

Western Washington Sustainable Harvest Calculation Scoping Report



April, 2022

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Acronyms

AFRC	American Forest Resource Council
CLT	Cross-laminated timber
CNW	Conservation Northwest
CO2	Carbon dioxide
DEIS	Draft environmental impact statement
DNR	Washington State Department of Natural Resources
EIS	Environmental impact statement
FEIS	Final environmental impact statement
FY	Fiscal Year
GIS	Geographic information system
HCP	1997 State Trust Lands Habitat Conservation Plan
LiDAR	Light Detection and Ranging
LTCS	Long-term Conservation Strategy
NPV	Net present value
OESF	Olympic Experimental State Forest
RCW	Revised Code of Washington
RDEIS	Revised Draft Environmental Impact Statement
SB	Senate Bill
SEPA	State environmental policy act
TAC	Sustainable harvest calculation technical advisory committee
TLPA	Trust Land Performance Assessment
TLT	Trust land transfer
U.S.	United States
WAC	Washington Administrative Code
2SHB	Second Substitute House Bill

Background

In Washington State, the Department of Natural Resources (DNR) manages approximately 2.9 million acres of state trust lands, not including aquatic lands. State trust lands are lands held in trust for specific trust beneficiaries, such as public schools and universities. The term “state trust lands” refers to both State Lands and State Forest Lands:

- State Lands (RCW 79.02.010(14)) are lands granted to the state by the federal government at statehood. State Lands are also referred to as federal grant lands.
- State Forest Lands (RCW 79.02.010(13)) are lands acquired by Washington State from the counties. There are two types: State Forest Purchase Lands, which are lands purchased or acquired by the state as a gift, and State Forest Transfer Lands, which are lands transferred to the state from the counties.

As a trust lands manager, DNR’s responsibility is to manage these lands consistent with fiduciary principles, which include producing a perpetual supply of revenue for specific trust beneficiaries. On forested state trust lands, revenue is produced primarily through the harvesting of trees.

Providing a perpetual supply of revenue requires responsible management with an emphasis on long-term sustainability. A major component of DNR’s approach to sustainable management is calculation of a sustainable harvest level, which is the volume of timber to be scheduled for sale during a planning decade according to applicable laws, policies, and procedures (RCW 79.10.300(5)). Put another way, the sustainable harvest level is the amount of timber DNR can harvest from forested state trust lands on a continuing basis without major prolonged curtailment or cessation of harvest (RCW 79.10.310).

The western Washington sustainable harvest level applies to all forested state trust lands located west of the Cascade Crest in Washington (approximately 1.4 million acres). These lands are divided into 20 sustainable harvest units, each of which is assigned its own sustainable harvest level for the decade. Refer to Appendix 1 for a map showing forested state trust lands in western Washington and a map showing the sustainable harvest units in western Washington.

- The west-side sustainable harvest unit consists of all State Lands (federal grant lands) and State Forest Purchase Lands located west of the Cascade Crest, with the exception of lands located inside the Olympic Experimental State Forest (OESF) and Capitol State Forest.
- OESF and Capitol State Forest consist of all State Lands (federal grant lands), State Forest Purchase Lands, and State Forest Transfer Lands located within their respective boundaries.
- Each of the 17 counties is a separate sustainable harvest unit for State Forest Transfer Lands. Each unit consists of all State Forest Transfer Lands located within their respective county boundaries, with the exception of lands located in OESF and Capitol State Forest.

The sustainable harvest level is measured in board feet, which is a unit of volume equivalent to a 12-inch square, 1-inch thick piece of wood. The level is recalculated every 10 years. To ensure one generation of beneficiaries is not favored over another, the next decade’s level cannot rise or fall more than 25 percent

from the previous decade's level (refer to the policy on the Definition of Sustainability for the Sustainable Harvest Calculation in the *Policy for Sustainable Forests* (DNR 2006)).

DNR is required to set a sustainable harvest level by Washington state law. Specifically, DNR must periodically adjust acreages designated for inclusion in the sustained yield management program and calculate a sustainable harvest level (RCW 79.10.320). Sustained yield means harvesting on a continual basis without major prolonged curtailment or cessation of harvest (RCW 79.10.310). The sustainable harvest level is a policy decision that requires approval from the Board of Natural Resources.

DNR calculates the sustainable harvest level through a forest estate modeling process. The forest estate model is a mathematical, computer-based representation of the forest. Capable of manipulating vast quantities of data, the model is able to look across landscapes and decades to determine the sustainable harvest level that is the best balance of DNR's management objectives, which include both revenue production and ecological values such as wildlife habitat.

Public Scoping Process

Scoping is the first formal step in preparing an EIS and initiates public involvement. Analysis of comments received during public scoping helps DNR to: narrow the focus of the EIS to significant environmental issues, eliminate issues that would have insignificant impacts or that are not directly related to the proposal, identify alternatives to be analyzed in the EIS, and identify mitigation measures that address potential environmental impacts of the proposal.

Scoping Notice

On October 25, 2021, DNR issued a Determination of Significance and Public Scoping Notice for the proposal to establish a sustainable harvest level for the 2025 to 2034 fiscal year planning decade for forested state trust land in western Washington, indicating that an Environmental Impact Statement (EIS) would be prepared (Appendix 2). (RCW 43.21C.030(2)(c)). In the scoping notice, DNR invited agencies, affected tribes, and members of the public to comment on the scope of the EIS, specifically asking for comments on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required, adding that if the commenter was suggesting a particular approach or impacts to consider, to please explain why. The scoping notice went on to explain that the more

evidence provided in support of a comment, such as peer-reviewed studies or reports, the more useful that comment would be to DNR in its analysis. Suggested comment topic areas included the following:

- Probable significant environmental impacts that need to be considered in the adoption of the sustainable harvest level.
- Key environmental issues that need to be addressed and analyzed by one or more of the alternatives.
- Alternatives that need to be considered that will meet the need for, and the purpose of, the proposal.
- Specific mitigation measures that DNR should consider to avoid or minimize impacts.
- Identification of additional environmental information, studies, or reports relevant to the development of sustainable harvest level alternatives.

In addition, the scoping notice opened a 45-day public comment period starting on October 25, 2021 and ending on December 9, 2021; announced a date for a public webinar, which is a public meeting held over the internet; and provided a link to a survey for meeting participants to use in order to submit comments to DNR as well as an option to email comments to DNR staff. This notice was sent through the U.S. Postal Service and by email to a list of agencies, individuals, and organizations interested in state trust lands management decisions. In addition the notice was posted on DNR's website at "[Sustainable Harvest Calculation](#)" as well as on DNR's SEPA Center website. DNR also issued a [press release](#) announcing a public webinar.

Public Webinar

DNR held a live public webinar at 6:00 p.m. on November 9, 2021. A recording of the webinar was made available for public viewing on DNR's website starting November 16, 2021. The scoping notice provided a link for anyone interested in attending the webinar to use in order to register for the webinar. The webinar discussed six topics: background information on Washington state trust lands; information on DNR's separate, but concurrent sustainable harvest calculations; the environmental review steps that are part of an EIS; the purpose of scoping; information on the western Washington sustainable harvest calculation project proposal; and how to make effective comments to DNR during the scoping period.

Participants asked several questions during the webinar and were encouraged to formally submit comments using either Survey Monkey® or email. Twenty-five non-DNR attendees viewed the webinar. These attendees included unaffiliated members of the public, representatives of environmental organizations, timber industry organizations, local government, library districts, and trust beneficiaries.

Website

DNR provides information about the western WA sustainable harvest calculation on a website dedicated to the topic at <https://www.dnr.wa.gov/shc> and at the DNR SEPA Center website at

<https://www.dnr.wa.gov/sustainable-harvest-calculation-west>. Each of these websites provided links to the scoping notice and other background documents, as well as details about the comment period and the public webinar.

Additional Opportunities to Comment

Although the public scoping comment period has now closed, additional opportunities for the public to comment on the sustainable harvest calculation are available at every Board of Natural Resources meeting, which occur on the first Tuesday of each month, except for August, and begin at 9:00 a.m. Agendas for these meetings are posted three business days before the meetings and include a standing topic for the public to comment on any item of interest that they may have. More information about these meetings is available on the Board of Natural Resources web site ([Board of Natural Resources | WA - DNR](#)).

Comment Summaries

DNR received comments from 21 different individuals or groups. The comments were submitted through SurveyMonkey® (18 comments) or email (3 comment). Commenters affiliated with stakeholder groups, including environmental advocacy and industry groups as well as citizens' councils, tribes, and beneficiaries, accounted for 18 of the commenters, while 3 commenters were unaffiliated members of the public.

Scoping comments were categorized into 22 different topics that were identified during the scoping process. Comments were further categorized into subtopics. In some cases comments from different commenters were combined into a single comment when the theme of the comments were similar. A commenter identification number is provided for each comment and the associated commenter may be found in Table 1 below.

