committee for review and approval.

WESTSIDE TYPE F RIPARIAN PRESCRIPTION EFFECTIVENESS- EXPLORATORY FIELD STUDY

The **Westside Type F Riparian Prescription Effectiveness- Exploratory Field Study** evaluated the effectiveness of westside riparian prescriptions for F and S streams in achieving resource objectives and performance targets. The exploratory study was intended to reduce uncertainties associated with the relative sensitivity of post-harvest riparian stand conditions and riparian functions to harvest prescriptions and to potential harvest-associated disturbances. The study was also intended to be used to focus and refine the development of a future Study Design for a more rigorous test of the effectiveness of the Type F rule buffers. Westside Type F Exploratory final report findings package was approved by TFW Policy and CMER and the findings was presented to the Forest Practices Board in February 2025. CMER is awaiting a formal directive from TFW Policy regarding next steps for the Westside Type F Effectiveness project.

EASTSIDE FOREST HEALTH STRATEGY

The **Eastside Forest Health Strategy** workgroup developed a report that was reviewed by CMER in April 2022. The Eastside Forest Health Strategy workgroup recommended the development of a research and monitoring strategy investigating active RMZ management approaches that build on current RMZ prescriptions and are designed to balance disturbance resiliency and resource protection objectives outlined in the FP HCP (Schedule L-1 functional objectives and performance targets, Appendix N). SAGE is currently working to develop the full Eastside Forest Health Strategy after approval of the strategy guidance document in Spring 2023. CMER Scientist, Dr. Rachel Rubin, has begun collecting Geospatial datasets and additional literature to develop a desktop analysis to aide in developing a more robust Eastside Forest Health Strategy document which would outline a series of studies or projects that will provide insight to the critical questions. Rachel has begun developing a burn severity analysis as a major first step and SAGE has reconvened monthly strategy work group meetings discussing strategy details and project progress.

RIPARIAN FUNCTION LITERATURE REVIEW

The **Riparian Function Literature Review** is a stand-alone literature review that addresses questions regarding the effects of timber harvest on riparian functions. The literature review was approved by CMER at their February meeting. CMER will be reviewing the cover letter and answers to 6 Questions Document to accompany the literature review when delivered to TFW Policy (est. April).

AMP PROJECT MANAGERS



THERYN HENKEL
Supervisory
Project Manager

Theryn.Henkel@dnr.wa.gov



ANNA TOLEDO

Anna.Toledo@dnr.wa.gov



**ALEXANDER
PRESCOTT**

Alexander.Prescott@dnr.wa.gov



JENNY SCHOFIELD

Jenny.Schofield@dnr.wa.gov

CMER CO-CHAIRS



AIMEE MCINTYRE

Aimee.Mcintyre@dfw.wa.gov



ASH ROORBACH

aroorbach@nwifc.org

TFW POLICY CO-CHAIRS



RICO VINH

rico@waconservationaction.org



CODY THOMAS

cody@ucut-nsn.org

EASTSIDE TIMBER HABITAT EVALUATION PROJECT (ETHEP)

The **Eastside Timber Habitat Evaluation Project (ETHEP)** is designed to develop framework(s) for applying riparian harvest rules along Type S and Type F streams in eastern Washington based on the Forest Practices Habitat Conservation Plan (FPHCP) functional objectives and performance targets. The Project Team has completed the data analysis component and are currently developing the final report. Ben Spei (Principal Investigator) presented preliminary results to SAGE at the March 2025 meeting and this project is current on schedule for Final Report delivery to CMER in Summer 2025.

EASTSIDE TYPE N RIPARIAN EFFECTIVENESS PROJECT (ENREP)

The **Eastside Type N Riparian Effectiveness Project (ENREP)** will help inform if, and to what extent, the prescriptions found in the Type N Riparian Prescriptions Rule Group are effective in protecting water quality and some riparian functions, particularly as they apply to sediment and stream temperature in eastern Washington. The project is currently in full implementation. At each of the five sites, data are collected for at least two years pre-harvest and two years post-harvest, with a transitional year of data collected in between. Each study site has a treatment basin and an unharvested, reference basin. Data collection includes biophysical variables, including streamflow, wetted channel extent, suspended sediment concentrations, stream shade, riparian forest mensuration, large wood, temperature, and stream cross sections, aquatic life (benthic macroinvertebrates), and habitat. Springdale and Tripps basins were harvested in 2021. Blue Grouse basin harvest was completed in 2022. Coxit basin harvest was completed in fall 2023. Fish Creek basin harvest was completed in 2024. The project team has been conducting QA/QC of 2024 data and preparing for the 2025 field season.

RIPARIAN CHARACTERISTICS AND SHADE (RCS)

The **Riparian Characteristics and Shade (RCS)** project is a field research project intended to evaluate the combined effect of stream-adjacent no-harvest zone width and adjacent-stand harvest intensity (i.e., thinning density) on stream shade. The Principal Investigator (PI) has identified two sites in the West Cascades ecoregion for implementation in summer 2025 as well as two backup sites. A CR-101 request regarding the research work at these sites was approved by the Forest Practices Board at their February meeting. One of the sites has been confirmed in the field as suitable and the second site will be field-verified for suitability later this spring.

WATER TYPING STRATEGY

The purpose of the Water Typing Strategy is to inform a permanent water typing system that meets Forests and Fish Report (FFR) objectives. One goal of the DNR water typing system is to accurately identify the upstream extent of fish habitat.

In November of 2019 the Washington Forest Practices Board (Board) passed a motion recommending "the Cooperative Monitoring, Evaluation and Research Committee (CMER) to [sic] develop study designs for the PHB validation, physical characteristics, and map-based Lidar model studies" ([WA FPB 2019a](#), [WA FPB 2019b](#)). The following April, CMER approved a strategy for the In-stream Science Advisory Group (ISAG) to complete study designs for the three projects identified by the Board: i) **Potential Habitat Breaks (PHB)**, ii) **Default Physical Criteria (DPC)**, iii) **LiDAR Model Map**. The Water Typing Strategy was approved by the Board in May 2020 ([WA FPB 2020](#)). ISAG is currently developing and implementing the first two studies. The implementation of a LiDAR model study will use findings from the PHB and DPC studies to define metrics and criteria to model. The LiDAR mapping also requires a statewide LiDAR-based hydrography, which is currently scheduled for a 2029 completion (per Department of Ecology).

DNR signed a contract with Cramer Fish Sciences (CFS) for the implementation of the PHB and DPC studies. The studies include conducting electrofishing and habitat surveys along 350 streams across Washington over a three-year period. The project team has been conducting landowner outreach to large and small forest landowners to gain access to identified study streams. CFS has initiated field work on sites with access permissions as the project team continues to work on acquiring access permissions for the remaining sites. The project team is also responding to Independent Scientific Peer Review (ISPR) comments on the DPC Study Design, which is expected to receive CMER final approval in May.

ANADROMOUS FISH FLOOR

The purpose of the **Anadromous Fish Floor (AFF)** Validation Study is to identify measurable physical stream characteristics downstream from which anadromous fish habitat would be presumed and to compare those measurable characteristics against field observation data throughout the state. The Project Team developed a Project Charter which was approved by ISAG and will be reviewed and approved by CMER and TFW Policy in the upcoming months.

CMER SCIENTISTS



JENELLE BLACK
jblack@nwifc.org



TANNER WILLIAMSON
twilliamson@nwifc.org



ELISE FREEMAN
efreeman@nwifc.org



RACHEL RUBIN
Rachel.Rubin@dnr.wa.gov



ROB PAVLIK
NATURAL RESOURCE TECHNICIAN
rpavlik@nwifc.org



VAUGHN HAGE
NATURAL RESOURCE TECHNICIAN
Vaughn.Hage@dnr.wa.gov

WETLAND MANAGEMENT ZONE EFFECTIVENESS MONITORING PROJECT (WMZ)

The **Wetland Management Zone Effectiveness Monitoring Project (WMZ)** will evaluate wetland functions to determine if the target of no-net-loss of hydrologic function, water quality targets, and hydrologic continuity are being achieved. Following the May 2023 TFW Policy approval of the project charter, the project team has begun the scoping process. The development of the scoping document is ongoing, alongside review and potential revision of the Schedule L-1 Wetland Performance Targets. Schedule L-1 Performance Target revisions may have implications on how WMZ is scoped. Funding for the WMZ begins in FY27, with implementation slated to begin in FY29.

FORESTED WETLANDS EFFECTIVENESS PROJECT (FWEP)

The **Forested Wetlands Effectiveness Project (FWEP)** will evaluate the effectiveness of forest practices prescriptions to protect, maintain, and restore aquatic resources, namely water quality and wetland hydrologic and ecological functions. It will determine if they achieve the FPHCP goal of no-net-loss of wetland functions by half of a timber rotation cycle while meeting water quality standards (FPHCP). FWEP is comprised of a series of studies, with the Chronosequence Study currently in implementation. The Chronosequence Study uses an observational space-for-time substitution to examine forested wetland dynamics at 2, 10, 20, and 40+ years post-harvest in Western Washington. Tanner Williamson, CMER Wetland Scientist, along with the Project Team completed instrumentation of 24 project sites in summer 2023. They have since been monitoring hydrology, water quality, canopy structure, vegetative community, and timber stand characteristics. The Chronosequence Study will continue until October 2025, capturing 2 full water years. Results from this study will be used to inform the design of future FWEP studies.

WATER TEMPERATURE AND AMPHIBIAN USE IN TYPE NP WATERS WITH DISCONTINUOUS SURFACE FLOW

The **Water Temperature and Amphibian Use in Type Np Waters with Discontinuous Surface Flow** will inform the Overall Performance Goals to meet water quality standards and support the long-term viability of covered species by evaluating the influence of intermittent stream reaches on water temperature and FP-designated amphibian use. CMER and TFW Policy approved the recently developed Scoping Document and TFW Policy gave direction to begin Study Design development. The Project Team has been working diligently on Study Design development and a draft of the document is expected to be delivered to LWAG for review by June 30, 2025.

TYPE N EXPERIMENTAL BUFFER TREATMENT PROJECT IN HARD ROCK LITHOLOGIES AMPHIBIAN MONITORING PHASE III

The **Type N Experimental Buffer Treatment Project in Hard Rock Lithologies – Amphibian Monitoring Phase III** project is in implementation. Data collection for stream-associated amphibian demographics and relevant covariates (e.g., stream temperature) for post-harvest years 14 and 15 was completed July-September 2022 and 2023 to allow for the evaluation of continued trends in amphibian densities at long-term study sites. The team has completed data analysis, and the draft final report has been delivered to CMER for review. The Final Report was delivered to CMER for approval. Consensus approval could not be reached; thus, Dispute Resolution was initiated. The document is currently in the informal dispute phase.

UNSTABLE SLOPES CRITERIA PROJECT

The **Unstable Slopes Criteria** project will evaluate the degree to which the landforms described in the unstable slopes rules identify potentially unstable areas with a high probability of impacting public resources and public safety. During this reporting period, the project team made significant progress on Project 2, Object-Based Landform Mapping with High-Resolution Topography Study report. A draft of the Final Report will be ready for concurrent UPSAG/CMER review at the end of the April.

Implementation continues on the combined projects of Empirical Evaluation of Shallow Landslide Susceptibility and Frequency by Landform (Project 3) and the Empirical Evaluation of Shallow Landslide Runout (Project 4).

DEEP-SEATED LANDSLIDE RESEARCH STRATEGY

The **Deep-Seated Landslide Research Strategy** utilizes the results of the literature reviews for forest harvest effects on glacial and bedrock deep-seated landslides to address key knowledge gaps identified during the literature reviews and to address questions from the Forest Practices Board and TFW Policy regarding the potential effects of forest practices on deep-seated landslides. During this reporting period the contract with BGC Inc., was finalized to support project implementation which is expected to be completed by the end of this calendar year. Report writing will begin in 2026.

SCHEDULE L-1 PERFORMANCE TARGET REVIEW AND REVISION

The [Schedule L-1 Performance Target Review and Revision](#) process began in September 2023 with a memo from the Schedule L-1 (SL1) Workgroup, which includes members from both the TFW Policy and CMER groups. The memo outlined the general review and revision process, including prioritizing Performance Targets for review and establishing a process for forming Subject Matter Expert (SME) groups. A CMER workgroup of 5 members was formed to lead this effort. They prioritized the Performance Targets to be reviewed (approved in March 2024) and developed the process for forming SME groups (approved in September 2024). The prioritized Performance Targets were categorized into three groups:

- Wetlands: Wetlands
- Riparian: Shade, Riparian Condition, Litterfall, Instream Large Woody Debris (LWD)
- Instream: Pool Frequency, Pool Depth, Peak Flows, Fines in Gravel

During this reporting period, all three SME groups met regularly to discuss the Performance Targets and relevant literature to aid in determining whether existing targets should be revised, and if so, what the new target should be. The groups are expected to submit their recommendations to CMER by June 30, 2025.

STRUCTURED DECISION-MAKING

During this reporting period, Compass Resource Management (Compass) has continued supporting TFW Policy in developing a Structured Decision-Making (SDM) framework and in establishing a prioritization process for the AMP. The SDM framework is intended to guide TFW Policy's upcoming decisions regarding Eastside Type Np harvest rules within riparian areas and serve as a model for future AMP decision-making processes. This work is schedule to be completed in June of 2025.

TFW POLICY DISPUTES

The TFW Policy Committee is addressing two active disputes under its dispute resolution process. The Small Forest Landowner (SFL) Caucus invoked the Dispute Resolution process at the September 2024, TFW Policy meeting regarding a failed motion to complete the development of an experimental small forest landowner conifer thinning alternate harvest prescription¹ and associated AMP monitoring study for western Washington. An informal meeting on September 18 helped disputing parties to accurately characterize the dispute and begin the formal process. TFW Policy members discussed the caucus position papers, including potential solutions to resolve the dispute at two meetings, November 7th TFW Policy meeting and November 20th standing workgroup meeting. Discussions concluded without resolution which led to the initiation of stage 2. Triangle and Associates was contracted to support TFW Policy with stage 2 mediation. The TFW Policy Committee reached consensus during the TFW Policy meeting on March 6 resolving the dispute.

The Conservation Caucus initiated a dispute on December 5, 2024, regarding clarifying the use of non-CMER science (Outside Science) by amending the Proposal Initiation section in BM 22. Efforts were made to resolve the dispute during Phase 1, however at the February 19th workgroup, TFW Policy expressed that attempts for productive discussions on this topic have been exhausted and they decided to move this dispute to Stage 2. Triangle and Associates is supporting TFW Policy with mediation in Phase 2.



DEPARTMENT OF
NATURAL
RESOURCES

OFFICE OF THE
COMMISSIONER OF
PUBLIC LANDS
1111 WASHINGTON
STREET SE
OLYMPIA WA 98504

360-902-1000
WWW.DNR.WA.GOV

MEMORANDUM

April 25, 2025

TO: Forest Practices Board (Board) *LC*

FROM: Lori Clark, Adaptive Management Program Administrator (AMPA)
lori.clark@dnr.wa.gov | 360-819-3712

SUBJECT: TFW Policy Small Forest Landowner Conifer Thinning Alternate Harvest Prescriptions Dispute Resolution

This memo delivers to the Board the resolution of the Small Forest Landowner Conifer Thinning Alternate Harvest Prescriptions dispute. The items in dispute were originally considered in a TFW Policy workgroup in February 2020 (see AMPA memo to the Board for [here](#)). The Small Forest Landowner (SFL) Caucus invoked the Dispute Resolution process at the September 2024, TFW Policy meeting regarding a failed motion to complete the development of an experimental small forest landowner conifer thinning alternate harvest prescription and associated AMP monitoring study for western Washington. An informal meeting on September 18 helped disputing parties to accurately characterize the dispute and begin the formal process. TFW Policy members discussed the caucus position papers, including potential solutions to resolve the dispute at two meetings, November 7th TFW Policy meeting and November 20th standing workgroup meeting. Discussions concluded without resolution which led to the initiation of stage 2. Triangle and Associates was contracted to support TFW Policy with stage 2 mediation.

The TFW Policy Committee reached consensus on the following motion during the TFW Policy meeting on March 6:

Part 1: Alternate Harvest Conifer Thinning Prescription

- a. Consider the SFL conifer thinning alternate harvest prescription as a standard alternate plan to be applied for by willing landowners. DNR will monitor the FPAs and report to the Forest Practices Board on frequency and compliance,
- b. Drop the alternate harvest conifer thinning prescription as an AMP project, and
- c. Recommend the Board direct staff to, when appropriate, form a Board Manual Section 21 Workgroup and task the workgroup to review alternate plan FPAs and determine at what point, if at all, this recurring alternate plan will qualify for a template to be included in BM 21.

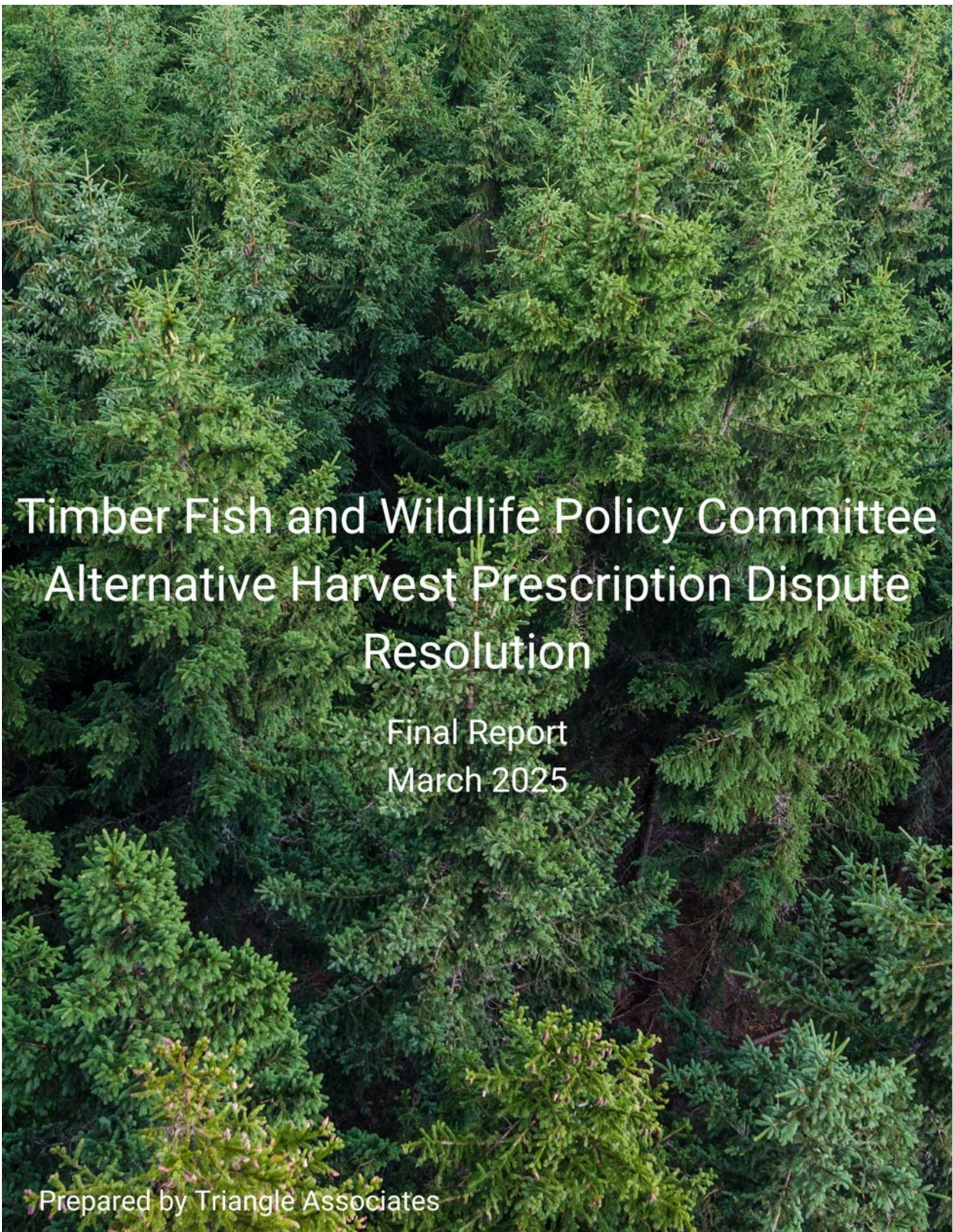
Part 2: 75-Foot Buffer Proposal

The 75-ft buffer prescription will be considered as a treatment under the 5.3.7.3 Westside Type F Experimental Buffer Treatment Project.

The dispute was resolved with a consensus recommendation that requires no final determination action from the Board as would be the case in unresolved disputes. The Board is requested to consider acknowledging the TFW Policy consensus recommendation and the approval of the thinning prescription guidance document for small forest landowners. Please let me know if you have any questions.

Attachments:

- Timber Fish and Wildlife Policy Committee Alternate Harvest Prescriptions Dispute Resolution Final Report (March 2025)
- Alternate Harvest Conifer Thinning Guidance Document



Timber Fish and Wildlife Policy Committee
Alternative Harvest Prescription Dispute
Resolution

Final Report
March 2025

Executive Summary

Triangle Associates was contracted by the Washington State Department of Natural Resources (DNR) Adaptive Management Program (AMP) to mediate the Small Forest Landowners (SFL) Alternative Harvest Prescription dispute. This Final Report outlines the background of the dispute, the steps taken to reach a consensus resolution, and the mediation methods used.

1. **Background Information** details previous resolution efforts, dispute language, participating caucuses, and key stages of the dispute.
2. **Steps to Resolve the Dispute** outlines the mediation process, culminating in a consensus motion, and the types of meetings and documentation used.
3. **Mediation Methods** explains how Triangle facilitated resolution, including communication strategies and consensus-building approaches.

Summary of Process and Outcomes:

Triangle conducted a situational Assessment via nine total one-on-one interviews with participating Policy Committee members and facilitated a total of three mediation sessions and numerous one-on-one calls with individual Policy Committee members in between meetings. During these sessions a proposal for resolution of the dispute was drafted and presented to the mediation team by the State Caucus (see Section 2 for proposal language). After working with each caucus individually and during the second and third mediation sessions to review and discuss the proposal and explore opportunities for agreement, the proposal was approved by consensus during the Policy meeting on March 6th, 2025.

1. Background Information

a. Dispute Language

The description for the Criteria for the SFL Alternative Harvest Prescription dispute is excised from the mediation team's contract with the DNR as follows:

“The SFL caucus has invoked the Dispute Resolution process with the intent to achieve consensus through amending of the 5th of September Policy motion to complete the development of an experimental small forest landowner conifer thinning alternate harvest prescription and associated Adaptive Management Program (AMP) monitoring study for western Washington which can be presented to the Forest Practices Board. The SFL caucus believes the language in the motion can be accepted or can be amended to accept the draft experimental conifer thinning alternate harvest prescription for western Washington based on:

- *The prescription applies the current rule protections in WAC 222-30-021(1)(b)(I) and (II) for DFC Options 1 and 2.*
- *If needed include site data for these options from the Westside Type F Riparian Management Zone Exploratory Study findings.*
- *The prescription incorporates the stand eligibility requirements and riparian width requirements from the Board approved Templates 1 & 2 in Part 3 of Board Manual Section 21.*

If needed, include data from approved Forest Practice Applications (FPAs) harvested under these Alternative Plan (AP) templates and results from Compliance Monitoring reports for the application of these templates for the past 10 years. The SFL caucus supports Policy review of the potential to apply a 75-foot RMZ buffer for all site classes to the draft experimental conifer thinning alternate harvest prescription for western Washington to a limited number of FPAs under a Pilot rule. The motion on the 5th of September to Policy was “I move to accept the alternate harvest prescription in response to the Board request to develop experimental alternate harvest prescriptions and Policy requests CMER develop a monitoring plan to evaluate the effectiveness of the prescription. Additionally, to request the board to allow a minimum number of 75' harvest prescriptions cross all site classes through a pilot rule making.”

The Conservation Caucus voted not to move forward with the September 5th Motion due to concerns about the lack of a strong scientific foundation as follows:

“The Adaptive Management Program (AMP) is a science-driven process, and our primary concern is that this prescription lacks the necessary scientific support. After questioning, the experimental prescription authors stated that the prescription was primarily based on the best professional judgment of those involved in its development and its adherence to past approved Forest Practice Applications (FPAs). However, the monitoring of the effectiveness of these past FPAs has been limited and does not provide sufficient confidence that the proposed prescription, as broadly written, would adequately protect resources. Additionally, the last-minute inclusion of a 75-foot Riparian Management Zone (RMZ) buffer for all site classes had previously been addressed through a dispute resolution process and should not be revisited. There is also no new supporting evidence to show that this approach would be equally or more protective than the current rule. While the experimental prescription may have potential, it is a better candidate for further study and should follow the standard AMP process to ensure any changes are fully backed by scientific evaluation and will be protective of the resources.”

b. Participating Caucuses

All caucuses opted to participate in the mediation as follows:

- Small Forest Landowners
- Conservation
- Westside Tribes
- Eastside Tribes
- Counties
- Industrial Landowners
- Washington Department of Fish and Wildlife
- Washington Department of Ecology
- Washington Department of Natural Resources

2. Steps to Resolve the Dispute

The mediation team guided the TFW Policy Committee through a structured and collaborative mediation process designed to address concerns, explore solutions, and build consensus. The key steps included:

- **Establishing a Mediation Agreement** – A foundational agreement was developed and signed by all parties, outlining the principles, expectations, and ground rules for the mediation process.
- **Facilitating a Kickoff Meeting** – The mediation team convened an initial meeting with the TFW Policy Committee to set the stage for discussions, clarify objectives, and ensure all caucus members were aligned on the mediation process.
- **Conducting Assessment Interviews** – A series of nine individual assessment meetings were held with each participating caucus to gain insight into key concerns, interests, and priorities.
- **Developing a Thematic Summary** – Findings from the assessment interviews were synthesized into a Thematic Summary, which was presented during the first mediation session to highlight shared issues, areas of divergence, and opportunities for resolution.
- **Facilitating One-on-One and Small Group Discussions** – Throughout the process, the mediation team engaged in numerous focused discussions with individual caucuses and small groups to address concerns, clarify positions, and foster understanding.
- **Maintaining Communication Between Mediation Sessions** – The mediation team facilitated ongoing engagement between sessions, helping caucuses articulate their interests, refine proposals, and explore potential areas of agreement.
- **Achieving Full Consensus** – On March 6, 2025, after extensive deliberation and refinement of proposed language, all participating Policy caucus members reached full consensus on a motion to resolve the dispute.