Topic: Alternative Development

Subtopic: Technical Advisory Committee

SUMMARY OF COMMENT

Recommends including the Technical Advisory Committee recommendations and any impacts that may result from doing so in the SEPA analysis.

Commenter

9

Subtopic: Trust Mandate

SUMMARY OF COMMENT

When developing alternatives consider maximizing financial returns to beneficiaries on a sustainable basis. In addition, consider the direct financial impact on beneficiaries and the broader economic impacts on counties from decisions that pursue strategies other than timber harvest. The study by Mason Bruce & Girard and Highland Economics is a valid model to calculate those impacts.

Commenter

9

SUMMARY OF COMMENT

All alternatives should reflect existing trust requirements and state law. Theoretical changes to either of those are the purview of the legislature and courts and should be left to them.

Commenter

14

Subtopic: Carbon and Climate Change

SUMMARY OF COMMENT

If any of the alternatives include evaluating carbon market potential, please also consider how harvest rotation lengths impact additionality and the potential for utilizing carbon markets to generate revenue

Commenter

9

SUMMARY OF COMMENT

When developing alternatives and considering changes to forest management and harvest of forest products due to climate change impacts and any related impacts to future growth rates, please also consider the following:

- Whether it is advantageous to capture the value of certain forest products in the short term to mitigate risks of fire loss;
- How sequestration rates may be impacted; and
- How best to adapt forest management strategies to capture the value of forestland assets in a

sustainable way that maintains and enhances revenues and overall economic benefits.

Commenter

9

SUMMARY OF COMMENTS

The calculation should incorporate climate resilience, forest health, carbon sequestration, and modernization of DNR silviculture as core components in each alternative that is drafted and considered, to reflect the reality of the climate crisis and its interaction with forest ecosystems.

Commenter

15

SUMMARY OF COMMENTS

DNR must develop a “climate smart alternative”.

Commenter

6, 15, 19

SUMMARY OF COMMENTS

The climate smart alternative must:

- Account for all environmental costs of harvest weighed against the benefits of DNR-managed forests as carbon sinks.
- Be part of all reasonable alternatives and focus on forest health in the strategies it employs, meaning it must increase forest resilience and carbon sequestration at a minimum and include:
 - Uneven-aged management
 - Longer rotations than business-as-usual
 - Greater retention during harvest
 - Thinning, restoration, and innovative silviculture to advance structural complexity, age diversity, biodiversity, reduce drought stress, and other factors that increase resilience. Particularly since the vast majority of DNR lands are in the competitive exclusion phase and lack these characteristics of resilience.
 - Maintaining and improving site productivity.
- Protect and restore the world’s most productive terrestrial carbon sink, halt further loss of at-risk plants, fish, and wildlife, and transition trust revenue streams towards carbon and other

ecosystems services and away from timber. Such a transition is critical for maximizing trust revenues, reducing risk of loss from climate change, and protecting the wellbeing of future beneficiaries – three of DNR’s most important trust responsibilities.

- Achieve four goals:
 - reduction of logging related emissions
 - increase carbon stored on the land
 - increase carbon sequestered by DNR forests on an annual basis; and
 - increase the landscape's resiliency to climate change.
- include the following
 - A specific program of actions to meet greenhouse gas specific targets for forests.
 - A network of forest carbon reserves on DNR lands. These native, legacy, old growth, mature and structurally complex stands must be permanently deferred from harvest.
 - A switch of all variable retention harvest of younger stands to variable density thinning to expedite their development into carbon rich late successional/old growth forests
 - Trust revenue diversification to prioritize income from payments for carbon storage and payments for other ecosystem services.
 - A restoration program for priority watersheds using carbon revenues.
 - A reduction of habitat fragmentation and significant limits on new road construction.
- Establishing a network of forest carbon reserves on DNR-managed lands, including all native, legacy, old growth, mature, and structurally complex stand limiting timber harvest to variable density thinning of young tree plantations; and diversifying trust revenue stream to prioritize

income from recreation, tourism, conservation leasing, conservation land sales, payments for carbon storage, and payments for other ecosystem services.

Commenter

6, 15, 19

SUMMARY OF COMMENT

Commenter provided the links for information on climate smart forestry and carbon sequestration, available in Appendix 3.

Commenter

15

SUMMARY OF COMMENT

The DIES should include a climate smart alternative which causes no climate harm and aggressively helps to reduce climate change. Incorporates by reference the public comments made during the live webinar on December 9, 2021 regarding a climate smart alternative.

Commenter

13

SUMMARY OF COMMENT

DNR should consider at least one alternative that dramatically increases the amount of carbon stored on DNR-managed lands during out the planning period.

Commenter

17

SUMMARY OF COMMENT

The agency needs to do more than just minimize impacts. It needs to be forward-thinking and prioritize resilience; the analysis should assess which alternatives provide the greatest addition to resilience and include an analysis of the amount of carbon stored on the landscape and expected carbon flux for the

lands of each trust beneficiary (common schools, counties, etc.) under each alternative. It should also analyze the cumulative impact of harvest on carbon storage and emissions for each alternative.

Commenter

15

SUMMARY OF COMMENT

It is well established scientific fact that carbon storage and carbon sequestration vary widely as a function of stand age. The sustainable harvest calculation DEIS needs to develop and incorporate data on DNR forest stands by Age Class groupings that include:

- Stand age area data stratified by county and DNR Trust land category (Common Schools, State Forest Transfer, etc.) both in (1) tabular format and (2) a mapped format drawn to a scale that can be readily interpreted. These age classes should at least include:
 - 0-50 years
 - 50-65 years
 - 65-80 years
 - 80-100 years
 - 100-120 years
 - 120 years and older
 - Include both the area data tables and maps in the sustainable harvest calculation DEIS.
- In conformance with “Sustainable Harvest Calculation Proposal: Objective 2” that “Consider[s] climate change as part of the affected environment, analyze climate change impacts and benefits of the alternatives, and identify possible mitigation measures that will reduce or eliminate any identified adverse environmental climate change impacts of the proposal.” In order for this sustainable harvest calculation update to conform with its stated objectives, the commenter requests the follow analyses be performed and included in the sustainable harvest calculation DEIS:
 - An analysis of the potential for carbon sequestration and carbon storage by stand age class for all DNR lands and include these analyses in the sustainable harvest calculation DEIS.
 - An analysis defining the optimum age class ranges where carbon storage is maximized and include these analyses in the sustainable harvest calculation DEIS.
 - Relate the stand age classes to the stand ages defined and mapped above as requested.

Commenter

20

SUMMARY OF COMMENT

The commenter expects that, in the sustainable harvest calculation DEIS, DNR would include:

- Current values of carbon that are stored and annually sequestered in the forest ecosystems in the sustainable harvest calculation DEIS analysis area. These annually sequestered values must account for all components of the ecosystem, not just the trees. The values for carbon stored associated with the trees must account for carbon secured in each age class, including 0-50 years, 50-65 years, 65-80 years, 80-100 years, 100-120 years, and over 120 years. These data should separate Natural Area Preserves and Natural Resource Conservation Areas from other trust lands where timber can be harvested.
- An estimate of the amounts of carbon that are currently stored, and annually sequestered, that will be impacted in the sustainable harvest period. Provide this data for the several sequestration sources listed in item #1 above.
- An analysis of the amount of carbon which will be emitted through all components of the “harvest to product” life cycle including the CO₂ given off in road building, harvesting, transportation of logs, log processing, distribution of finish wood product materials to commercial outlets and other factors associated with cutting and processing that the sustainable harvest calculation DEIS process will initiate.
- A discussion of the difference in carbon stored and sequestered between the several thinning and clearcutting (variable retention harvest) harvest methods.

Recent research (Hudiberg et al) 2019 has found that employing longer rotation ages can provide more benefits and less environmental damage when compared to shorter rotation ages, therefore the commenter requests that DNR estimate the volume of timber harvest, carbon lost and impacts on each of the several ecosystem services based on rotation ages of 40-, 50-, 60-, and 80-year cycles in the sustainable harvest calculation DEIS.

Commenter

20

SUMMARY OF COMMENT

DNR has claimed that the substitution of wood for other building products and/or embedded carbon stored in building products justifies forestry from a carbon perspective. Recent research from Moorman and Law show this may not be true when the whole life cycle of the forest ecosystem is evaluated along with energy lost in the ‘harvest to product’ is considered. Therefore, the DNR needs to conduct an extensive search of all peer reviewed research and document these findings in the sustainable harvest calculation DEIS. Furthermore, DNR needs to refrain from stressing that product substitution and

embedded carbon is beneficial to the carbon balance unless and until all the relevant research has been evaluated and found to support the contention noted above.

Commenter

20

SUMMARY OF COMMENT

Commenter attached comments submitted on the Taylor Downhill Sorts timber sale. Commenter also attached a write-up and list of key literature on drought and heat wave impacts to forests.

Commenter

19

Subtopic: Natural Disturbance

SUMMARY OF COMMENT

DNR should consider various levels of natural disturbance in alternatives.