For additional details on each step, see below.

a. Mediation Agreement

Triangle developed a Mediation Agreement (see appendix C), signed by all participating caucus members, to establish a clear framework for the process. It defined the mediation team's role as a neutral facilitator, set ground rules for respectful communication, ensured confidentiality, outlined participant responsibilities, provided guidelines for communication, and clarified decision-making expectations. This agreement helped align all parties, foster trust, and support a structured path toward resolution.

b. Introductory Meeting with the Policy Committee

On December 18, 2024, Triangle attended the TFW Policy Committee meeting to introduce the mediation team, confirm caucus participation, and outline next steps. All caucuses committed to the process, and the mediation team introduced the Assessment phase to gather key insights and shape the mediation strategy. By the meeting's conclusion, participants understood their roles, and a structured roadmap for resolution was established.

c. Assessment Interviews

Following the December meeting, Triangle conducted nine one-hour assessment interviews with TFW Policy Committee caucuses to build rapport, understand key concerns, and gather insights

into communication preferences. These discussions helped identify priorities, explore potential compromises, and shape a mediation approach that was responsive to the group’s dynamics and needs.

d. Assessment Summary

After completing the assessment interviews, Triangle compiled a summary of findings for the TFW Policy Committee, distilling key insights while maintaining confidentiality (see appendix B). The summary highlighted values and interests, identified challenges to the dispute resolution process, and provided mediation team recommendations to facilitate resolution and build common ground. This structured approach helped the committee gain a clear understanding of the dispute’s key themes and potential paths forward.

e. First Mediation Session – January 15, 2025

The first TFW Policy Committee mediation session on January 15, 2025, established a shared understanding of the process, expectations, and key issues. The session included a review of the Mediation Agreement, opening statements from caucuses, presentation of assessment findings, and a review of the principles of Interest-Based Negotiation. Participants also identified information needs, confirmed key issues and scope, and outlined next steps. By the session’s conclusion, the committee had a clear framework for moving forward with resolution efforts (see appendix D).

f. Ongoing One-on-One Engagement Between Mediation Sessions

Between mediation sessions, the mediation team conducted one-on-one calls with TFW Policy Committee members to maintain momentum, clarify concerns, and explore solutions. These discussions helped deepen understanding of caucus interests, ensure a shared interpretation of key issues, and assess willingness to consider specific solutions. By addressing misunderstandings and refining negotiation strategies, these targeted conversations kept the process flexible, responsive, and aligned with the evolving needs of the committee.

g. Second Mediation Session – February 6, 2025

The second TFW Policy Committee mediation session on February 6, 2025, built on previous discussions, advancing efforts toward resolution. The session focused on reviewing key issues, discussing a draft resolution introduced by the State caucus (see full text below), and assessing support for Part 1 of the proposal. While tentative agreement was reached on Part 1, further discussions were needed. This session marked progress while identifying areas requiring additional refinement before full consensus could be achieved.

Proposed Resolution Suggested by the State Caucus:

Part I

- a. *Consider the SFL conifer thinning alternate harvest prescription as a standard alternate plan to be applied for by willing landowners. DNR will monitor the FPAs and report to the Forest Practices Board on frequency and compliance*
- b. *Drop the alternate harvest conifer thinning prescription as an AMP project*
- c. *Recommend the Board direct staff to, when appropriate, form a Board Manual Section 21 Workgroup and task the workgroup to review alternate plan FPAs and determine at*

what point, if at all, this recurring alternate plan will qualify for a template to be included in BM 21.

Part II

d. *The 75 ft prescription be considered as a treatment in a future Type F effectiveness study*

h. Third Mediation Session and Preparations for Fourth Mediation Session – February 19 and March 6, 2025

The third TFW Policy Committee mediation session on February 19, 2025, aimed to affirm consensus on Part 1 of the proposed resolution and identify concerns with Part 2. During discussions, it became clear that the SFL caucus needed more time to consider its position. The mediation team conducted one-on-one follow-ups to assess trade-offs and gauge willingness to continue working toward full consensus.

Leading up to the fourth session on March 6, 2025, the mediation team worked to bridge differences between opposing parties and refine language for broader acceptance. Draft language was shared with committee members (see section below), and most indicated support. On March 6, the final resolution was put to a vote.

i. Consensus

The TFW Policy Committee reached consensus on the following proposed motion to resolve the dispute during the TFW Policy meeting on March 6. The final agreement reflected varying levels of support, with some expressing moderate agreement (thumbs sideways) and others stronger approval (thumbs up).

The consensus resolution:

“Part 1: Alternate Harvest Conifer Thinning Prescription

- a. *Consider the SFL conifer thinning alternate harvest prescription as a standard alternate plan to be applied for by willing landowners. DNR will monitor the FPAs and report to the Forest Practices Board on frequency and compliance*
- b. *Drop the alternate harvest conifer thinning prescription as an AMP project*
- c. *Recommend the Board direct staff to, when appropriate, form a Board Manual Section 21 Workgroup and task the workgroup to review alternate plan FPAs and determine at what point, if at all, this recurring alternate plan will qualify for a template to be included in BM 21.*

Part 2: 75-Foot Buffer Proposal

The 75-ft buffer prescription will be considered as a treatment under the 5.3.7.3 Westside Type F Experimental Buffer Treatment Project.”

3. Mediation Methods

The following is a short list of mediation methods utilized to resolve this dispute and to consider for future disputes.

a. Enhancing Communication and Refining Consensus-Building Approaches

Throughout the mediation process, Triangle coached caucuses on communication styles, helping them refine messaging for clarity and collaboration. Given the length and complexity of discussions, many were eager to reach a resolution, even if it was not ideal for all. The final agreement was seen as preferable to the Worst Alternative to a Negotiated Agreement (WATNA).

A major challenge was negotiating precise language, as certain terms were contentious. The mediation team emphasized active listening and constructive framing, guiding participants to shape language that was workable, even if not universally preferred. Moving forward, continued focus on effective communication will be crucial to ensure future agreements are durable and not simply the result of negotiation fatigue.

b. Strengthening Communication, Trust, and Relationship Resilience

To strengthen future collaboration, the Policy Committee should prioritize open communication and trust-building among members. The intensity of this mediation process highlighted the need for long-term relationship development to support effective decision-making. The mediation team recommends:

- Utilizing a neutral third-party facilitator for complex discussions.
- Providing ongoing communication coaching to improve clarity and engagement.
- Organizing informal interactions (e.g., site visits, coffee meetings) to build relationships outside of formal negotiations.

These efforts will help create a more resilient foundation for navigating future disputes.

c. Establishing Agreed-Upon Communication Protocols

Differing communication styles emerged as a barrier to effective engagement, with some members finding certain approaches overly assertive, while others preferred more individualized discussions. To address this, the Policy Committee should establish or revisit communication protocols that align with the group's current needs.

The mediation team recommends:

- Developing agreed-upon norms for meetings and written communication.
- Revisiting existing protocols to ensure they reflect current membership.
- Incorporating small-group or one-on-one discussions for those who prefer direct engagement.
- Regularly assessing communication practices to make necessary adjustments.

By formalizing these expectations, the Policy Committee can foster a more inclusive and productive dialogue, reducing friction and improving engagement.

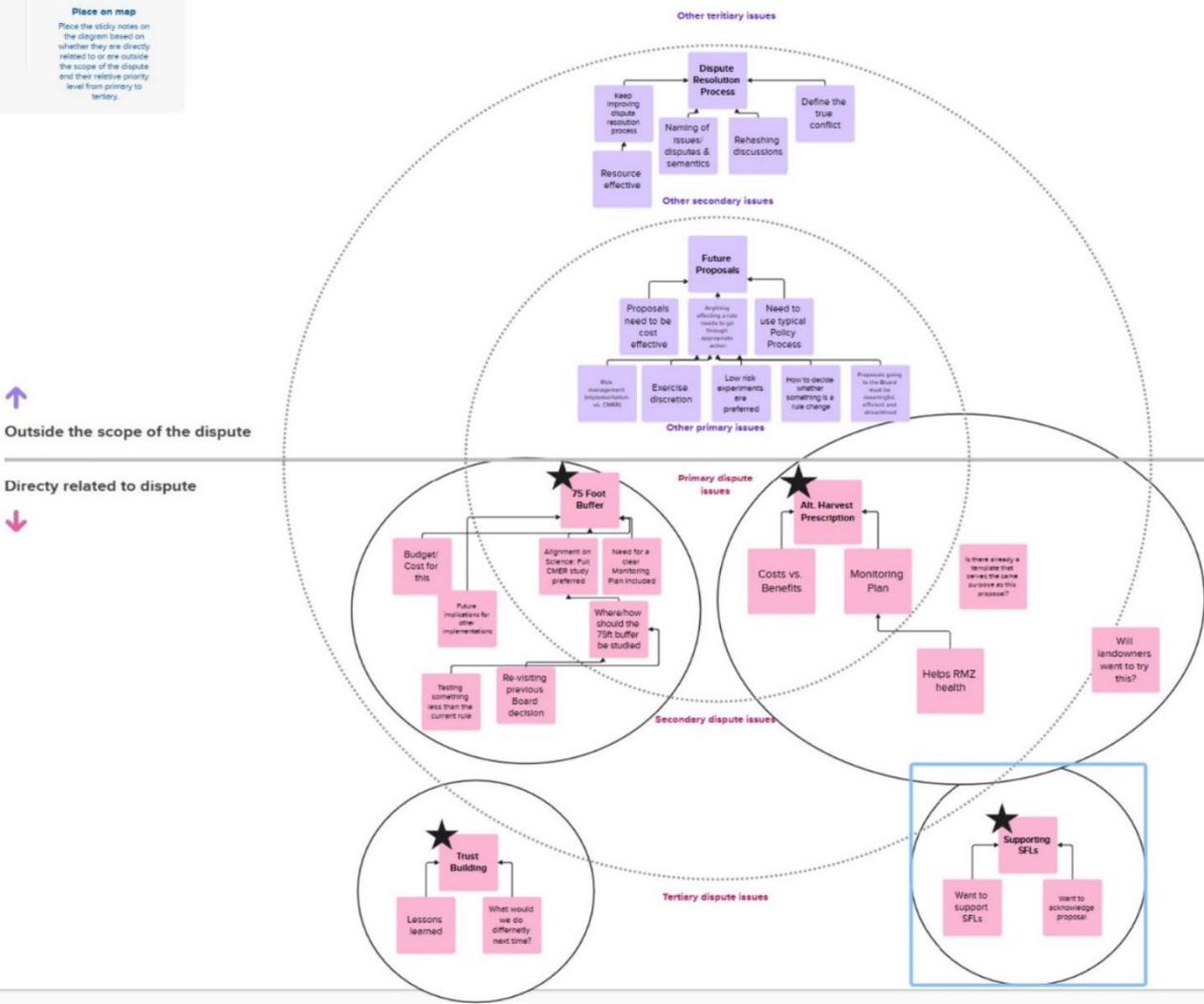
Appendix A: Key Issues Identified During Mediation Sessions #1 and #2

List issues

Think about your key issues, both directly related to or outside the scope of this dispute. Create one sticky note per issue.

Place on map

Place the sticky notes on the diagram based on whether they are directly related to or outside the scope of the dispute and their relative priority level from primary to tertiary.



TFW Policy Committee
Alternative Harvest Prescription Dispute Assessment

Summary of Key Themes and Recommendations

Shared Values and Interests

- **Shared Interest in Science-Driven Decision Making:** Caucuses broadly support using credible, robust science as the foundation for decision-making, though opinions differ on what constitutes acceptable evidence.
- **Support for Experimental Approaches:** There is general agreement on the value of limited experiments to test new approaches, provided they include adequate monitoring and safeguards.
- **Commitment to Riparian Health:** Despite differing views on methods, all parties share a commitment to sustaining riparian functions and fish populations.
- **Value in Maintaining Forestry as a Viable Practice:** There is a shared interest in ensuring that forestry practices align with both environmental sustainability and economic viability.
- **Recognition of the Importance of Collaboration:** There is a collective interest in improving processes to ensure productive, respectful, and inclusive engagement.
- **Desire for Trust-Building:** Caucuses acknowledge that trust is a foundation for long-term cooperation.
- **Concern for Equitable Outcomes:** There is a shared recognition of the need to balance the interests of small forest landowners, conservationists, Tribes, and state agencies.

Key Challenges

- Divergent perspectives on the inclusion of the 75ft buffer proposal
- Need for clarity of information and effective communication
- Limited trust among caucuses and need for relationship building
- Principle-based vs. interest-based negotiation

Recommendations for the Mediation Process

- **Clarify Objectives and Outcomes:** Clearly define what the mediation aims to achieve and ensure all caucuses understand the scope of discussions.
- **Focus on Interest-Based Negotiation:** Encourage parties to articulate their underlying interests rather than positions.
- **Integrate Science into Discussions:** Potentially include a presentation on relevant scientific findings to address knowledge gaps and build consensus.

- **Promote Transparency and Inclusivity:** Ensure all caucuses feel heard and valued in the process.
- **Invest in Trust-Building Activities:** Include opportunities for informal interactions to strengthen relationships and reduce animosity.
- **AMP Process Clarification:** Identify what a policy track project, science track project, what informs role, etc. (maybe at a regular TFW Policy Meeting)

AGREEMENT FOR MEDIATION

Small Forest Landowners Alternative Harvest Prescription Dispute

January 13th, 2025

Background

The SFL caucus has invoked the Dispute Resolution process with the intent to achieve consensus through amending of the 5th September Policy motion to complete the development of an experimental small forest landowner conifer thinning alternate harvest prescription and associated AMP monitoring study for western Washington which can be presented to the Forest Practices Board.

Criteria for Mediation

The dispute is described as follows:

1. The SFL caucus believes the language in the motion can be accepted or can be amended to accept the draft experimental conifer thinning alternate harvest prescription for western Washington based on:
 - The prescription applies the current rule protections in WAC 222-30-021(1)(b)(I) and (II) for DFC Options 1 and 2;
 - If needed include site data for these options from the Westside Type F Riparian Management Zone Exploratory Study findings
 - The prescription incorporates the stand eligibility requirements and riparian width requirements from the Board approved Templates 1 & 2 in Part 3 of Board Manual Section 21
 - If needed Include data from approved FPAs harvested under these AP templates and results from Compliance Monitoring reports for the application of these templates for the past 10 years.
2. The SFL caucus supports Policy review of the potential to apply a 75-foot RMZ buffer for all site classes to the draft experimental conifer thinning alternate harvest prescription for western Washington to a limited number of FPAs under a Pilot rule.

The motion on the 5th of September to Policy was “I move to accept the alternate harvest prescription in response to the Board request to develop experimental alternate harvest prescriptions and Policy requests CMER develop a monitoring plan to evaluate the effectiveness of the prescription. Additionally, to request the board to allow a minimum number of 75' harvest prescriptions cross all site classes through a pilot rule making.”

The Conservation Caucus voted not to move forward with the 5th of September motion due to concerns about the lack of a strong scientific foundation:

The Adaptive Management Program (AMP) is a science-driven process, and our primary concern is that this prescription lacks the necessary scientific support. After questioning, the experimental prescription authors stated that the prescription was primarily based on the best professional judgment of those involved in its development and its adherence to past approved Forest Practice Applications (FPAs). However, the monitoring of the effectiveness of these past FPAs has been limited and does not provide sufficient confidence that the proposed prescription, as broadly written, would adequately protect resources.