Commenter

7

Subtopic: Older Forests

SUMMARY OF COMMENTS

DNR claims to be taking a landscape approach to management but in reality focuses conservation in the Olympic Peninsula, coastal uplands, and high Cascades, and relies primarily on stream buffers to meet older forest requirements in southwest Washington and many lowland watersheds in Puget Sound, while ignoring criteria for patch size and edge effects described in the final environmental impact statement for the 2006 Policy for Sustainable Forests. DNR claims to be able to log potential marbled murrelet habitat not specifically protected by the marbled murrelet long-term conservation strategy, again ignoring the

multi-species conservation strategy in the 1997 HCP. The 2025 to 2034 sustainable harvest calculation must include alternatives that assumes the HCP protects these older forests.

Commenter

7

SUMMARY OF COMMENT

DNR should exclude all older growth forests from the 2025 to 2034 sustainable harvest calculation. At the least, DNR should comply with the 1997 HCP requirement of maintaining 10-15 percent of each HCP planning unit in forests 70-100 ears of age by adopting an alternative that protects all structurally complex forest greater than 100 years of age.

Commenter

7

SUMMARY OF COMMENT

All alternatives should comply with an anticipated older forest policy.

Commenter

17

SUMMARY OF COMMENT

To prevent further loss and degradation of native species populations and habitat, DNR needs to protect legacy forests that are naturally regenerated by permanently withdrawing them from timber harvest. This would benefit at-risk species, including the northern spotted owl and marbled murrelet. This is especially important when considering the cumulative impacts of private forestland management, which is trending toward shorter and shorter rotations, resulting in fewer and fewer acres of structurally diverse forests.

Commenter

19

Subtopic: Riparian Management

SUMMARY OF COMMENTS

DNR should replace its opportunistic approach to riparian management with alternatives that assure the ecological goals of riparian areas are met, and should analyze two options in riparian areas in the five west side planning units (excluding the OESF):

- Thin up to 10 percent of the total riparian area, with buffers ranging from 100 to over 190 feet wide, depending on stream type or wetland size.
- Thin riparian areas up to 1 percent of the acres commercially thinned or regeneration harvested in non-riparian areas.

Additionally, the EIS should explain how riparian area treatments and their associated volume are modeled and the data output for lands within the OESF.

Commenter

10

Subtopic: Harvest Planning

SUMMARY OF COMMENT

The commenter requests the following when DNR is developing “cutting plans in the 2025-2034 time period”:

- Include in the sustainable harvest calculation DEIS an evaluation of potential timber harvests which would occur in each of the Marbled Murrelet alternatives from the 2019 sustainable harvest calculation DEIS (including maps and acreage estimates for each alternative). The evaluation should include all potential impacts on marbled murrelet population and habitat as well as impacts on all endangered species.
- Include in the sustainable harvest calculation DEIS alternatives a definition of the acres to be entered by stand age class that includes in intervals of at least 50-65 years, 65-80 years, 80-100 years, and 100-120 years. Provide this data in tabular and mapping formats. The commenter is opposed to any harvesting in stands where trees older than 80 years old, comprise over 25% of merchantable timber of the stand.
- Include in the sustainable harvest calculation DEIS an evaluation of the cumulative impacts of the DNR Cutting Plans for the time period that coincides with the U.S. Forest Service cutting plans; section 4.6 page of the FEIS states that DNR is relying on the U.S. Forest Service to increase

acreage for the marbled murrelet, but in fact the U.S. Forest Service has already started planning for cutting trees that could be present and future habitat for the marbled murrelet.

- Chapter 4.6 of the FEIS for the sustainable harvest calculation incorporated by reference the analysis of Chapter 4.6 of the FEIS for the Marbled Murrelet Long-Term Conservation Strategy. See first two sentences on page 4.36 at https://www.dnr.wa.gov/publications/amp_sepa_nonpro_s hc_feis_ch4.pdf?uzo06i
- Turning to the marbled murrelet FEIS, quoting from Chapter 4.6 of the MMLTCS:
 - “...keep in mind that the results for the Washington population are greatly influenced by the assumption that murrelet habitat capacity will remain stable emphasis added) on non-DNR managed lands. In fact, inland habitat is expected to increase on federal lands over the next 50 years as a result of the Northwest Forest Plan.” See last paragraph on page 4.59 of the marbled murrelet long-term conservation strategy.
- Notwithstanding the foregoing, the U.S. Forest Service is currently considering a timber cut of 4,710 acres in the Mt Baker Snoqualmie National Forest, in the North Fork Nooksack watershed area, and the U.S. Forest Service has not considered the cumulative impact of the sustainable harvest calculation on present and future marbled murrelet habitat.

Commenter

20

Subtopic: General

SUMMARY OF COMMENT

Alternatives should avoid harvesting in areas with rare plant occurrences, areas adjacent to ecologically sensitive areas, areas of planned expansion of natural resource conservation areas, and candidates for community-supported trust land transfer.

Commenter

17

SUMMARY OF COMMENT

None of the alternatives should set aside land for conservation in addition to the 49 percent of western Washington state trust lands already in conservation status. It is not possible for DNR to meet its obligation to preserve the corpus of the trust by setting aside more land.

Commenter

21

Topic: Arrearage

Subtopic: Current Decade

SUMMARY OF COMMENT

The extent and source of the current arrearage was not detailed in the presentation therefore evaluating the significance is difficult.

Commenter

8

SUMMARY OF COMMENT

DNR should release a preliminary analysis of arrearage for the current decade as part of the sustainable harvest calculation process. This should be done in the third quarter of 2024, followed by monthly updates at Board of Natural Resources meetings as part of the timber sales discussion. To avoid confusion, the discussion should not include the topic of offsetting arrearage in one sustainable harvest unit with overages in another, but should describe where the arrearage occurred, why it occurred, and which beneficiaries have been affected.

Commenter

5

SUMMARY OF COMMENT

Commenter disagrees with the assumption that DNR must analyze any arrearage from the current decade in the SEPA analysis for the next decade, suggesting the arrearage analysis be done separately. Because DNR's obligation is to consider whether or not to harvest some or all of arrearage in addition to the decadal harvest level adopted by the Board, the commenter believes the sustainable harvest level should be calculated independently of the arrearage before addressing the question of how to deal with the arrearage. In addition, it will not be feasible to conduct the arrearage calculation before adopting the next

sustainable harvest level because of the timing at the end of the decade. DNR should calculate the arrearage after the current decade ends and offer the volume for sale in addition to the sustainable harvest level if in the best interest of the trusts.

Commenter

10

SUMMARY OF COMMENT

Commenter provides an analysis of the arrearage policy adopted with the current sustainable harvest calculation in 2019. The review begins by stating that there is no obligation to conduct the arrearage analysis before adopting a new sustainable harvest level, and that it may not even be possible to do so and therefore must be a separate decision. The review goes on to say that the spatial location of the arrearage must be identified, in order to determine the affected trusts, and to determine whether it is feasible to harvest it. The review takes issue with the term "best interest of the trusts", citing RCW 79.10.330 as requiring the action that provides the greatest return to the trusts. For these reasons, the commenter states that any analysis should include the spatial locations of any arrearage, the type of arrearage (riparian or non-riparian), and the sustainable harvest unit and trust arrearage volume.

Commenter

10

SUMMARY OF COMMENT

Although recommending against doing so, the commenter provides three alternatives for calculating arrearage as part of the current sustainable harvest calculation analysis as follows:

- **Conceptual Alternative 1:**
 - Quantify the arrearage volume by sustainable harvest unit, trust, and management area (e.g. the Capitol State Forest, the P&E Block, etc.) and further segment the volume by that available for harvest that un-available due to disclosed constraints, such as accessibility.
 - Quantify approximate value of the available and non-available volume based on average stumpage prices over the last five fiscal years.
 - Offer the available arrearage volume averaged across the FY2025 to FY2034 planning decade.
- **Conceptual Alternative 2:**
 - Quantify the arrearage volume by sustainable harvest unit, trust, and management area (e.g. the Capitol State Forest, the P&E Block, etc.) and further segment the volume by

that available for harvest that un-available due to disclosed constraints, such as accessibility.

- Quantify the approximate value of the available and non-available volume based on average stumpage prices over the last five fiscal years.
 - Offer the available arrearage volume averaged across the first five years of the FY2025 to FY2034 planning decade. As this was volume due the previous decade, this should limit the negative impacts to beneficiaries who should have benefited from that volume last decade.
- **Conceptual Alternative 3:**
 - Quantify the arrearage volume by sustainable harvest unit, trust, and management area (e.g. the Capitol State Forest, the P&E Block, etc.) and further segment the volume by that available for harvest that un-available due to disclosed constraints, such as accessibility.
 - Quantify the approximate value of the available and non-available volume based on average stumpage prices over the last five fiscal years.
 - Return the available and non-available volume to the inventory for the development of the next sustainable harvest calculation.