Additionally, the last-minute inclusion of a 75-foot Riparian Management Zone (RMZ) buffer for all site classes had previously been addressed through a dispute resolution process and should not be revisited. There is also no new supporting evidence to show that this approach would be equally or more protective than the current rule.

While the experimental prescription may have potential, it is a better candidate for further study and should follow the standard AMP process to ensure any changes are fully backed by scientific evaluation and will be protective of the resources.

Mediation Agreement

The participating parties agree to enter into a mediated negotiation for the purpose of resolving this dispute.

The parties agree to this Agreement for Mediation as follows:

1. Mediator. The mediator, the individual who conducts the mediation, in all cases serves at the pleasure and with the consent of the parties. The parties agree that the mediator for this case shall be Annie Kilburg Smith of Triangle Associates, Inc. Annie Kilburg Smith will be assisted by Triangle Associate Anna Shepherd. All aspects of this agreement that apply to the mediator shall apply to any employee of Triangle Associates.
 - a. The mediator's role shall be to mediate negotiations between the parties. The mediator will provide notice to the parties of joint meetings and distribute materials prior to the sessions. The mediator will meet and communicate separately and together, as necessary, with the parties to discuss possible ways of resolving the disputes.
 - b. The mediator shall not disclose to any other party information conveyed in confidence by another party, unless authorized to do so by that party or otherwise required under the Washington Uniform Mediation Act (Chapter 7.07 RCW) or the federal Administrative Dispute Resolution Act (5 U.S.C. § 571 et seq.) or other applicable law.
 - c. The mediator, in her capacity as mediator, shall not be deemed a "necessary or indispensable" party, as those terms are used in connection with Rule 19 of the Federal Rules of Civil Procedure and any relevant state law equivalent, in any future judicial, administrative or arbitral proceeding.
 - d. The parties shall not subpoena or otherwise seek to obtain from the mediator any documents relating to the mediation process submitted to the mediator by a Party. The parties shall not subpoena the mediator to testify as a witness regarding the mediation process. In no event will the mediator voluntarily testify on behalf of one or more Party or participate as a consultant and/or expert, in any pending or future judicial, administrative, or arbitral action or proceeding relating to any of the matters discussed in the mediation process.
 - e. The mediator shall not offer a decision on the merits of the dispute nor offer an opinion on the technical merits of the position of any of the parties.
2. Mediation Sessions. Mediation sessions will be conducted virtually or in person at locations, dates, and times agreed to by the parties.
 - a. The mediation will be conducted in compliance with the Open Public Meetings Act Chapter 42.30 RCW and therefore:
 - i. The mediation sessions will be noticed as "special meetings" of the Policy Committee.

- ii. Policy may follow its practice of delegating 4 or fewer caucuses to work together as a subcommittee. This delegation to subcommittees must take place within a noticed public meeting.
- b. The mediation and all communications amongst the parties will comply with the Policy Committee Ground Rules (see Appendix A (page 24) of Section 22 of the Forest Practices Board Manual, linked [here](#) and the TFW Policy Operating Manual, linked [here](#) The parties will work with the mediator and each other to ensure that the Ground Rules are followed to help ensure constructive negotiations.
- c. Participation in the mediation by the mediator, parties, and nonparty participants, including attendance at proceedings, statements made, and documents prepared or furnished by any party, attorney, or other participant shall not be construed for any purpose as an admission of liability or otherwise against any party's interest.
- d. All mediation sessions will be scheduled at a time when representatives of all parties are available to participate. If one or more parties choose not to participate in the mediation or a mediation session, the remaining quorum will determine if the mediation or mediation session will continue.
- e. Each of the parties will have up to three representatives at the mediation session "table", including attorneys if agreed to by both parties. All other individuals present will be considered observers without a speaking role. Additional technical or policy representatives will participate by agreement of the parties.
- f. In advance of the first joint mediation session, representatives of each participating party will confirm to the mediator and all other parties in writing their ability to make decisions on behalf of their organization during the mediation sessions. Any change to the ability of the parties to make decisions during a mediation session will be provided in writing in advance of a joint mediation session.

3. Media and Public Communications.

- a. The parties will be mindful of the impacts their public and private statements will have on the tenor of this effort and on future interactions between parties.
- b. At any point in the mediation, the mediator may work with the parties to draft statements, settlement options, or proposals. If these products are jointly approved by all parties, the parties can use these products to communicate with their respective boards, caucus members, decision maker(s), or constituents.
- c. During the mediation, all communications with news media concerning the mediation discussions will be by agreement of all parties. Parties may confirm to the media that the mediation and negotiations are taking place.
- d. At selected intervals and at the conclusion of the mediation, with agreement of all parties, the mediator may draft a brief statement, which will be jointly approved by all parties, which the parties can use to communicate with the media and/or the public.

4. Mediation Schedule. The parties will follow the schedule of completing this mediation by March 31, 2025, or another date mutually agreed-upon by all parties if all parties agree that substantive progress is being made.

5. Costs of the Mediation. The fees and expenses of the mediator will be paid for by the Department of Natural Resources through the Adaptive Management Program budget. The mediator is providing services hereunder without charge to the individual parties.

6. Good Faith. All parties will act in good faith in all aspects of these negotiations by adhering to the provisions in this agreement.

7. Right to Withdraw and Termination. The parties agree to participate in the mediation. Withdrawing parties remain bound by the provisions of this Agreement.

8. Release. The parties hereby release the mediator from any and all claims arising out of their failure to reach agreement or their decision to enter into any agreement, or the terms of any agreement reached. The mediator makes no representation that the participants will reach agreement on any of the issues, disputes or controversies discussed in the mediation.

9. Additional Provisions. Agreements among the parties on other issues or ground rules may be developed and incorporated into this Agreement at any time during the assessment phase, by a written modification to this Agreement signed by all of the parties.

10. Counterpart Signatures. This Agreement may be executed in one or more counterparts, which together shall constitute one instrument.

IN WITNESS, WHEREOF, the parties to this Agreement have executed or caused this Agreement to be executed by their duly authorized officers or representatives, as of the date set forth below.

Mediator: Annie Kilburg Smith, Triangle Associates, Inc. on behalf of the Triangle mediation team

Signature: _____ Date: _____

[insert name of Party]:

Lead Name: _____

Signature: _____ Date: _____

Principal Name or Policy Resource (if Applicable): _____

Signature: _____ Date: _____

Example/Overview of the Mediation Process for Two Parties in Dispute

v. 9-11-2024

Introduction: Mediation is a voluntary and confidential process in which a neutral third-party mediator assists disputing parties in reaching a mutually acceptable resolution. The process emphasizes communication, understanding, and collaboration, with the goal of addressing each party's interests and needs rather than assigning blame. Below is an overview of the mediation process spread across three sessions, beginning with an assessment phase to tailor the mediation approach to the needs of both parties.

Assessment Phase: Individual Pre-Mediation Interviews

1. Individual Interviews:

- The mediator conducts a private interview with each party to understand their perspectives, interests, and key issues. This helps the mediator grasp the context of the dispute, individual concerns, and desired outcomes.
- The mediator explains the mediation process, outlining the role of the mediator, the structure of the sessions, and the principles of confidentiality and neutrality.
- Each party is given the opportunity to ask questions, express any concerns about the process, and provide input on how the mediation can best meet their needs.

2. Tailoring the Mediation Process:

- Based on the interviews, the mediator refines the approach to ensure that the process is responsive to the specific dynamics of the dispute.
- The mediator may adjust the session structure, establish any special accommodations (e.g., alternating speaking order), and agree on any additional guidelines that could facilitate constructive dialogue.

3. Setting Expectations and Finalizing the Process:

- The mediator finalizes the mediation plan, including the session 1 agenda, time frames, and any pre-session tasks or information exchange.
- Both parties receive a summary of the finalized process and confirm their understanding and agreement to proceed.

Session 1: Initial Joint Meeting and Issue Identification

1. Opening Statements:

- The mediator opens the session by reintroducing the purpose of mediation, reinforcing guiding principles (or ground rules), and setting a collaborative tone.
- Each party presents their perspective on the dispute, highlighting key issues and concerns without interruption.

2. Identifying and Clarifying Issues:

- The mediator synthesizes the main issues based on the parties' statements, confirming mutual understanding.

- The mediator helps the parties prioritize the issues to be addressed in the mediation, ensuring alignment on the focus areas.
- 3. Establishing Mediation Goals:**
- Both parties are encouraged to share their goals for the mediation, outlining what a successful resolution looks like for them.
 - The mediator ensures that the parties' goals are realistic and achievable within the mediation framework.

Session 2: Exploration and Negotiation

- 1. Exploring Interests and Needs:**
- The mediator facilitates a deeper exploration of each party's underlying interests, needs, and motivations behind their positions.
 - The focus is on understanding each party's perspective to foster empathy and identify common ground.
- 2. Generating Solutions:**
- The mediator leads a brainstorming session where parties propose potential solutions to address the identified issues.
 - Creative and flexible thinking is encouraged, with an emphasis on options that meet the core needs of both parties.
- 3. Negotiating Terms:**
- The mediator assists the parties in evaluating the proposed solutions, negotiating terms, and making adjustments to bridge any remaining gaps.
 - Tentative agreements are noted, with an understanding that they are subject to further review in the final session.

Session 3: Finalizing the Agreement

- 1. Review of Tentative Agreements:**
- The mediator reviews the tentative agreements reached in the previous session, ensuring that they remain acceptable to both parties.
 - Any unresolved issues are addressed, with the mediator guiding discussions toward final resolution.
- 2. Final Negotiations and Refinement:**
- The mediator facilitates any last adjustments needed to finalize the terms of the agreement, ensuring that the outcome is practical, fair, and sustainable.
 - The parties refine the agreement to ensure clarity and mutual satisfaction with the terms.
- 3. Drafting the Final Agreement:**
- The mediator drafts a written agreement detailing the terms, including provisions for implementation, follow-up, and any contingencies.
 - Both parties review the document, provide feedback, and confirm their understanding and acceptance.
- 4. Closure:**
- The agreement is signed by both parties, marking the formal conclusion of the mediation process.
 - The mediator provides guidance on next steps, including implementation and any post-mediation support or follow-up sessions.

- The session concludes with an acknowledgment of the parties' efforts to collaboratively resolve the dispute.

Conclusion: The mediation process, enhanced by an initial assessment phase, is designed to provide a tailored, effective pathway to dispute resolution. By focusing on individual needs and interests, the process aims to foster mutual understanding and guide the parties toward a sustainable and mutually agreeable outcome.

**Low Impact Conifer Thinning Prescription for Western Washington
For Small Forest Landowners
April 7, 2025**

Overview

This document contains resources and information developed to assist small forest landowners with the preparation of a low impact alternate harvest prescription designed for thinning of conifer dominated riparian forests in western Washington. The intent of this prescription is to function as an alternate plan at qualifying sites to improve the long-term riparian function of crowded riparian forest stands which demonstrate the potential for substantial suppression of tree growth if no thinning occurs. By allowing a light to moderate thinning of the trees through the alternate plan process (WAC 222-12-040), these forested riparian areas can be managed in a manner that will encourage growth of understory vegetation and achieve larger tree diameters of the residual stands helping them meet the desired future condition goals of the forest practices rules faster than would have occurred under a no-thinning option. This prescription is intended to be used in riparian forest stands with an existing stocking level of less than 300 conifer trees per acre (TPA). Landowners who intend to thin riparian forest stands that exceed this stocking level should consider using the [Overstocked Stand Template](https://www.dnr.wa.gov/publications/fp_form_overstock.pdf) (https://www.dnr.wa.gov/publications/fp_form_overstock.pdf).

The riparian management zone (RMZ) for this prescription includes a No-Cut Zone and an adjacent Thinning Zone. The prescription is designed to:

- Meet or exceed the stand requirements needed to “protect aquatic resources and related habitat to achieve restoration of riparian function; and the maintenance of these resources once they are restored.” (WAC 222-30-010(2)); and
- Provides allowances to specifically help offset the costs for small forest landowners to conduct a restoration thinning of the riparian area.

Though this prescription may result in some short-term loss in the availability of large woody debris and shade, by retaining a No-Cut zone adjacent to the stream and by conditioning the allowable thinning based on site class and average stand diameter, the prescription is designed to address potential wind-throw and maintain rule required in-stream functions (large wood, shade, bank stability, sediment filtering, leaf litter and nutrient processes) that are expected to improve over time.

This prescription has been developed as a package and, as such, the individual prescription elements are not intended to be simply inserted into other alternate plans.

This prescription is intended to be applied to RMZ’s adjacent to Type F and S waters and cannot occur within any rule identified sensitive sites (WAC 222-16-010) or unstable slope buffers.

Process

A completed [alternate plan form](#), available from DNR, must be included with the landowner’s [forest practices application](#) (FPA). The form documents the details of the landowner’s plan and site conditions and must be included with the FPA.

This prescription is intended to, at minimum, replace the following standard forest practice rules:

1. Western Washington riparian management zones (core and inner) for Type S and F waters: WAC222-30-021(1)(a) and WAC 222-30-021(1)(b)
2. The shade requirements to maintain water temperature: WAC 222-30-040(2) and WAC 222-30-040(4).

Depending on the site-specific factors, additional departed standard rules may need to be documented on the alternate plan form.

While an Interdisciplinary (ID) Team of specialists may be called to review the proposed harvest (WAC 222-12-0401(5)), by following the provisions in this prescription the need for an ID Team will typically be necessary only if specific issues related to site eligibility arise, although ID Team review may be necessary in other situations.

Difference from Standard Riparian Management Zone Rules

This prescription differs from standard rules (WAC 222-30-21-(1)(ii)(A) and (B)) by:

- Providing an opportunity to use narrower RMZ and No-cut Zone widths,
- Allowing conifer thinning without needing to conduct a full inventory of all of the trees in the stand or to run the Desired Future Conditions (DFC) model to determine eligibility and to identify which trees can be harvested,
- Eliminating the outer zone leave tree requirement,
- Eliminating the documentation that harvest meets the shade requirements in Board Manual, and
- Establishing a simplified prescription which will allow a landowner to mark their own leave-trees without the assistance of a consultant, if desired.

Eligibility Requirements

This prescription is intended for riparian stands that meet the following:

- Owned by a Small Forest Landowner;
- Located adjacent to fish-bearing (Type S/F) waters;
- Containing more than 70% conifer trees per acre;
- Containing less than 300 conifer trees per acre greater than 6 inches diameter at breast height (DBH);
- Eligibility for this prescription is limited to heavily stocked stands exhibiting signs of significant loss in growth potential. This is best determined using the conifer live crown ratios (height of live green branches compared to total tree height) of leave trees sufficient for these leave trees to release and stimulate height, diameter and crown growth response; generally, this requires that leave trees following thinning retain at least 33% (preferably 40-50%) of total tree height in live crown (see Figure 1 illustration and Crown Classification Descriptions in Appendix A.)
- Meeting the tree retention requirements as described in this document.

Harvest Prescriptions

The Riparian Management Zone (RMZ) for this prescription:

- 1) The Riparian Management Zone (RMZ) prescription is separated into two management zones:
 - a) **No-Cut Zone:** The width of the No-Cut Zone (Core) is 30 feet measured horizontally from the outer edge of BFW or the CMZ per Table 1.
 - b) **Thinning Zone:** The Thinning Zone extends beyond the No-Cut Core Zone where the appropriate Thinning Zone distance is determined by the Site Class (See Table 1).

The width of the Thinning Zone is dependent upon site class and is shown below in Table 1:

Table 1 RMZ zone widths for use with a 30-foot No-Cut zone.

Site Class	No-Cut Zone Width (Feet)	Thinning Zone Width (Feet)	Total RMZ Width (Feet)
I	30	115	145
II	30	88	118
III	30	71	101
IV	30	52	82
V	30	45	75

Tree Retention Requirements

The harvesting strategy for the thinning zone is to “thin from below”. Thinning from below removes trees **from the lower crown classes (suppressed, intermediate and co-dominant crown classes) to favor those in the upper crown classes (dominant, co-dominant and residual trees) (see Figure 1).**

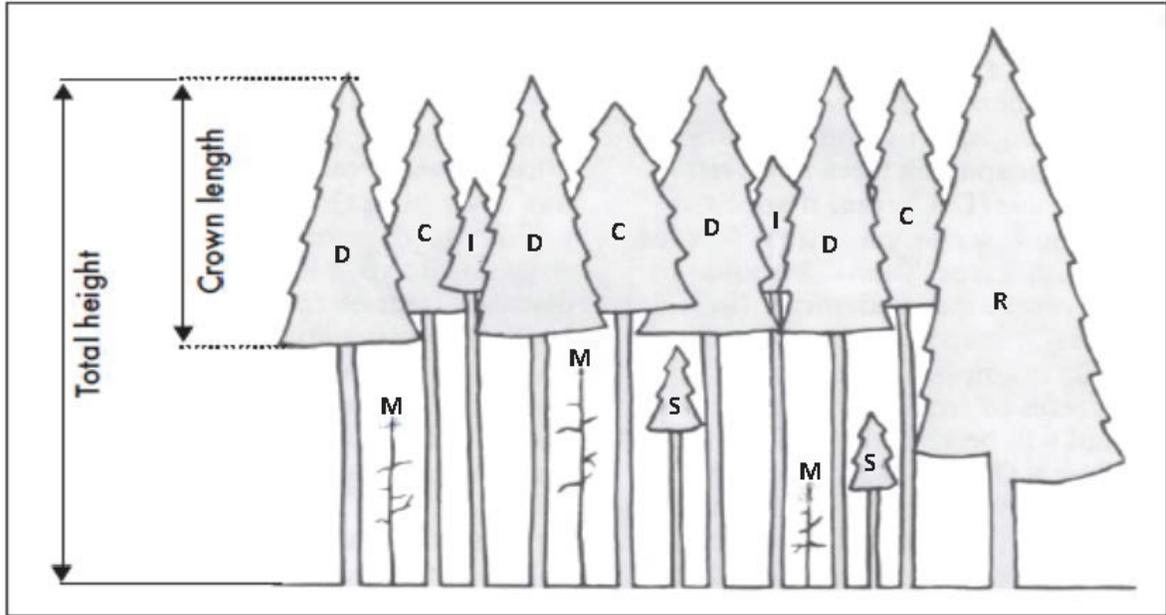


Figure 1. Crown type classifications of trees in even-age stands. D = Dominant, C = Codominant, I = Intermediate, S = Suppressed, M = Mortality and R = Residual Trees. The “crown ratio” is the proportion of total tree height that is occupied by live crown. In this illustration, the dominants have a 50 percent crown ratio; the residual tree has an 80 percent crown ratio. See Appendix A for Crown Classification Descriptions.

After completion of a “thinning from below” harvest, the quadratic mean diameter (roughly equivalent to the average stand diameter) will be the same or larger than the quadratic mean diameter before harvest. The guideline for a thinning from below is to produce a d/D ratio of less than ($<$) 1.

Average diameter of a stand of trees, expressed as “DBH” (diameter at breast height) is a widely used tree stand statistic in forestry. To most people, “average” is synonymous with the arithmetic mean, where all individual measurements (such as all measured tree diameters from a stand) are summed and divided by the total number of measurements. Unfortunately, the expression of average stand diameter conventionally used in forestry is not the arithmetic mean of diameters, but the quadratic mean. The distinction between arithmetic and quadratic means are not important to understand; the important part is that you need to take a sample of tree diameters within the planned Thinning Zone in order to know the number of leave trees required following the proposed thinning operation. How many trees necessary to measure for diameter and what to do with those measurements will be explained later in this section.

To determine d/D ratio, first calculate the quadratic mean diameter (QMD) of the trees to be cut (d), next calculate the quadratic mean diameter of the stand prior to thinning (D), then compare the ratio of d/D to assure the value is less than one. **Both of these calculations of quadratic mean diameter will be performed by entering your tree diameter measurements into the following spreadsheet located at https://www.dnr.wa.gov/publications/fp_form_murrelet_calculator.xlsx, and further explained later in this document.**

The tree retention requirements (leave tree stocking levels by diameter class) are determined by the (QMD) of the conifer trees in your Thinning Zone(s) and by knowing the dominant conifer species group (Douglas fir or Western hemlock) within the Thinning Zone. The QMD method works well in even-aged stands where the dominant and codominant trees are of uniform diameter.

Dominant conifer species group: Dominant conifer species group is determined by stem count. If there are more Douglas fir stems than other conifer tree species, choose Douglas fir as the dominant conifer species group and use the Douglas fir “Modified Curtis Relative Density Calculator RD 40” table. If there are fewer Douglas fir stems than other conifer species, choose western hemlock as the dominant conifer species group and Western Hemlock “Modified Curtis Relative Density Calculator RD 50”

The QMD of conifer trees in the Thinning Zone will be calculated by measuring DBH for a sample of trees using a strip cruise methodology or utilizing tree diameter data from plots located within the Thinning Zone during a total stand cruise (whichever method works best for your site) and inputting those measured tree diameters into the “[QMD calculator](#)” spreadsheet located at https://www.dnr.wa.gov/publications/fp_form_murrelet_calculator.xlsx. This QMD calculator was originally developed for use in marbled murrelet habitat data collection, however the concepts built into the calculator are also useful for riparian areas. The sample size of trees for the strip cruise to calculate conifer QMD will be roughly 10% of the conifer trees within the Thinning Zone (see Appendix B). The QMD is only determined from the conifer trees in the Thinning Zone itself, so trees in the No-Cut zone (core) are not used for this calculation. Residual trees in the Thinning Zone will be noted during the cruise sample but not included in the calculation of QMD. Once the QMD is determined and the dominant conifer species group, use the appropriate “Modified Curtis Relative Density Calculator” table below to determine the appropriate leave tree stocking level for your stand.

In most conifer-dominated even-aged stands (those with a relatively narrow range of tree diameters), the calculated QMD alone can be applied to guide the appropriate tree spacing

(see tree spacing per QMD diameter class in the two “Modified Curtis Relative Density Calculator” tables below) to achieve a well distributed stand condition. However, the largest conifer trees must be retained regardless of this tree spacing guidance.

Conifer-dominated even-aged stands occasionally contain large residual conifer trees (scattered large residuals left unharvested during a prior harvest, small trees that were unmerchantable at the time of past harvest activity but are now years older and larger than the current even-aged component of the stand, trees that survived previous wind / blowdown events, etc.). These types of stands do not lend themselves to the standard QMD calculation method, since including the diameters of any such large residual conifer trees will skew the calculated QMD to something not representative of the predominant even-aged stand condition. These are not uneven-aged stands but even-aged stands with a small but significant component of older, larger residual trees. In this type of even-aged stand, the diameters of these residual conifer trees will not be included in the QMD calculation but all residual conifer trees within the Thinning Zone must be marked for leave; for these types of stands, QMD will only be determined from the actual even-aged conifer trees in the stand. Additionally, average tree spacing is a lesser concern in these stands as the large residual trees will drive leave tree distribution.

Modified Curtis Relative Density Calculator for Douglas Fir (RD 40) for conifer thinning

QMD Quadratic Mean Diameter	Leave Trees/Acre (Minimum)	Average Tree Spacing (Feet)
29	47	34
28	50	33
27	52	33
26	55	32
25	59	31
24	62	30
23	66	29
22	71	28
21	76	27
20	82	26
19	89	25
18	96	24
17	105	23
16	115	22
15	126	21
14	140	20
13	156	19
12	176	18
11	201	17
10	232	15

Modified Curtis Relative Density Calculator for Western Hemlock (RD 50) for conifer thinning

QMD Quadratic Mean Diameter	Leave Trees/Acre (Minimum)	Average Tree Spacing (Feet)
30	56	32
29	59	31
28	62	30
27	65	29
26	69	28
25	73	28
24	78	27
23	83	26
22	89	25
21	95	24
20	102	23
19	111	22
18	120	22
17	131	21
16	143	20
15	158	19
14	175	18
13	196	17
12	221	16
11	251	15
10	290	14
9	340	13
8	405	12

These two tables incorporate Relative Density (RD) as a reasonable approach that is intended to address stand mortality, windthrow, shade and LWD recruitment to ensure sufficient stocking is available to improve riparian function over time.

Simplified Guidance for Conducting Thinning

1. Determine the outer edge of bankfull width (BFW) or the channel migration zone (CMZ), see Board Manual Section 2.

Field determination of the bankfull channel edge generally relies on two or more of the following:

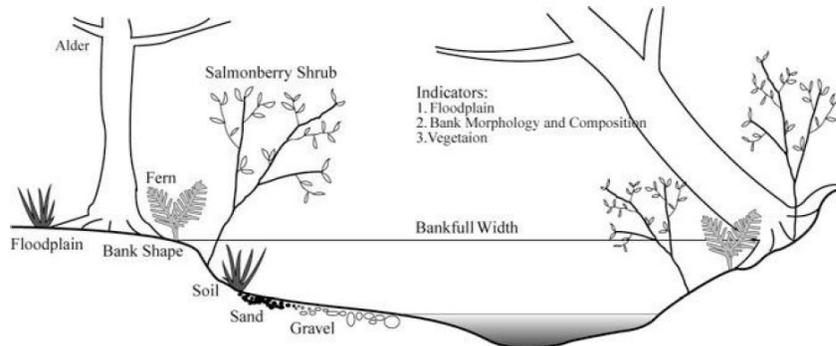


Figure 2. Indicators for determining bankfull width (adapted from Pleus and Schuett-Hames, 1998).

2. Determine the site class for the RMZ adjacent to the stream. To determine site class, download a Forest Practices Application/Notification activity map for your area and activate the site class layer. Go to <https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and>, and under the heading, “Forest Practices Application/Notification”, click on “Print an activity map.” After navigating to the location of your activity, in the upper left corner under the “Themes” button, choose Site Class Map. Directly under the “Table of Contents” window header, click the right arrow to navigate to the Legend.
3. Establish the 30-foot wide No-Cut Zone (or multiple No-Cut Zones if you have more than one thinning buffer zone segment within your harvest unit) on the ground by measuring horizontally from the outer edge of BFW or the CMZ, whichever is greater; mark the outer edge of the No-Cut Zone(s) with flagging or tags.
4. Determine the Thinning Zone width using Table 1.
5. Establish the Thinning Zone (or multiple Thinning Zones if you have more than one thinning zone buffers within your harvest unit) on the ground by measuring horizontally from the outer edge of the No-Cut Zone, using the width determined in Step 4; mark the outer edge of the Thinning Zone(s) with different colored flagging or tags than used to mark the edge of the No-Cut Zone.
6. Establish the strip cruise plot centerline for your Thinning Zone (or for each individual Thinning Zone if you have more than one thinning zone buffer within your harvest unit) following the procedure described in Appendix B.
7. Once the strip cruise plot centerline has been established, measure the DBH (diameter at breast height, i.e. 4.5 feet above the ground) and note the conifer species group (see “Dominant conifer species group” information box on Page 4) of each conifer tree that falls within your strip cruise plot. Determine for each conifer tree you have measured

whether it is a residual tree (see description in Appendix A) or not a residual tree. The vast majority of eligible Thinning Zone stands will truly be even-aged and have no or very few residual trees, but identifying which trees are residuals is critically important to the proper calculation of QMD and what trees need to be left in the Thinning Zone. Do not measure the diameters of any hardwood trees within your Thinning Zone(s).