By comparing the outputs of these three Alternatives the commenter believes DNR should be able to show which method provides the “greatest return to the trusts”

Commenter

10

Topic: Climate Change

Subtopic: Carbon Sequestration

SUMMARY OF COMMENT

The DEIS should address carbon sequestration by determining 1) the quantity of carbon that can be sequestered on DNR-managed lands and 2) the societal cost of removing more trees from the sequestration process and how this impacts climate change.

Commenter

13

SUMMARY OF COMMENT

The trust mandate requires DNR to maintain intergenerational equity to avoid foreclosing future options. Every timber harvest in the present time and over the next decades forecloses on the potential for that forest to provide essential climate services that could play a key role in mitigating impacts of the global climate crises. The sustainable harvest calculation should analyze the opportunity cost to future generations of degrading forest resiliency and carbon storage potential.

Commenter

6

SUMMARY OF COMMENT

Harvest is a critical issue because growing trees is the only means available for sequestering carbon. Plantations do not provide the same benefit as healthy native forests. Tree farms burn more easily, and logging contributes to dryer summers, flooding, landslides, altered nutrient cycles in the soil and water, loss of native plant and wildlife species, and loss of riparian and wetland habitat.

Commenter

16

SUMMARY OF COMMENT

Road building, harvesting, and heavy equipment use all result in the release of carbon from the soil. Contributing these greenhouse gases eliminates the ability of the forest to be a carbon sink. Practices that release carbon, both long- and short -term, must be modified, including harvest levels and schedules.

Commenter

8

SUMMARY OF COMMENT

State forests need to be managed to maintain them as carbon sinks, including lengthening harvest cycles and managing for complex, multi-aged structures.

Commenter

8

SUMMARY OF COMMENT

DNR State Trust Lands provide an enormous carbon mitigation/sequestration benefit to the trust beneficiaries, the State and the world community by sequestering carbon. DNR is perfectly situated to

seize a leadership position in the forest sector by developing and implementing a science-based carbon policy for DNR State Trust Lands.

Commenter

7

Subtopic: Climate Analysis

SUMMARY OF COMMENT

Commenters support the methodology used to analyze climate change and carbon in the 2019 sustainable harvest calculation FEIS and believe it is consistent with existing regulations and policies. This analysis must consider the need for sustainable infrastructure in order to have a sustainable harvest both today and into the future.

Commenter

2

SUMMARY OF COMMENT

DNR should consider the climate impacts of attaining the sustainable harvest calculation and Alternatives sustainable harvest calculations with less impacts on greenhouse gas emissions and more sequestration. The extent to which DNR's timber sales collectively contributes to climate change through emissions and/or sequestration constitutes an environmental impact under SEPA. SEPA is broadly worded to require consideration of environmental impacts, and directs agencies to act "to the fullest extent possible" when assessing the environmental impact of a proposal. RCW 43.21C.030. The legislature has recognized that greenhouse gases have an adverse impact on the environment and that Washington state must do its part to reduce accumulations of greenhouse gases in the atmosphere. Consideration of greenhouse gases under SEPA is appropriate because they have an environmental impact.

Commenter

7

SUMMARY OF COMMENT

The commenter suggests three areas that should be considered when analyzing the impacts of the sustainable harvest calculation over the next planning decade:

- Calculations of the impact of harvest levels on climate change must include substitution of timber for alternatives like concrete and steel.
- Calculations of increased carbon uptake by standing timber must include the impact on increased harvests elsewhere due to substitution.
- The impact of western Washington harvest levels on statewide timber infrastructure should be considered.

Commenter

14

SUMMARY OF COMMENT

Commenter generally supports the methodology DNR used in the 2019 sustainable harvest calculation FEIS in analyzing the proposed alternatives for impacts to climate change and carbon sequestration. The use of a similar methodology would be appropriate for this proposal as well. The commenter recommends the DNR review RCW 70A.45 and its subchapters to assure the methodology used is consistent with the intent and directions described in the statute.

Commenter

10

SUMMARY OF COMMENT

DNR should consider the forest ecosystem, interdependency between components of the forest ecosystem, and the role that forests play in mitigating the effects of climate change by absorbing greenhouse gases, regulating water flow, and facilitating species migration as species' ranges shift.

Commenter

16

Subtopic: Climate Mitigation

SUMMARY OF COMMENT

It is time to accept that standing trees have more benefit than harvested trees and until there is resolution on how to meet the economic needs of those that benefit from harvesting trees there will continue to be

conflict. This conflict is exacerbated by climate refugees moving north, driving up property values and making it difficult for poorer residents to afford housing.

Commenter

16

SUMMARY OF COMMENT

DNR has an obligation to contribute to combating climate because Washington State is a leader in ending practices that are known to contribute to the long-term irreversible impacts of climate change.

Commenter

8

SUMMARY OF COMMENT

Climate change impacts may be mitigated through managing for resilient forests by promoting mixed species and stand ages, protecting sensitive waterways, vulnerable steep slopes, and soils, adopting longer harvest cycles, and intentional thinning and fire practices. Management must align with the current understanding of climate change. Climate change needs should be anticipated, not reacted to. Maximizing harvest is in conflict with practices that will promote a resilient forest ecosystem.

Commenter

8

SUMMARY OF COMMENT

The analysis should include impacts of climate change on the sustainable harvest level and trust lands, however trust lands should not be utilized to address the carbon emissions. Objective 2 has the potential of being interpreted as the state using trust lands to offset carbon emissions for urbanization and economic expansion. Working forests can play an active role in sequestering carbon, as can wood products in use. Wood structures do not have the adverse carbon emissions associated with steel and concrete building materials. Objective 2 must not become a means of adopting practices that would undermine the trust obligations and DNR should resist efforts to respond to climate change by creating no harvest areas, requiring longer rotations, or deferring areas as young as 55 years of age as legacy forests.

Commenter

5

SUMMARY OF COMMENT

The commenter is concerned about forest management regimes' impacts to climate change and how

climate change can be mitigated by appropriate forest management, citing the 2021 United Nations Conference of Parties finding that the worst impacts of climate change can be mitigated by protecting existing forests. The commenter states that forests in the Pacific Northwest are some of the most efficient at carbon sequestration, therefore protecting our forests is critical to future generations. Because older forests store greater amounts of carbon, the commenter requests that DNR stop logging in all stands containing trees over 80 years of age.

Commenter

20

SUMMARY OF COMMENT

Commenter urges DNR to consider its trust obligations and understand the critical importance of a fundamental shift in management in light of the converging catastrophes of extinction and climate change and associated economic damages not only to trust beneficiaries but to the world at large.

Commenter

19

Subtopic: Greenhouse Gas Emissions

SUMMARY OF COMMENT

Slash burning is harmful to air quality, contributing both particulate matter and greenhouse gases. If it continues, harvest levels must be reduced.

Commenter

8

SUMMARY OF COMMENT

The commenter recommends that each alternative be evaluated for contributions to greenhouse gas emissions, stating that technology is available to accurately calculate carbon storage and emissions and urging the Board to insist on having this information when making decisions on alternatives.

Commenter

17

SUMMARY OF COMMENTS.

The Legislature has set forth specific and mandatory targets for each agency to reduce greenhouse gas

emissions in “AN Act Relating to state agency climate leadership.” RCW 70.235.050. That law requires DNR and other agencies to reduce emissions to fifteen percent below 2005 levels by 2020, and thirty-six percent below 2005 levels by 2035. RCW 70.235.050(1)(a)-(b). While DNR likely is not required to achieve exact pro rata emissions reductions in the sustainable harvest calculation, DNR must at least explain how the overall agency will meet the requirements of RCW 70.235.050 while attaining the sustainable harvest level.

Commenter

7

Subtopic: Uncertainty

SUMMARY OF COMMENT

DNR needs to manage for resilience in face of uncertainties due to climate change and anticipate rather than react to extreme events.

Commenter

8

SUMMARY OF COMMENT

The future impacts of continued climate change is uncertain, therefore DNR should proceed assuming that more frequent climate extremes will stress forestlands and DNR should reduce harvest levels to reflect likely loss of productivity from catastrophic floods, landslides, wildfires, shifting ranges for disease, pests, both invasive and native species, and drought.

Commenter

8

SUMMARY OF COMMENT

DNR should adopt a harvest level and practices that promote resilience in the face of climate change to maintain healthy forests and soils, clean water, diverse microenvironments, and diverse habitats.

Commenter

8

Topic: Cultural Resources

Subtopic: Tribal Relations

SUMMARY OF COMMENT

The commenter is concerned about cultural resources and tribal use of the covered area. The commenter requests that the Squaxin Island Tribe have the opportunity to review the cultural resources analysis.

Commenter

4

SUMMARY OF COMMENT

The commenter is concerned about impacts to cultural resources and requests both consultation on a project by project basis and that the Lummi Nation Natural Resources Department be consulted on the sustainable harvest calculation. The commenter also requests the opportunity to review the project as it changes.