8. As you measure each conifer tree, either a) directly enter the diameter and conifer species group you have measured into the appropriate category (“Residual” tree category or “Non-Residual” tree category) in the “[QMD Calculator](#)” spreadsheet or b) record (on any paper form of your choice) the diameter and conifer species group of each measured conifer tree, again making sure to note whether the tree is a Residual or Non-Residual and then input your data into the “QMD Calculator” computer application (to be provided).
9. The QMD Calculator will provide the calculated QMD for the Non-Residual trees within your Thinning Zone stand(s), as well as the estimated number of Residual trees within your Thinning Zone(s), based on your strip cruise measurements. It will also provide the “Dominant conifer species group”, either Douglas fir or Western Hemlock.
10. Use the identified “Dominant conifer species group” category to determine which Modified Curtis Relative Density Calculator” table you should use (either Douglas fir or Western Hemlock). Using the appropriate species table and the calculated Non-Residual QMD for your Thinning Zone, find the stand QMD in the table and determine the calculated number of conifer “Leave Trees/Acre (Minimum)” to retain after thinning.
11. Use this calculated minimum number of leave conifer trees per acre to determine the actual conifer trees you must retain within your Thinning Zone. **If there are no residual conifer trees within your Thinning Zone**, merely use this calculated minimum number of leave conifer trees per acre for your field layout of conifer leave trees within your Thinning Zone, using the appropriate “Average Tree Spacing (Feet)” figure from the table as a guide. **If, however, you have any residual conifer trees within your Thinning Zone**, all such residual conifer trees within your Thinning Zone must be identified for leave. Once these residual conifer trees have been identified for leave, the remaining minimum number of conifer trees per acre to leave within the Thinning Zone should be calculated and then those remaining leave conifer trees must be identified for leave during field layout. Remember all hardwood trees must also be left and conifer trees that lean toward the stream(s) should be preferentially identified for leave. Strive to maintain pre-harvest levels of conifer diversity.
12. Mark leave trees, as appropriate, as specified under the “**Additional Preparation and Harvest Requirements**” section.

NOTE: A basic understanding of silviculture and stand dynamics is necessary to meet these requirements. Applicants will be required to provide documentation that the proposed harvest unit meets the eligibility requirements and / or sampling of trees within the Thinning Zone for this prescription (strip cruise data, stand survey, etc.). Technical assistance from a professional forestry consultant or local DNR Small Forest Landowner Regulation Assistance Forester may be helpful.

Additional Preparation and Harvest Requirements:

- A pre-application review of this alternate plan is recommended to determine eligibility before the FPA is submitted.
- Leave trees must be marked prior to harvest and before the FPA is submitted.
- Reasonable care shall be taken to avoid damage to the stems and root systems of all residual trees within the Thinning Zone from falling, skidding or yarding. Any residual leave trees damaged must remain on site and do not count toward the residual conifer retention requirements.
- Trees with observable lean toward the stream are to be retained where possible for future LWD recruitment.
- Harvesting must not occur within any Type Np sensitive site buffers. The width of RMZ buffers adjacent to sensitive sites varies by the type of sensitive sites. Headwall and side-slope seep RMZs are measured from the perennially saturated soil edge and are 50 feet wide. RMZs associated with Type Np confluences, headwater springs and Type Np initiation points are measured from the center of the feature or point of confluence, are circular in shape and are 56 feet wide (i.e. have a radius of 56 feet). No timber harvest is permitted within an alluvial fan – irrespective of shape or size.
- Within the Thinning Zone, ground-based systems shall not be used on slopes where in the opinion of the department, this method of operation would cause actual or potential material damage to a public resource. When transporting logs in or through the Thinning Zone with ground-based equipment, the number of routes through the zone shall be minimized. Logs shall be transported so as to minimize damage to leave trees and vegetation in the Thinning Zone, to the extent practical and consistent with good safety practices.
- Cable yarding within the Thinning Zone is subject to requirements listed in WAC 222-30-060 Cable Yarding.
- Salvage logging is subject to requirements listed in WAC 222-30-045 Salvage logging within riparian management zones.

Hardwoods in the Thinning Zone

As a conifer thinning prescription in conifer-dominated stands, removal of hardwood trees shall be avoided in order to maintain the biodiversity of the stand. If incidental damage to hardwood trees occurs, they shall remain in place.

DNR Review of this Alternate Plan Prescription

Following DNR approval of an alternate plan FPA containing this conifer thinning prescription, DNR will monitor the FPA and will report to the Forest Practices Board on frequency and compliance.

APPENDIX A: CROWN CLASSIFICATION

A tree crown classification system is useful in discussing stand development. Figure 1. illustrates a commonly used system, which has the following six classes:

1. Dominant. Trees with the crown extending above the general level of the crown canopy receive full sunlight from above and some from the sides. The sides of the crowns are well developed but (possibly) somewhat crowded. Live crown ratios generally greater than 50%.
2. Codominant. Trees with crowns forming the general level of the crown cover receive full light from above but little from the sides. The tree crowns are medium size and more crowded on the sides than are dominant crowns. Live crown ratios generally greater than 40%.
3. Intermediate. These trees usually are shorter than those in the two preceding classes. They have small, crowded sides. The crowns extend into the canopy formed by dominant and codominant trees; they receive a little direct light from above but none from the sides. Live crown ratios generally below 40%.
4. Suppressed (overtopped). The crowns on these trees are below the level of the crown canopy. They receive no direct light from above or from the sides. Live crown ratios generally less than 33%.
5. Residual trees. These trees developed and grew in the open or trees not harvested during previous harvest(s). Their diameters are generally significantly larger than the diameters of the rest of the stand. They often have full crowns on all sides, with branches well above or below the general canopy level of the rest of the stand. The crowns are uncrowded on two or more sides and receive full light from above and well down on two or more sides. Live crown ratios often exceed 75%.
6. Mortality. These are dead trees within the stand. Suppressed trees usually die, and trees of any crown class may die from disease or insect attack.

Adapted from: W.H. Emmingham and N.E. Elwood_1983 “Thinning: An Important Timber Management Tool”, Oregon State University, PNW 184

Determining Crown Class

1. Crown class identification is somewhat subjective, so it is important to try to stick to the definitions and be consistent. Certainly, there will be many trees that do not fit neatly into the classification scheme, so expect some challenges and assign the crown class that most clearly illustrates the condition of each tree or its place in the stand.
2. This is particularly true when it comes to “suppressed” trees. They are still part of the canopy; they do not make up a second layer. Therefore, they do not have to have their entire crowns

below the lowest branches of the tree canopy. Figure 3 illustrates a realistic interpretation of the definition.



Figure 3. A simplified view of trees in different crown classes in an even-aged pure stand. The letters D, C, I and S denote dominant, codominant, intermediate, and suppressed respectively.

Note that the suppressed trees extend into the canopy – after all they are in the same cohort or are the same age as the others; they just do not receive any direct light. The low vigor and poor crown condition of a suppressed shade intolerant tree will be very different from that of an intermediate and should be documented as such.

Determining Live Crown Ratio

1. Never “eyeball” LCR without measuring. You will underestimate the crown ratio. Standing on the ground looking up results in a foreshortened view of the crown; it will look shorter than it really is. The closer one is to the tree, and the taller the tree, the more your eye is tricked. In fact, it is an interesting exercise to guess what you think the LCR will be, then measure it, and see how close you are.

2. Determine length of crown using the same measuring techniques and equipment that you use to estimate total height.
3. It is sometimes difficult to determine where the base of the crown is. Brush or limbs from other trees may obscure it, or one side of the tree may have limbs lower than the other side. Try to get to a spot where you can see the tree to take care of the first problem. The standard for handling an uneven tree base is to sight on a spot halfway between the lowest branches on each side of the tree – “split the difference” so to speak (Figure 4).

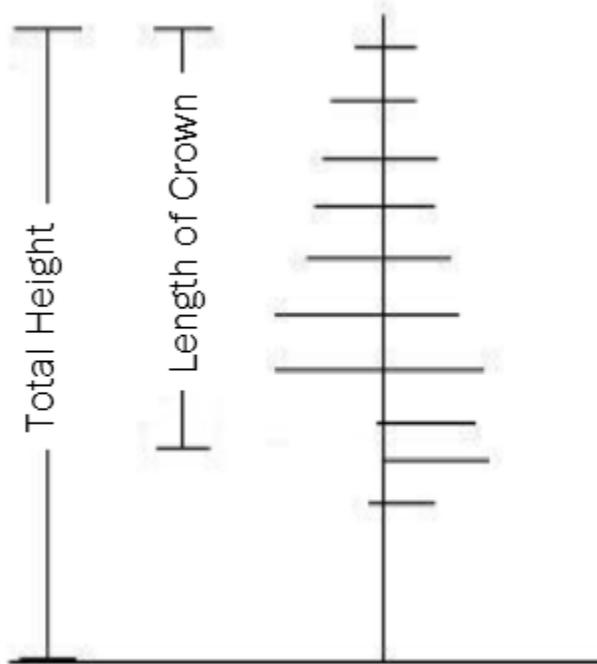


Figure 4. Estimating LCR when crown base is uneven. Measure the base halfway between the lowest significant branches on each side of the tree.

4. Ignore a lone live branch low on the tree that is clearly not part of the overall crown.
5. Live crown ratio is generally recorded as a whole number (%), not as a fraction in decimal form. Always record to the precision of the instrument used. Note that measures cannot be accurately made to a tenth of a percentage. So, for example, if the calculator reads 53.6, then record LCR as 54.

Determining Crown Class and Determining Live Crown reproduced from [Forest Measurements](#) Copyright © 2016 by Joan DeYoung is licensed under a [Creative Commons Attribution 4.0 International License](#)

APPENDIX B: Preferred Strip Cruise Plot Layout and Cruise Procedure

Once the No-Cut Zone(s) and Thinning Zone(s) have been delineated (marked) in the field, follow the following steps to layout the strip cruise plot for each Thinning Zone:

1. Using the site class identified under Step 2 of the “Simplified Guidance for Conducting Thinning” section above, determine the “Thinning Zone Width (Feet)” for your Thinning Zone from Table 1.
2. Divide by 2 the “Thinning Zone Width (Feet)” identified in Step 1 above. Example: The “Thinning Zone Width (Feet)” for Site Class II in Table 1 is 88 feet; dividing by 2 equals 44 feet.
3. Locate one of the two end points of the common line between your No-Cut and Thinning Zones. Using a compass, determine the rough compass bearing from this end point along the common line between these two zones back toward the other endpoint. Note or remember this compass bearing.
4. Move halfway up the side edge of your Thinning Zone from one of these two end points; in our example, move 44 feet up the side edge of your Thinning Zone. Hang a flag here; use a different color of flagging than you used previously to delineate the No-Cut and Thinning Zones. This flag is the starting point for layout of your strip cruise plot and the eventual end point of your strip cruise plot.
5. Establish the centerline of your strip cruise by following the compass bearing you determined in Step 3 above, to the opposite side edge of your Thinning Zone. Hang flagging intervisible (in sight of each other) along this compass line, as the centerline of your strip cruise plot. Hang your last flag where your compass line meets this opposite edge of your Thinning Zone.
6. Once you have completed flagging this centerline of your strip cruise plot, turn around. This last flag that you hung in Step 5 is the actual starting point for of your strip cruise.
7. As noted earlier in this document, to calculate conifer QMD within the Thinning Zone, roughly 10% of the conifer trees will be measured within the Thinning Zone. Since the Thinning Zone Width varies by site class, the total strip cruise plot width will also vary by site class, as follows:
 - Site Class I: ten (10) feet total plot width, five (5) feet on either side of plot centerline
 - Site Class II: seven (7) feet total plot width, three and one-half (3.5) feet on either side of plot centerline
 - Site Class III: five (5) feet total plot width, two and one-half (2.5) feet on either side of plot centerline
 - Site IV: three (3) feet total plot width, one and one-half (1.5) feet on either side of plot centerline
 - Site V: two (2) feet total plot width, one (1) feet on either side of plot centerline

8. Start your strip cruise at the last flag you hung in Step 5 and referenced again in Step 6, using the flagged centerline you established in Step 5 above and the total plot width appropriate for your specific Thinning Zone. In our example, Site Class II will use a seven (7) foot total plot width, three and one-half feet on either side of plot centerline. A pole or rod five (5) feet in total length and marked with the five exact half-plot widths identified in Step 7 may be a valuable tool to determine which trees are “in” your strip cruise plot.
9. Measure the DBH (diameter at breast height, i.e. 4.5 feet above the ground on the uphill side) and determine the conifer species group (see “Dominant conifer species group” information box on Page 4) of each conifer tree that falls within your strip cruise plot. Trees are considered within your strip cruise plot (and should be measured) if at least half of the tree bole falls within the total plot widths identified in Step 7. Determine for each conifer tree you have measured whether it is a residual tree (see description in Appendix A) or not a residual tree. The vast majority of eligible Thinning Zone stands will truly be even-aged and have no or very few residual trees, but identifying which trees are residuals is critically important to the proper calculation of QMD and what trees need to be left in the Thinning Zone. Do not measure the diameters of any hardwood trees that fall within your strip cruise plot.
10. As you measure each conifer tree, either a) directly enter the diameter and conifer species group you have measured into the appropriate category (“Residual” tree category or “Non-Residual” tree category) in the “[QMD Calculator](#)” spreadsheet or b) record (on any paper form of your choice) the diameter and conifer species group of each measured conifer tree, again making sure to note whether the tree is a Residual or Non-Residual and then input your data into the “QMD Calculator” computer application (to be provided).
11. Continue collecting all required information for each conifer tree within your strip cruise plot until you reach the end of the plot as identified in Step 4.
12. The QMD Calculator will provide the calculated QMD for the Non-Residual trees within your Thinning Zone stand(s), as well as the estimated number of Residual trees within your Thinning Zone(s), based on your strip cruise measurements. It will also provide the “Dominant conifer species group”, either Douglas fir or Western Hemlock.

APPENDIX C: Riparian Functions

When completing the required Alternate Plan form to accompany the Forest Practices Application, consider the following potential effects of thinning on various riparian functions, as adapted from DNR's Overstocked Stand Alternate Plan Template:

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. 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.



**DEPARTMENT OF
NATURAL RESOURCES**

Forest Regulation Division

1111 Washington St SE
Olympia, WA 98504

360-902-1400

FPD@DNR.WA.GOV
WWW.DNR.WA.GOV

April 16, 2025

TO: Forest Practices Board

FROM: Tami Miketa, Manager, Small Forest Landowner Office

SUBJECT: Small Forest Landowner Office and Advisory Committee

Small Forest Landowner Advisory Committee

The Small Forest Landowner Advisory Committee met one time during this reporting period, on April 15, 2025. Donelle Mahan and Carla Fosberg gave the Advisory Committee another update on the status of fpOnline. I gave the Advisory Committee an update on the Regulation Assistance Forester's targeted outreach to the small forest landowner community and DNR Service Foresters regarding riparian management operations and alternate plan options, as well as other services the Regulation Assistance Program can provide.

SFLO Program Updates

The SFLO is currently recruiting for a Conservation Easement Timber Cruiser to cruise the Forestry Riparian easements and the River and Habitat Open Space easements. The recruitment is open until April 30th, and we hope to be able to bring someone on board in that position by the end of June.

Staff in the Forestry Riparian Easement Program (FREP) are now working on easements and marking the qualifying timber for applications that have been submitted in 2025! This means the FRE Program no longer has a "waiting list", it is now called a "processing list", and landowners can get compensated in as little as one year. This is great news considering, in the past, applicants had to wait upwards of seven years to receive their easement compensation due to the lack of funding for the program.

The SFLO staff recently updated the *Guide to Alternate Plans in Washington's Forest Practices Rules*. Washington's Forest Practices Rules have allowed landowners to develop alternate plans since the early 1980s and are intended to allow landowners to develop more site-specific management plans than standard Forest Practices Rules allow. An alternate plan may alter the prescriptions outlined in the rules as long as the plan provides protection to public resources at least equal in overall effectiveness to the protections the regular rules would provide. The use of an alternate plan is useful in, but not limited to, riparian areas. Landowners may propose alternate management strategies for any forestry operation that is regulated by the state Forest

Practices Rules. This guide provides detailed information for landowners to navigate the alternate plan process and is located online on the SFLO website under Alternate Plans.

Long-Term Applications (LTA)

In this Forest Practices Board report, the SFLO regularly shows the status of Long-Term Applications. There are currently 327 approved long-term applications that have passed Phase 2 of the process. This is an increase of three approved LTAs since the end of the last reporting period (January 22, 2025).

LTA Applications	LTA Phase 1	LTA Phase 2	TOTAL
Under Review	4	0	4
Approved	1	327	328

Upcoming Events

May 3 [2025 Habitat Box Workshop | Extension Forestry | Washington State University](#)

May 7-9 [Washington SAF Annual Meeting](#) Vancouver, WA

May 12-13 Post Fire Recovery Workshop Ellensburg, WA

June 3 – 27, 2025 [Summer 2025 Intensive Western Washington Online Forest Stewardship Coached Planning Course](#)

June 5 Washington Hardwoods Commission Annual Symposium Chehalis, WA

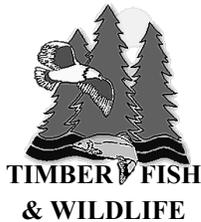
June 7 South Sound Chapter of WFFA Picnic Miller Tree Farm Olympia, WA

June 21 [Save the Date: Summer Eastern WA Forest Field Day](#)

June 28 [Save the Date: Summer Puget Sound/King County Forest Field Day](#)

July 19 Save the Date Celebration 2024 National Outstanding Tree Farmers of the Year, Coburg Tree Farm, Eatonville, WA

Please contact me at (360) 902-1415 or tamara.miketa@dnr.wa.gov if you have questions.
TM/



**Timber, Fish and Wildlife Policy Committee
Forest Practices Board**

PO BOX 47012, Olympia, WA 98504-4712

Policy Co-Chairs:

Cody Thomas, Upper Columbia United Tribes
Rico Vinh, Washington Conservation Action

April 30, 2025

TO: Forest Practices Board
FROM: Cody Thomas and Rico Vinh
SUBJECT: TFW Policy Committee Report

The Timber, Fish, & Wildlife Policy Committee (Policy) workload is driven by internal process deadlines and priorities directed by the Forest Practices Board (Board). To accommodate the heavy workload, Policy relies on additional meetings, email communications between meetings, and policy workgroups to address specific issues and meet deadlines to accomplish their work.

TFW POLICY COMMITTEE BUSINESS UPDATE for February 2025 – April 2025

SAO Recommendation #5

Policy's State Auditor's Office (SAO) working group continues to meet as needed to refine and implement the Board-approved action plan. Several recommendations are being worked on including structured decision making, decision criteria, review of Schedule L-1, and how to handle non-CMER science.

Structured Decision Making

Policy has continued to work with Compass Resource Management to explore and develop opportunities to use Structured Decision Making (SDM). Policy agreed to use the Eastside Type N Riparian Effectiveness Project (ENREP) for the purposes of working through the SDM process to prepare for eventual decision making, as well as to inform a recommendation to the Board about whether to incorporate SDM moving forward.

Master Project Schedule

The Policy budget workgroup continues to meet to discuss projects and funding. The workgroup and the AMPA developed contingency plans for future funding scenarios.

Small Forest Landowner Experimental Harvest Prescription

Policy continued to work with Triangle and Associates to mediate Stage 2 of the dispute. They reached a consensus and resolved the dispute in March.

Non-CMER Science Dispute

Policy began the dispute resolution process to resolve disagreements on how to handle outside science or non-CMER science in the Proposal Initiation (PI) process and began working with Triangle and Associates in the mediation process.

MAJOR TFW POLICY COMMITTEE TOPICS FOR CALENDAR YEAR 2025

- **Adaptive Management Program (AMP) budget and the Master Project Schedule (MPS):** Policy will continue to review and refine the MPS and prepare recommendations to the Board.
- **SAO:** Policy is continuing to develop the implementation criteria for SAO recommendation #5 (Net Gains Options) and 6 (adopt decision criteria) for inclusion in the rule or guidance in calendar year 2025. Policy will continue to work with Compass Resource Management to work through the Structured Decision Making process for ENREP. The SAO workgroup will continue to meet as needed to provide guidance for updating the Schedule L-1.
- **Unstable Slope Criteria Project – Object Based Landform Mapping with High Resolution Topography Report:** CMER is expected to deliver the report to Policy in summer 2025
- **Riparian Literature Synthesis Report:** CMER will deliver to the report to Policy in Spring 2025
- **Eastside Timber Habitat Evaluation Project (ETHEP):** Findings report and Final 6 questions will be delivered from CMER to Policy in Fall/Winter 2025.
- **Extensive Riparian Status and Trends Monitoring Program – Riparian Vegetation and Stream Temperature Study:** The Scoping Document and Best Available Science (BAS) Report will be delivered to Policy in 2025.
- **Type Np Hard Rock Phase III – Amphibian Demographics Project –** Findings report and Final 6 Questions to Policy in Summer 2025.
- **Default Physical Criteria -** Prospective 6 Questions to Policy in Summer 2025.
- **Anadromous Fish Floor –** Charter to be delivered to Policy in Summer 2025

New Projects:

The Policy Committee workload is heavy yet must also remain sensitive to the changes in various timelines and to new issues as they come up. The capacity for Policy to accept any new work as assigned by the Forest Practices Board or taken on for other reasons could require delaying existing priorities and/or scheduling additional meetings.



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: P.O. Box 43200, Olympia, WA 98504-3200 • (360) 902-2200 • TDD (360) 902-2207
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia, WA

MEMORANDUM

April 23, 2025

To: Forest Practices Board
From: Darrin Masters, WDFW Senior Forest Habitat Biologist, Forest Habitats Section
Subject: Upland Wildlife Update

The following provides a brief status update for ongoing or pending actions pertaining to priority wildlife species in forested habitats:

Marbled Murrelet

1992: Federally listed as Threatened
1993: State listed as Threatened,
1996: Federal critical habitat designated
1997: FPB enacted State Forest Practices Rules
2017: State up-listed to Endangered
2023: Proposed expedited rule making for recommended changes to WAC 222
2024: New Murrelet rules take effect

Under the Northwest Forest Plan, the western coast of the U.S. is divided into five conservation zones for the Marbled Murrelet with Zone 1 starting in Puget Sound and Zone 5 ending just north of San Francisco. WDFW continues to monitor Marbled Murrelet populations at-sea in the Puget Sound and Straits, and along the Washington coast. The Strait of Juan de Fuca, the Strait of Georgia, and Puget Sound (Zone 1) are monitored on even years, most recently in 2022. The Washington coast from Cape Flattery to Columbia River mouth (Zone 2) is monitored on odd years, most recently in 2023. Monitoring continues to indicate that the species' status has not improved since state listing in 1993. It has continued to decline annually at a rate of 4.6% in Zone 1 (Pearson et al. 2022) and by 3.5% along the Washington coast (Zone 2 – Pearson et al. 2023). These are the only data available to assess Murrelet abundance and trends. The Northwest Forest Plan Effectiveness Monitoring team's 25-year report has been published (McIver et al. 2021) as well as a report on trends in habitat conditions (Lorenz et al 2021). The 2022 and 2023 at-sea survey reports from WDFW are now available (Pearson et al. 2022, Pearson et al. 2023). Further, McIver 2024 summarizes abundance and population trends across all conservation zones within the Northwest Forest Plan area. At sea population surveys for Zone 1 were completed in 2024 and are currently being processed. Zone 2 surveys will be conducted in 2025. Along with these surveys, our science team is continuing diet sampling work. A publication date for that work has not been identified.

An updated Periodic Status Review (PSR) for Murrelet being reviewed and finalized with publication being delayed to the fall of 2025. There will be no change in status. The updated PSR will include updated literature, which will be used to refine the previous PSR published in 2016. After the PSR is complete, WDFW will then begin developing a state level recovery plan for Murrelet.

WDFW's Diversity and Science Divisions are currently working on a few projects funded by the Navy through the National Wildlife Foundation Fund and are as follows:

1. Annotated bibliography of recent Murrelet publications (WDFW)
2. Table of actively collected distribution and abundance datasets on murrelets (WDFW)
3. Analysis to determine hotspots and drivers of distribution and abundance (UW)
4. Peer-reviewed list of recovery priorities for Murrelets (WDFW). Priorities will be used as a foundation of the recovery plan.

All four projects have been completed and reports were submitted to the Navy since the January 2025 wildlife update. These deliverables will help WDFW inform recovery planning decisions.

Contact: Darrin Masters (Darrin.masters@dfw.wa.gov) and Jennifer Mannas (jen.mannas@dfw.wa.gov)

Canada Lynx

1993: State listed as Threatened

1994: FPB enacted voluntary management approach

2000: Federally listed as Threatened

2017: State up-listed to Endangered

2023: Federal Species Status Assessment and Draft Federal Recovery Plan published

On November 29, 2024, the U.S. Fish and Wildlife Service (USFWS) published a proposed rule in the federal register to revise the designation of critical habitat for the contiguous U.S. Distinct Population Segment (DPS) of the Canada Lynx. The proposed rule only includes the four western units of critical habitat (Maine and Minnesota are excluded). These include: (1) Unit 3: Northern Rockies; (2) Unit 4: North Cascades; (3) Unit 5: Greater Yellowstone Area; and (4) Unit 6: Southern Rockies. The North Cascades consists of 2,354 square miles located in north-central Washington in portions of northern Chelan, Okanogan, and eastern Skagit and Whatcom Counties. The proposed rule represents a 520 square mile increase from the 2014 designation for this unit. The proposal includes 39 square miles of State Forest lands within the Loomis Natural Resources Conservation Area. However, as in the 2014 rule, the Loomis State Forest lands will be exempt from the new rule. Comments for the proposed rule were due on January 28. The USFWS is still in the process of reviewing comments. The publication date of the final rule is currently unknown.

In March 2025 the Washington Department of Natural Resources (DNR) published their Lynx Habitat Management plan (1996, 2006) Implementation and Effectiveness Monitoring Report (Krausz et. al. 2025) for the period between 2004 and 2024. The report outlined DNR's monitoring efforts for the foraging, travel, denning, temporary non-habitat, permanent non-habitat, and road density requirements described in the management plan. The plan provides a summary of the changes in percentage of these habitats found in the management plan area across the years 2006, 2013, 2021, and 2024. Of the five Lynx Analysis Units (LAU) monitored, the Loomis Central LAU showed a consistent positive response to management with net increases in foraging and denning habitats and net decreases in temporary and permanent non-habitats between 2006 and 2024. The net increase/decrease across habitat types in the remaining LAUs were variable, indicating a need for review of management implementation in those areas. Overall, the report provides an excellent summary of the plan's efficacy since 2006 and a good foundation for plan improvement moving forward. One notable takeaway and perhaps a cause for the variability in habitat net change is that "at this time an estimated 50% of the known lynx habitat in Washington State had burned in the previous 20 years." Please see the monitoring report for more details.

Under DNR's Lynx Habitat Management Plan (2006), DNR and Washington State University (WSU) developed a project to investigate the effects of different pre-commercial thinning designs on snowshoe hare use of habitat, vulnerability to predation, and sources of mortality. The information gathered may then be used to better inform forest management treatments favorable for snowshoe hare while also providing increased foraging opportunities for lynx. DNR and partners have completed the first year of

post-treatment snowshoe hare radio telemetry and began the second year of trapping and radio telemetry in October 2024. The project has now moved into its post-treatment phase, with particular interest in short-term behavioral responses and mortality patterns after thinning.

The Colville Confederated Tribes is leading a lynx reintroduction project on the reservation. They released 19 lynx from 2021 to 2022 into the Washington Kettle Range. They actively trapped in October, November, and December of 2023 resulting in the translocation of seven more lynx. The Tribe began another year of trapping in October 2024 with a goal of releasing 12 more lynx in Washington. New information on this project is currently not available for this report.

To further lynx conservation, WDFW participates in ongoing multi-agency surveys for lynx in the North Cascades, WDFW maintains a current database of verifiable lynx detections, and WDFW is currently updating the periodic status review for the lynx (last done in 2017). We are in the process of obtaining recent detection data from the Cascades Carnivore Project (CCP), which they collected via scat surveys. They are in the process of completing a paper that looks at lynx genetic and population characteristics of the North Cascades population based on four years of scat collections and one of the big take homes will be a population estimate(s) for this population.