Commenter

18

Topic: Economic Analysis

Subtopic: Analysis Components

SUMMARY OF COMMENT

Substantial economic data collection and analysis should be conducted. This should include but not be limited to sensitivity analysis around discount rates, management fees, revenue and job impacts on beneficiaries and local infrastructure and communities, and any other metrics needed to understand the economic impacts on beneficiaries and their resulting ability to deliver essential public services from various environmental choices.

Commenter

10

SUMMARY OF COMMENTS.

The commenter strongly recommends that DNR at a minimum conduct a sensitivity analysis to varying discount rates used in the modeling of the FY2025 to FY2034 sustainable harvest calculation. This analysis should explore varying discount rates ranging from 2% to 6% annualized rate. DNR should

determine the appropriate discount rate by consulting the rate for Washington municipal bonds with 2- to 4-year maturities as shown by Municipal Bonds.com or a similar source.

Commenter

10

SUMMARY OF COMMENTS.

The commenter suggests conducting a sensitivity analysis of the impacts of management fee rates on the various alternatives by analyzing the changes in outputs by varying the current management fee up 3% and down 3% in 1% increments. This would help to identify any limitations on volume output in the sustainable harvest calculation driven by management fees.

Commenter

10

SUMMARY OF COMMENTS.

The commenter believes a robust and comprehensive economic analysis of the sustainable harvest calculation is the duty of the trust manager. While revenue production for the beneficiaries, including the Junior Taxing District level, is the key metric in the economic analysis of the alternatives, the commenter would note that for many beneficiaries the economic benefits extend beyond the direct revenue received from management of the trust lands they are beneficiaries of. For this reason, the commenter encourages DNR to go beyond the relatively finite Net Present Analysis of the various Alternatives when conducting its economic analysis.

Commenter

10

SUMMARY OF COMMENTS.

The economic analysis of the alternatives should at a minimum include the following:

- Regional changes in volumes.
- Regional impacts to direct and indirect jobs.
- Revenue impacts at the County and Junior Taxing District level
 - This should include expected Timber Excise tax revenue as some Junior Taxing Districts benefit more from Timber Excise Tax than from direct timber revenue.
- Disclose itemized costs of management including:

- Staffing.
 - Equipment and facilities.
 - Silviculture Costs including site prep, reforestation, precommercial thinning/density management, etc.
 - Road maintenance costs.
- Anticipated stumpage rates by species and region
 - Net Present Value outputs by trust

Using these economic metrics coupled with improved inventory and growth and yield calculations, should help to disclose if the volume outputs are limited by the biological capacity of the land or if the available harvest level is limited by staffing capability and policy.

Commenter

10

SUMMARY OF COMMENTS.

DNR must incorporate the economic facts contained in DNR’s trust lands performance study. DNR spent a lot of time and money hiring Deloitte and Earth Economics to analyze the potential economic and environmental benefits provided by DNR’s 2 million acres of forests. This work culminated in DNR’s “Trust lands Performance Assessment.” (Deloitte, 2020). The TLPA contains vitally important data and facts that DNR must consider when it calculates the next sustainable harvest calculation. Specifically, the TLPA found that DNR’s timber assets produced in 2018 about \$123 million in net operating annual income but that DNR’s forests themselves produced annual ecosystem service values of \$1.2 billion, even after DNR’s forestry operations. The TLPA also found that the “social cost of carbon” these forests mitigate is approximately \$16.56 billion. These numbers reflect that DNR’s forests are enormously valuable to the public at large and may be considerably more valuable in that capacity than they are industrial forests. The TLPA also found that “total net revenues” from DNR’s state trust lands from 1995-2018 dropped from about \$350 million to \$150 million. Given that these revenues have declined so rapidly and that forests are now recognized to produce such enormous eco-system benefits, DNR should consider alternative uses of its forests as in the best interests of both the trusts and the public at large.

Commenter

7

SUMMARY OF COMMENT

Commenter requested the following detail in an economic analysis:

- The sustainable harvest calculation FEIS, as updated in 2019, provides no estimates of the

economic effects that local economies may experience from changes in cutting plans, since the FEIS only compares timber volume estimates between the FEIS alternative outputs. The commenter requests that the sustainable harvest calculation DEIS update include sufficient economic analyses so that the “actual effects” that local economies may experience that are associated with the implementation of each of the sustainable harvest calculation DEIS alternatives that are developed, are disclosed and analyzed.

- Such analyses must utilize the results of actual timber cutting levels that have been experienced when compared to estimated timber volume outputs produced by each sustainable harvest calculation DEIS alternative that are developed.
- The metrics for these analyses should include employment and personal income and address at least direct timber effects as well as total effects from all economic sectors.
- The DNR-prepared economic analyses in the Marbled Murrelet LTCS that utilized the NPV (net present value) technique for its applicability to the management of DNR forest lands during 2017-2019. The sustainable harvest calculation DEIS update process should incorporate an economic analysis approach that addresses the full range of ecosystem services. Utilization of the NPV technique incorporates limitations and biases that favor timber values and ignore ecosystem services. The commenter strongly urges DNR to utilize analysis techniques that value not only timber, but all ecosystem service values, particularly carbon.

Specifically, the commenter requests:

- That the sustainable harvest calculation DEIS update include the latest employment/cut log volume and personal income/cut log volume multiplication factors relating to the existing timber economy that address:
 - The multiplication factors noted above for the economic responses to logs cut only from DNR lands only
 - The multiplication factors for the economic responses generated from logs cut from all forest ownerships on western Washington forest lands (State, private, other public).
 - Each multiplication factor should be divided into these sub-sectors: logging, solid wood products, and paper products and be summed to represent the total timber based direct economic effects. (See marbled murrelet LTCS RDEIS)
- That the sustainable harvest calculation DEIS update develop an assessment of the dependence of local economies at the county level in terms of employment and personal income for:
 - Timber volume cut by ownership class (state, private, other public)
 - Changes in log volume cut from State lands and how these changes relate to the total cut volume within each county.
 - Timber based employment and personal income generated in each of the western Washington counties addressed by the sustainable harvest calculation DEIS update from

the following sources:

- State DNR lands only
- Logs from all ownership classes (State, private, other public)
- Total employment and personal income for each county as generated from all economic sectors, not just timber

Commenter

20

SUMMARY OF COMMENT

Like all forms of resource extraction, DNR's logging program generates significant externalized costs not only to trust beneficiaries but the public at large. Its contribution to the costs of climate change is, perhaps, the single largest externality. DNR's logging program is amplifying the risk of loss to trust beneficiaries as a result of climate change by generating significant quantities of greenhouse gas emissions and by making the land more susceptible to wildfires, drought, water shortages, extirpation of fish, wildlife, plants and game, landslides, harmful algae blooms, flooding and other stressors that damage forest ecosystems and reduce DNR's ability to generate revenues and economic benefits. The financial analysis for the 2025-2034 sustainable harvest level should reflect not only this externality, but others, such as the increased water filtration costs incurred downstream associated with sediments generated by DNR's logging and road building activities.

Commenter

19

Subtopic: Rural Communities

SUMMARY OF COMMENT

Commenter references a report by *Mason Bruce and Gerard* and *Highland Economics*¹ that describes how even small changes in harvest levels have significant impact on the economies of smaller, rural counties. Effects include impacts to jobs, income for residents, and revenues for government services.

Commenter

9

SUMMARY OF COMMENT

¹ Mason Bruce & Girard and Highland Economics, Financial and Economic Impacts of the Marbled Murrelet Conservation Strategies on Lands Managed by the Washington Department of Natural Resources, June 30, 2021

Because the sustainable harvest calculation will be of interest to mill operators, CLT plant operators, and the state's manufacturing sector, it is important that the sustainable harvest calculation recognize the importance of these economic components in the state's rural communities.

Commenter

5

SUMMARY OF COMMENT

Rural communities far from the I-5 corridor are dependent on the forest industry, and therefore vulnerable to disproportionate impacts from reductions in timber supply. Unintended consequences from loss of revenue include loss of family income, reduced educational opportunities for children, and potential social burdens and associated abuses. It is important to consider these impacts from an environmental justice perspective. Rural residents are more likely to suffer adverse health outcomes and rural communities' lack economic mobility, therefore it is important for rural community to be able to thrive. The analysis should include consideration of the Local Economic Vitality policy in the *Policy for Sustainable Forests* and a robust economic analysis should be conducted for all alternatives considered in the DEIS.

Commenter

2

SUMMARY OF COMMENTS.

The economic analysis that is conducted for the sustainable harvest calculation will have to be more encompassing than DNR has done in the past. The environmental impacts of harvesting timber, or not harvesting timber, has significant impacts on the economies of the areas in the state where timber is sold and processed. The stumpage value DNR achieves is a very small part of the economic picture and societal value generated through the sale of timber. DNR should do a much more rigorous analysis of economics on this current sustainable harvest calculation that includes an expanded economic analysis.