Contact: Jeff Lewis (Jeffrey.Lewis@dfw.wa.gov)

Northern Spotted Owl

1988: State listed as Endangered

1990: Federally listed as Threatened

1996: FPB enacted State Forest Practices Rules

2012: USFWS designation of revised critical habitat

2016: State retention of Endangered status

2024: State retention of Endangered status

The Northern Spotted Owl (*Strix occidentalis caurina*; NSO) is in steep decline in Washington and across its range (see Periodic Status Review for the Northern Spotted Owl in Washington, 2024). Without immediate intervention, the Washington Department of Fish and Wildlife (WDFW) and our conservation partners expect NSO to be functionally extinct from Washington within a decade. WDFW is committed to preventing the loss of this flagship species of old growth forests in Washington. There are no simple or straightforward paths to recovery left for NSO; WDFW, our conservation partners, and the public are left with only the most difficult options available to support recovery of the species. WDFW's intended approach for NSO resilience and recovery includes three major efforts (none of which are enough in isolation to recover NSO):

Maintaining habitat for NSO through support for the Northwest Forest Plan (NWFP) and participation in the NWFP Environmental Impact Statement (EIS) and amendment process to ensure adequate consideration of spotted owl persistence and recovery.

- Maintenance of old growth habitat is needed for long-term NSO recovery.
- The Forest Service is currently developing an amendment to the NWFP that would apply to units in Washington's Pacific Northwest Region (Region 6).
- The amendment will incorporate new information including the federal 2011 NSO recovery plan, the 2012 federal critical habitat designation for NSO, and the 2021 revision of the critical habitat designation.
- Part of the amendment seeks to improve resistance and resilience to wildfire, support adaptation to and mitigation of climate change, and address management needs of mature and old growth forests with related ecosystem habitat improvement.
- WDFW provided comments on the draft EIS.

Exploring NSO population augmentation through analysis of potential methods such as captive rearing, captive breeding, and/or translocation.

- WDFW started a range wide working group with zoos, federal, state and tribal partners from BC, WA, OR and CA to learn about and discuss Northern Spotted Owl conservation translocation strategies. So far, the group has learned about the BC NSO Breeding Program and was briefed about Northern Spotted Owl monitoring and occupancy modeling.
- WDFW is compiling existing data to develop a model that simulates NSO abundance, distribution, movement, and changes in genetic diversity, which will inform future conservation strategies. The augmentation feasibility assessment will be completed this summer.

Implementing barred owl (*Strix varia*) management following the U.S. Fish and Wildlife Service (USFWS)'s Barred Owl Management Strategy.

- Barred owl interference and competition is the greatest direct factor driving the current and continued population decline of NSO and may limit the positive effects of other conservation actions in the near term.
- First documented in Washington in 1972, barred owls are recent arrivals to the West Coast from eastern North America. Their expansion was enabled through alteration of the landscape by European settlers.
- Barred owls are considered an invasive species due to their highly disruptive and destructive effects on native species and ecosystems. Despite their similar appearance, barred owls and NSO do not occupy a similar niche, and barred owls do not simply “replace” NSO in the food web. As a generalist, novel predator, barred owls capture a greater proportion of diurnal, terrestrial, and aquatic prey than NSO. Increasing barred owl densities and their replacement of NSO in old growth ecosystems have the potential to exert enough predation and competitive pressure to imperil other rare species.
- Landscape-level experiments to assess the effects of competitive interactions between barred owls and NSO indicate strong positive responses by NSO to the removal of barred owls. This includes increased NSO survival rates, dispersal, and recruitment.
- The approach in the USFWS's Barred Owl Management Strategy is the strategic, targeted, humane removal of barred owls around occupied or recently occupied NSO territories (not in or near cities or towns) and designating multiple management areas in NSO habitat that can each support 20-50 pairs of owls.
- At the maximum level of implementation, the barred owl management strategy would impact less than one percent of the barred owl population in North America, while helping to prevent the extinction of NSO in Washington.

For more information, please see the website: [Barred Owl Management | U.S. Fish & Wildlife Service](#), including the FAQs page: [Barred Owl Management Strategy Record of Decision FAQs](#).

WDFW has updated the [NSO information page](#) with information about barred owl impacts to spotted owls and resources about management: [Things to know about Barred Owls in Washington](#).

NSO monitoring- The federal reduction in force has impacted the NWFP NSO range-wide passive acoustic monitoring (PAM) program. This annual monitoring is crucial for preventing the owls' extinction. WDFW is one of several partners who will be assisting at a small scale through deployments and retrievals of sound recorders in Washington. This month, WDFW is initiating NSO PAM surveys in the Teanaway Community Forest. WDFW purchased ARU equipment and continues to develop plans with federal partners to expand monitoring next year in the Mt. Barker-Snoqualmie FS.

Barred owl diet study on JBLM- Barred owls have the potential to undermine other sensitive species' conservation efforts and cause local extinctions; however, most barred owl diet studies on the West Coast have been in and around spotted owl habitat. Therefore, WDFW is developing a barred owl diet study on Joint Base Lewis McChord (JBLM) to evaluate the potential threat of barred owls to other species like Western Gray Squirrels.

Contact: Emilie Kohler (Emilie.Kohler@dfw.wa.gov)

Fisher

1998: State listed as Endangered

2016: Federal status: Final decision for west coast DPS - not warranted for listing (April 2016)

2018: Ruling on 2017 withdrawal of proposed ESA listing, USFWS ordered to revisit that decision

2019: Federal revised proposed rule to list fishers, excluded fisher in Washington

Fisher reintroductions into Washington have been completed by WDFW and cooperating partners, with a total of 260 fishers, including 90 in Olympic National Park (2008-2010), and 170 in other federal lands within the Cascade Range. Non-federal landowners can continue to voluntarily enroll in the Candidate Conservation Agreement with Assurances (CCAA) and receive federal regulatory assurances if the fisher were to become listed under the ESA in the future. By enrolling in the CCAA, landowners agree to follow basic conservation measures that protect fishers that may use their lands. To date, 68 entities who own or manage 3,486,855 acres of non-federal forest lands are enrolled in the CCAA.

WDFW and project partners conducted a distribution and occupancy survey (using camera stations) of much of the federal lands in the South Cascades Ecosystem from October 2022 – July 2023. Data analysis of this survey is ongoing, but our preliminary results included the detection of fishers at ≥ 28 of 107 functioning survey stations. This survey effort was also implemented in the North Cascades Ecosystem with deployment of 155 camera stations from 15 September to 15 November 2023. Station revisits to obtain data were completed in August 2024. Data analysis on habitat selection/associations and fisher distribution are expected to begin in the summer of 2025 with writing beginning in the fall.

Contact: Jeff Lewis (Jeffrey.Lewis@dfw.wa.gov)

Western Gray Squirrel

1993: State listed as Threatened

2002: Petitioned for Federal listing

2003: Federal listing denied

2013: FPB enacted voluntary management approach

2016: State retention of Threatened status

2023: State listed as Endangered

WGS Working Group- The WGS Working Group held the first of three field trips to occupied gray squirrel habitats in Washington on April 15 and 16. The group gathered on Tuesday April 15 in Olympia for a tour of occupied habitats on JBLM. Two JBLM wildlife biologists showed the group several locations and discussed the Base's strategy for long-term forest management to maintain a sustainable population. We were also joined by two retired WDFW squirrel biologists who, together, conducted the majority of squirrel research in Washington over the past 25 years. During their tenure with WDFW, their research was instrumental in describing the primary and secondary habitat needs for the western gray squirrel in the state. They provided valuable context to the state's habitat definitions and the reasoning behind WDFW's Priority Habitats and Species management recommendations for the squirrel, which are central to the voluntary management approach supported by DNR and the Board. On Wednesday April 16, the group gathered again to tour two units of the Scatter Creek Wildlife Area in Olympia; West Rocky Prairie and Violet Prairie. The West Rock unit was recently thinned to release Oregon white oak and to recover historic prairies. The group toured these areas and continued the discussion of primary and secondary

habitats but, to facilitate discussion, were also tasked with identifying specific management actions that could benefit squirrels. Group consensus after the tour was that it was time well spent and that the information conveyed by the JBLM and retired WDFW biologists was invaluable. The second tour is scheduled for September 2025 in Okanagan County.

WGS Research- In July 2024, WDFW's Wildlife Diversity Grant Program awarded the University of Washington \$100,724 to develop a spatial prioritization model that can identify priority land parcels for targeted conservation efforts to aid the recovery of the Klickitat County's WGS population. The vast majority of Klickitat County's WGS habitat is on privately held forest lands and the model will also aid in developing incentives for landowners adopting WGS habitat restoration recommendations. The project team is developing several model scenarios and will create a report detailing the data, model, and model results by June 30, 2025.

WDFW is developing a barred owl diet study on JBLM to evaluate the potential threat of barred owls to species of concern, like western gray squirrels. Barred owls have the potential to undermine other sensitive species' conservation efforts and cause local extinctions; however, most barred owl diet studies on the West Coast have been in and around spotted owl habitat. Western gray squirrels are one of multiple SCGNs on JBLM that could benefit from barred owl research and/or removal. Habitat loss and degradation are the primary factors affecting WGS; however, we have learned from spotted owls that barred owls can make suitable habitat inaccessible. Western gray squirrels have low juvenile survival and over half of squirrel deaths at JBLM were attributed to predation. Only 3 isolated WGS populations exist in WA and the population at JBLM is especially vulnerable because of its small size, limited geographic range, and isolation from other populations. Past translocations improved genetic diversity; however, genetic fitness is still a concern. For these reasons, WGS fit the criteria for a species that would be significantly impacted by a novel predator. The anticipated start date for the study is late Summer or Fall 2025.

WDFW is currently organizing WGS occupancy surveys in core habitat areas. This is a continuation of the 2018 surveys using hair tubes that proved effective for documenting occupancy of western gray squirrels in Washington ([Vander Haegen and Keren. 2021](#)). The surveys will start in May 2025.

Contact: Darrin Masters (Darrin.masters@dfw.wa.gov) and Emilie Kohler (Emilie.Kohler@dfw.wa.gov)

Future Updates to the Board

The Forest Practices Rules require that when a species is listed by the Washington Fish and Wildlife Commission and/or the U.S. Secretary of the Interior or Commerce, WDNR will consult with WDFW and makes a recommendation to the Forest Practices Board as to whether protection is needed under the Critical Habitat (State) rule (WAC 222-16-080). WDFW and WDNR coordinate to anticipate federal actions and to respond to changes in the status of species addressed by the rules.

c: Tom O'Brien (WDFW)
Hannah Anderson (WDFW)
Taylor Cotten (WDFW)
Julie Smith (WDFW)
Brandon Austin (WDFW)
Saboor Jawad (DNR)
Maggie Franquemont (DNR)
Colleen Granberg (DNR)

Literature Cited

- DNR 2006. Lynx habitat management plan for DNR managed lands. Report. Washington Department of Natural Resources.
- Krausz, E. K., Jensen P. O., and Breitenbach E. C. 2025. Lynx Habitat and Management Plan Implementation and Effectiveness Monitoring Report 2004-2024. Washington State Department of Natural Resources, Forest Resources Division, Olympia, WA.
- Lorenz, T.J.; Raphael, M.G.; Young, R.D.; Lynch, D.; Nelson, S.K.; McIver, W.R. 2021. Status and trend of nesting habitat for the marbled murrelet under the Northwest Forest Plan, 1993 to 2017. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.
- McIver, William R.; Pearson, Scott F.; Strong, Craig; Lance, Monique M.; Baldwin, Jim; Lynch, Deanna; Raphael, Martin G.; Young, Richard D.; Johnson, Nels. 2021. Status and trend of marbled murrelet populations in the Northwest Forest Plan area, 2000 to 2018. Gen. Tech. Rep. PNW-GTR-996. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.
- McIver, W.R.; Baldwin, J.; Lance, M.M.; Pearson, S.F.; Strong, C.; Raphael, M.G.; Duarte, A; Fitzgerald, K. 2024. Marbled murrelet effectiveness monitoring, Northwest Forest Plan - 2023 summary report, Northwest Forest Plan Interagency Regional Monitoring Program. February 2024, final report. 25 p.
- Pearson, S.F., M.M. Lance, K. Beach, C. Norris, K. Saksa, and S. Tanedo. 2022. Washington 2022 at-sea marbled murrelet population monitoring: Research Progress Report. Washington Department of Fish and Wildlife, Wildlife Science Division, Olympia, Washington.
- Pearson, S.F., M.M. Lance, K. Beach, K. Saksa, S. Tanedo, and J. Winn. 2023. Washington 2023 at-sea marbled murrelet population monitoring: Research Progress Report. Washington Department of Fish and Wildlife, Wildlife Science Division, Olympia, Washington.
- Vander Haegen, W. M., B. L. Cosentino, I. N. Keren, M. J. Linders, and G. W. Bell. 2022. Assessment of habitat change for western gray squirrels in the eastside Cascades of Washington, 1993-2017. Final report. Washington Department of Fish and Wildlife, Olympia.
- Vander Haegen, W. M. and I. N. Keren. 2021. Occupancy surveys for western gray squirrels in Washington. Final report. Washington Department of Fish and Wildlife, Olympia
- Wiens, J. David; Dugger, Katie M.; Higley, J. Mark; Lesmeister, Damon B.; Franklin, Alan B.; Hamm, Keith A.; White, Gary C.; Dilione, Krista E.; Simon, David C.; Bown, Robin R.; Carlson, Peter C.; Yackulic, Charles B.; Nichols, James D.; Hines, James E.; Davis, Raymond J.; Lamphear, David W.; McCafferty, Christopher; McDonald, Trent L.; Sovern, Stan G. 2021. Invader removal triggers competitive release in a threatened avian predator. *Proceedings of the National Academy of Sciences*. 118(31)
- Wiles, G. J, D. W. Stinson, and AM. J. Linders. 2023. Periodic status review for the Western Gray Squirrel. Washington Department of Fish and Wildlife, Olympia, Washington.