Commenter

21

SUMMARY OF COMMENT

Commenter states that communities with high levels of unemployment and poverty should be considered and provided links data on the state county-by-county unemployment rate and the state county-by-county poverty map, links to which are provided in Appendix 3.

Commenter

14

Topic: Ecosystem Services

SUMMARY OF COMMENTS.

Commenter refers to the Deloitte report and how it values ecosystem services and suggests an alternative that considers selling green bonds that pay investors in carbon storage and increased habitat to provide revenue. The greater the amount of older trees included, the more valuable the bond.

Commenter

12

SUMMARY OF COMMENT

Suggests DNR can make more money by not logging since governments and climate funds worldwide will be bidding on green bonds. Selling green bonds would help achieve both environmental justice and sustainable revenue.

Commenter

12

SUMMARY OF COMMENTS.

The DEIS needs to analyze a new policy that focuses on the value of standing trees in terms of wildlife habitat and climate change impacts. DNR should coordinate with the U.S. Forest Service on the value of trees on DNR-managed lands to address species extinction and climate warming impacts from harvest. DNR should also implement the current valuation by the State of trees on state lands as standing trees, providing carbon sequestration and assistance in fighting species extinction and climate change.

Commenter

13

SUMMARY OF COMMENTS.

DNR should consider how the sustainable harvest level impacts other components of a healthy forests such as analyzing negative or unsustainable impacts of these harvests on all ecosystem services, as well as economic benefits of recreation in rural communities. In order to balance the needs of current and future generations, DNR must address the economics and sustainability of other values, including ecosystems services and carbon storage and sequestration, for each alternative.

Commenter

20

SUMMARY OF COMMENTS.

The commenter also states the need for decisions based on the best science, particularly in relation to the ecosystem services potential of state forestland, the impacts of different rotations lengths on carbon storage and sequestration, and information on product substitution. DNR should be transparent about what data is used and the public must be informed what research is being evaluated and utilized by DNR when making decisions associated with climate.

Commenter

20

SUMMARY OF COMMENTS.

The commenter requests that DNR calculate and report in the sustainable harvest calculation DEIS the cost of the loss of ecosystem services and recreation, as described in the Trust Land Performance Assessment, caused by logging over the planning decade, as well as methods and alternatives to increase the value of recreation, carbon, and other ecosystem services on DNR-managed lands.

Commenter

20

SUMMARY OF COMMENTS.

DNR's financial analysis needs to consider non-timber revenue potential. Markets for carbon and other ecosystem services continue to evolve and expand, and these markets present DNR with an important opportunity to diversify and increase revenues to trust beneficiaries in the years ahead. Carbon markets are the most well-developed and could, by themselves, easily surpass revenues earned from timber. This would eliminate the need for DNR's timber management program, allowing more revenue to go to the beneficiaries. Current markets would support this change. Since carbon and other ecosystem services now present DNR with an opportunity to increase revenue to beneficiaries over and above what the agency can provide through timber sales, the financial analysis for the 2025-2034 sustainable harvest level must analyze this option.

Commenter

19

Topic: Elements of the Environment

SUMMARY OF COMMENT

The commenter states that all of the elements of the environment analyzed in the previous sustainable harvest calculation FEIS should be included, as well as the following:

- Impacts to public water supplies— analysis of the impact of any harvests that occur in and/or near municipal watersheds and therefore can affect drinking water quality and quantity.
- Impacts to historic and cultural resources and non-timber forest products that are important to Indigenous and non-Indigenous communities. This includes impacts on salmon habitat and streamflow.
- Impacts to scenic resources

The commenter provided references for consideration when assessing impacts to water resources, available in Appendix 3.

Commenter

15

SUMMARY OF COMMENTS.

Climate change must be considered as part of the affected environment, and the sustainable harvest calculation analysis should include analysis of the direct and indirect carbon emissions from the 2025 - 2034 sustainable harvest level.

Commenter

6

SUMMARY OF COMMENTS.

The commenter would like to see the following elements of the environment analyzed in the environmental impact statement:

- Air quality (from logging emissions)
- Climate
- Water
- Surface water movement/quantity/quality
- Plants and animals
- Habitat diversity
- Fish or wildlife migration routes
- Scenic resources
- Land and shoreline use- very important to look at adjacencies
- Potential releases to the environment
- Geology
- Soils- and their role in carbon storage

Commenter

17

SUMMARY OF COMMENT

Commenter expresses concern about road density, citing high road densities as detrimental to a wide range of species due to changes in water quality and quantity, facilitation of invasive species colonization, and disturbance of wildlife. To mitigate this, the 2025-2034 sustainable harvest calculation should be constrained by a prohibition on new road construction and reconstruction should be allowed only if overall road density in a basin would remain below one mile of road per square mile of area.

Commenter

19

SUMMARY OF COMMENTS.

Commenter believes the narrow focus of the Purpose and Need Statement limits the Elements of the Environment to be analyzed to those affected by implementation of current policy and regulations (i.e. 1997 State Lands HCP, Forest Practice Rules, DNR Policy for Sustainable Forests, etc.) and urges the Board and Department to not expand the elements to those outside the scope of the proposal, except to include Public Services. One of the very real environmental impacts of the sustainable harvest calculation decision is its effect on public services. See WAC 197-11-444((2)(d)). That is both because any increase or decrease in harvest from state forestlands directly affects the ability of the beneficiary counties and their junior taxing districts to deliver essential public services, but also because decrease in harvest results in fewer forest industry jobs and greater poverty, requiring increased public services in rural communities throughout Washington. The EIS must analyze the effect on both the supply of and demand for public services as a result of the sustainable harvest calculation.

Commenter

10

SUMMARY OF COMMENT

Commenter provides links to additional information recommended for consideration during the sustainable harvest calculation analysis on the following topics: climate change and carbon, economics, and environmental justice. This list is included in Appendix 3 of this document.

Commenter

10

Topic: Environmental Justice

SUMMARY OF COMMENT

In many rural communities, especially those dependent on natural resource management, the impacts from changes in timber supply can be significant. Many of these communities' benefit both from direct and indirect timber revenue as well as the economic activity created through the management, harvesting, and manufacturing of wood products on working forest lands, including state trust lands managed by DNR. The commenter recommends that DNR when analyzing Environmental Justice impacts that it looks to the communities that would be directly impacted by this proposal.

Commenter

10

SUMMARY OF COMMENT

In the environmental justice analysis it is important to analyze and remove negative impacts to historic and cultural resources as well as non-timber forest products. Additionally, it is important to remove negative impacts to and interference with the Usual and Accustomed Areas of tribes. Impacts to air quality, water quality and quantity of nearby communities must be considered, especially with regards to watershed impacts, pesticide use, and aerial spraying of pesticides.

Commenter

15

SUMMARY OF COMMENT

Any assessment of environmental justice issues should also consider that reductions in the sustainable harvest level will create negative fiscal and economic impacts in some of the most rural, economically challenged counties in the state. These counties are also the least equipped to handle the related financial, economic, and job losses within their communities. Many of the taxing districts located within these counties have minimal sources of revenue that are not well diversified. Even a slight decrease in one of those sources may significantly impact the ability of a taxing district to deliver services.

Commenter

9

Topic: Forest Estate Model

SUMMARY OF COMMENT

Take the forest estate model out of its black box. The EIS should include a description of the soft and hard constraints included in the forest estate model, similar to the FEIS for the OESF forest land plan. This was not done in the 2019 sustainable harvest calculation FEIS.

Commenter

11

SUMMARY OF COMMENT

Account for uncertainty in the model. Because the forest estate model is an abstraction and the underlying inventory data is incomplete and often inaccurate, the model is subject to compounding and consequential uncertainties. Use of a deterministic model is inappropriate given the level of uncertainty and there is no one optimal solution, but rather a broad range of potential optimal solutions. DNR should account for these uncertainties in a stochastic model, which would provide a range of possible solutions and better take into account non-market benefits.

Commenter

11

SUMMARY OF COMMENT

Model stand structure objectives as hard constraints. DNR is not on track to meet its commitment to meet old forest objectives by 2096 and so should build stand structure objectives into the forest estate model as hard constraints.

Commenter

11

SUMMARY OF COMMENT

DNR should review the past sustainable harvest calculation and determine if there are assumptions or expectations used in developing the forest estate model that proved false or that lacked sufficient data to be carried forward into the next sustainable harvest calculation analysis.

Commenter

5

SUMMARY OF COMMENT

Model outputs used for the sustainable harvest calculation must report harvest volume for each trust in the Westside sustainable harvest units, including for each of the 17 counties. Within the OESF, volume needs to be reported for both the Federal Grant Lands and State Forest Transfer Lands. This is necessary for DNR to meet its reporting obligations.

Commenter

5

SUMMARY OF COMMENT

DNR needs to integrate natural disturbance into its modeling. Not doing so will lead to a sustainable harvest level that the agency is unable to meet. The Board should set an achievable a sustainable harvest level in order to avoid an arrearage.

Commenter

15

SUMMARY OF COMMENT

The EIS should clearly identify all data sources for the various quantitative representations made in the EIS e.g. field sampling, sampling effort, and model based data.

Commenter

10

SUMMARY OF COMMENT

The Forest Estate Model should be well documented in the EIS in a format that the beneficiaries and stakeholders can understand. The data and assumptions/constraints should be included in the description of the model and how the model works. Understanding the influence of the various assumptions and constraints would be useful for the stakeholders. Additionally, any changes to the model between the release of the Draft EIS and the Final EIS should be clearly disclosed and described so that the beneficiaries and other stakeholders can identify the changes made and their impacts on the model outputs.

Commenter

10

SUMMARY OF COMMENT

Add other important goal-oriented constraints to the model. The goal oriented constraints used the model for the OESF were intended to improve salmon habitat, e.g. large woody debris recruitment to streams, stream shade restoration, and avoidance of detectible increases in peak flows. Forests do much more than these things though, and other objectives should be included such as enhancing carbon sequestration, conserved genetic and biological diversity and habitat connectivity, minimizing road densities, conserving structurally complex interior forest habitat, and deferring harvests near recreational trails, campgrounds, and scenic roadways.

Commenter

11

Topic: Forest Health

SUMMARY OF COMMENT

Healthy native forests are key to human survival and that of millions of organisms. Among humans, the poor will suffer the most from climate change, and many other species are not able to survive it all. Humans have already witnessed an increase in wildfire, and this threat will continue to increase. Humans have altered the ecosystem to a point where only a radical change in behavior will suffice and failing to put climate change as the primary focus of the sustainable harvest calculation will further the devastation and increase the speed at which it occurs.

Commenter

16

SUMMARY OF COMMENT

Recognizing the importance of microclimates compels harvest levels that protect the future health of the forest to allow resilience in the face of climate change disruptions to the larger ecosystem.

Commenter

8

SUMMARY OF COMMENT

DNR should shift their focus from a sustainable harvest to a resilient forest. Maximizing a sustainable harvest level pushes the forest to its limits, but the benefits of a healthy ecosystem need to be considered, including how schools and communities would benefit. Harvest levels and forest practices must have a goal of maximizing the health of the forest ecosystem, allowing forests to fend off the uncertainties of climate change and prioritizing health and resilience rather than economic yield.

Commenter

8

SUMMARY OF COMMENT

The benefits of prioritizing the health and resilience of entire ecosystems are reflected in healthy water, soils, and habitats. The broader goals will provide broader benefits to the greater community at little cost

to the current beneficiaries.

Commenter

8

SUMMARY OF COMMENT

Commenter asks that there be an emphasis on forest health, and that the Policy on Forest Health in the *Policy for Sustainable Forests* be emphasized when developing alternatives for analysis.

Commenter

2

SUMMARY OF COMMENT

Active forest management is also critical to maintaining the health of forest stands on DNR-managed state trust lands. Thinning, both pre-commercial and commercial, are important steps to maintain vigorous growth, volume accumulation, and carbon sequestration. Maintaining healthy vigorously growing trees has a higher rate of sequestration than maintaining old decadent trees, which may store substantial amounts of carbon until their death, but sequester carbon at a lower rate than their younger counterparts.

Commenter

10

SUMMARY OF COMMENT

Commenter asked why there is no forest health objective for western Washington.

Commenter

3

Topic: Inventory

Subtopic: Accuracy

SUMMARY OF COMMENT

Improve methods for mapping stands by development stage. DNR's current inventory techniques result in identifying thousands of acres of structurally complex forest as younger stands. Commenter recommends using LiDAR data to identify structurally complex stands, specifically using LiDAR tree height to

measure structural complexity. LiDAR and inventory data should be used to identify and protect stands that are likely to be in the fully functional stage by 2096.

Commenter

11

SUMMARY OF COMMENT

Expectations for the next sustainable harvest calculation are that it be accurate with a high degree of confidence in the volume available for harvest; accomplishable by DNR; accountable; and consistently reported on.

Commenter

5

SUMMARY OF COMMENT

An accurate inventory is imperative for setting a harvest level. The County and junior taxing districts are highly reliant on revenue from DNR timber sales, driving a need for a high level of certainty in the volume to be generated. In order for DNR to have complete knowledge of the forested landscape, as well as the land base, a robust stand and ground-based inventory should be completed and used to inform the forest estate model for the 2025-2035 sustainable harvest calculation.

Commenter

2

SUMMARY OF COMMENT

An important aspect of the calculation is having a comprehensive understanding of the land base. The number of acres should not change unless land is purchased or disposed of, and rounding or mapping errors should not occur. DNR must conduct a thorough review of the available acres for management. Commenter then goes on to provide examples of different acreages being reported in different planning processes.

Commenter

10

SUMMARY OF COMMENT

Commenter expresses concern about the encumbered lands program and potential impacts to specific counties, and encourages DNR to analyze the potential impacts to the overall manageable land base, the revenue impacts for the beneficiaries, and the volume implications in this area for the purchasing

community.

Commenter

10

SUMMARY OF COMMENT

Commenter states that a robust stand and ground-based inventory should be completed and used to inform the forest estate model for the 2025-2035 sustainable harvest calculation. A spatially explicit stand based GIS (Geographic Information System) and inventory program leading to a spatially explicit stand based sustainable harvest calculation will create the accountability and transparency expected by the beneficiaries and other stakeholders. Improvements in the inventory program and cleaning up the inventory and land base related GIS layers, should provide DNR with better data to not only plan and forecast current and future timber outputs, but allow it to better demonstrate the DNR's implementation of the ecological goals outlined in the 1997 HCP.

Commenter

10

SUMMARY OF COMMENT

When working on the data and information for the sustainable harvest calculation, it is important to do a ground-based physical inventory of the lands entrusted to DNR to manage for the Beneficiaries. There is no substitute for actual measurements of growth and yield on the ground. Where that will take time to build up, without this physically measured ground-based information, assumptions about growth, yield and physical inventories are made that may not be correct and every other assumption made in modeling will tend to further distort what is really happening on the ground.

Commenter

21

Subtopic: Compliance with 2SHB 1168

SUMMARY OF COMMENT

The commenter references 2SHB 1168 and asks that impacts from any recommendations from the TAC on associated work, subsequent changes, or the effects of delays in the sustainable harvest calculation process and the final calculation be included in the scoping analysis.

Commenter

9

SUMMARY OF COMMENT

The commenter expresses concern that without completion of the requirements 2SHB 1168, DNR may not have enough information to meet the objectives of the sustainable harvest calculation adequately. The specific concern is that changes in inventory methods would likely require a recalculation of the sustainable harvest calculation.

Commenter

9

SUMMARY OF COMMENT

DNR should disclose known challenges in the current inventory methods used to calculate the sustainable harvest calculation, including the number of acres no longer available for harvest. DNR has funding available through 2SHB 1168 to make improvements to its inventory and this should be completed and the updated data used in the sustainable harvest calculation. If collecting and incorporating the new data cannot be completed before 2025, there should be a mechanism in place for to improve the next decadal sustainable harvest calculation with the new inventory data.

Commenter

5

Topic: Older Forest

SUMMARY OF COMMENT

To prevent further loss and degradation of native species populations and habitat, DNR needs to protect legacy forests that are naturally regenerated by permanently withdrawing them from timber harvest. This would benefit at-risk species, including the northern spotted owl and marbled murrelet. This is especially important when considering the cumulative impacts of private forestland management, which is trending toward shorter and shorter rotations, resulting in fewer and fewer acres of structurally diverse forests.

Commenter

19

SUMMARY OF COMMENT

Commenter provided a history of Washington forests to provide context for the importance of legacy trees and their ability to survive a period of intense logging with little to no regulation. These trees are rare and becoming rarer. Harvesting trees that are 80 to 90 years old now prevents these trees from becoming legacy trees. Rather than even-aged management, variable density thinning should be employed as a better ecological choice.

Commenter

16

Topic: Other Funding

SUMMARY OF COMMENT

The only solution to resource use conflict is to find another source of funding to sustain the trust beneficiaries until the transition has been made to develop alternate products. It is time to ask for funding from the State, the federal government, and even global resources. An example of alternate funding is the World Bank's program called the Program on Forests, which includes three funds to reduce emissions from deforestation and forest degradation at a landscape scale.

Commenter

16

SUMMARY OF COMMENT

The State needs a tax structure that adequately funds rural counties and school districts without relying on forests and ecosystems to provide equitable education opportunities and facilities.

Commenter

8

Topic: Purpose, Need, and Objectives

Subtopic: Support for Purpose, Need and Objectives

SUMMARY OF COMMENTS

Several commenters expressed support for the purpose, need, and objective as written in the scoping notice, with some adding as follows:

- Commenter supports the statement as written except they would like to see the term “trust mandate” inserted after “the 1997 HCP”.
- A narrow and focused Purpose, Need, and Objectives statement must be maintained.
- A narrow and focused Purpose, Need, and Objectives Statement within the scope of current policy and procedure is the best means of completing the update to the Sustainable Harvest

Calculation in a timely fashion.

- Note: Arrearage at the end of the decadal period should be dealt with as a separate task and NEVER rolled into the total for future decades.

Commenter

1, 2, 10

SUMMARY OF COMMENT

The commenter anticipates DNR will receive multiple requests to analyze a “no harvest” scenario and one or more “extended rotation ages” (referred to pro-forestation) in the next sustainable harvest calculation. The commenter strongly believes that the “no harvest” scenario is inconsistent with the Purpose, Need, and Objectives of this proposal. Not to mention it would violate the fiduciary and trust manager obligations of DNR. The commenter then goes on to describe why extended rotations would not have the carbon benefits claimed by some.

Commenter

10

Subtopic: Changes to Purpose, Need, and Objectives

SUMMARY OF COMMENT

The need and purpose statement is missing language in the climate change objective about factoring climate change into projections of management activities.

Commenter

3

SUMMARY OF COMMENT

Commenter suggests amending the purpose and need to be consistent with an anticipated revision to older forest policies, and suggests legacy forests containing structural complexity, natural regeneration, and rare plant occurrences be excluded from the sustainable harvest calculation.

Commenter

17

SUMMARY OF COMMENT

Although the purpose and need are clear and focused, they lack a tie to DNR's statutory obligating and trust manager responsibilities. A reference to the trust relationship and principles should be added to either the purpose or need.

Commenter

5

SUMMARY OF COMMENT

Commenter generally supports the Need Statement as presented and supports the first bullet as it is in alignment with DNR's guiding statutes and trust manager duties, therefore they recommend no changes to the wording as written. The commenter generally supports the second bullet as written due to its recitation of RCW 79.10.330. However, since the published Need Statement assumes the inclusion of the arrearage in the SEPA analysis for the new sustainable harvest calculation, the commenter requests DNR and the Board do not change the Need Statement as written above and contained in the Determination of Significance. Unless DNR and the Board determine the analysis of the arrearage can be handled outside of the SEPA analysis for the new sustainable harvest calculation or in an analysis that supplements the sustainable harvest calculation after the decade has concluded.

Commenter

10

SUMMARY OF COMMENT

Determining a sustainable harvest calculation requires DNR to make many assumptions, therefore the level has an inherent amount of uncertainty. Being held to that level ignores the uncertainty and restricts DNR's responsiveness to changing condition. The 2025-2034 sustainable harvest calculation should include a rigorous evaluation of uncertainties related to data, ecology, policy, legal challenges, and climate change.

Commenter

19

Subtopic: Objectives

SUMMARY OF COMMENT

The commenters are agreeable with the objectives as stated, except any arrearage from the current decade should be identified separately from the 2025 to 2034 planning decade. Beneficiaries with arrearage are entitled to the harvest and revenue associated with the arrearage and DNR needs to ensure appropriate staffing in order to prevent arrearage in the next decade.

Commenter

2

SUMMARY OF COMMENT

Objective #1: Agree with content and including a statement to update mapping and GIS data.

Commenter

1

SUMMARY OF COMMENT

Objective 1 should be amended to include balancing multiple objectives when modeling the sustainable harvest calculation, rather than focusing solely on net present value. Optimizing modeling of a vibrant ecological system for a singular, non-ecological factor will not capture the management needs of the whole system. It would be better to not optimize for any one factor, but rather have modeling optimization parameters that integrate ecological-process-based metrics that would be simple indicators of other aspects of management that the agency clearly values in practice, including forest resilience, indicator species habitat, and other ecological process-based metrics. The commenter believes this will only occur with direction from the Board and there is flexibility within current DNR policies to allow balance of multiple parameters when modeling the sustainable harvest calculation.

Commenter

15

SUMMARY OF COMMENT

The commenter generally supports Objective 1 but requests the following modifications to the language:

- “New information includes changes in the land base including appropriate updates to the corporate GIS data, changes in forest inventory (including requirements of 2SHB 1168), changes to the growth and yield calculations, information concerning decadal arrearage and its causes, and changes in technology.”

These additions will better enhance the ability of Objective 1 to fulfill the Purpose and Need of the project. Beyond these requested additions the commenter asks that the remaining language in Objective 1 remain in its original form.

Commenter

10

SUMMARY OF COMMENT

The commenter agrees with Objective 2 as presented and adds that climate impacts should include wildfire environmental impacts. DNR should consider how forest practices can reduce the risk of wildfire carbon emissions and how forest management practices contribute positively to carbon sequestration while still providing sustainable natural resource yields across the landscape.

Commenter

1

SUMMARY OF COMMENT

The proposal is clearly described however Objective 2 is incomplete because it does not include analysis of the effect of a changing climate on the resource.

Commenter

8

SUMMARY OF COMMENT

Objective 2 should be revised to require the sustainable harvest calculation to increase the resilience of public forests to climate change and thus avoid negatively impacting the future conditions of the forest environment under all alternatives. Also, the Board should include a goal of achieving a net positive carbon balance on DNR-managed lands under each alternative.

Commenter

15

SUMMARY OF COMMENT

To satisfy Objective 2, the commenter request that DNR include information and analysis on the following:

- Logging and wood products emissions attributable to DNR;
- Loss of landscape resilience to climate change;
- Adjustments to the sustainable harvest calculation to account for increased mortality and decreased growth.

Commenter

19

SUMMARY OF COMMENT

Commenter generally supports Objective 2 as written and requests that DNR and the Board retain this language as written in the Determination of Significance.

Commenter

10

SUMMARY OF COMMENT

Objective 3 is appropriate as written and should not be changed.

Commenter

1

SUMMARY OF COMMENT

Objective 3 should go beyond just revenue generated for the trust by harvesting trees.

Commenter

8

SUMMARY OF COMMENT

Objective 3 should not be finalized until after the Supreme Court case is finalized.

Commenter

15

SUMMARY OF COMMENT

Commenters supports Objective 3 as written and requests that DNR and the Board do not make any changes to this language and retain it as written in the Determination of Significance.

Commenter

10

Topic: Policy for Sustainable Forests

SUMMARY OF COMMENT

The Board of Natural Resources needs to revisit and revise the *Policy for Sustainable Forests* to account

for effects of timber harvest on carbon storage and emissions, and on the resistance of forest landscapes to wildfire.

Commenter

11

SUMMARY OF COMMENT

The commenter recommends that the Board and DNR consider undertaking a concurrent update to the *Policy for Sustainable Forests* which, at 15 years old, is far overdue for updates. The update should include guidance for climate-smart forest management and consideration of carbon sequestration. The commenter goes on to provide specific climate change-related topics for consideration by the Board of Natural Resources when updating policy, including that there is no greater risk to the future health and productivity of forest resources than climate change, that extended rotations have a high mitigation potential, and the importance of forested state trust lands as carbon sinks. The commenter cited specific programs and plans in place to address climate change in Washington. The commenter also suggests that the updated *Policy for Sustainable Forests* should include new policies and/or practices to increase the value gained from a given harvest volume and that the agency be realistic about operational constraints in its harvest calculations.

Commenter

15

SUMMARY OF COMMENT

The commenter states that this is an opportunity for the Board to concurrently update policies, and asks that updates to the agency’s approach to meeting older forest objectives be included in each alternative that is drafted and considered.

Commenter

15

SUMMARY OF COMMENT

DNR should not develop the 2025-34 sustainable harvest calculation unless and until the Board updates the 2006 *Policy for Sustainable Forests*. This scoping process, and the “purpose and need” statement in which it culminates, depends heavily on the policies established by the Board’s *Policy for Sustainable Forests*. But, particularly if the Washington Supreme Court interprets the state constitution in the manner requested by the plaintiffs, the current *Policy for Sustainable Forests*, dated 2006, is stale and antiquated in the case of climate change and many other natural resources issues. The only efficient way to address climate change in the new sustainable harvest calculation is through a concurrent amendment of the 2006 *Policy for Sustainable Forests*.

Commenter

7

Topic: SEPA Process**SUMMARY OF COMMENT**

The sustainable harvest calculation process must be open and transparent and not reliant on systems, tools, or models that cannot be reviewed by stakeholders.

Commenter

5

SUMMARY OF COMMENT

Commenter provides specific clarifications requested in the upcoming DEIS if the 2019 format is carried forward into the current document.

- Table S.1. Summary of the Alternatives, page S-2: In the sustainable harvest calculation DEIS update, please add the actual volume cut from the appropriate decade.
- Table S.2. Average Annual Harvest and Thinning Area, and Volume, page S-3: In the sustainable harvest calculation DEIS update, please add the actual acres cut from the appropriate decade.
- Climate, page S-3: The FEIS states “Climate change impacts are not expected to be exacerbated by any alternative within the planning decade.” This is a highly questionable assumption that is in apparent conflict with sustainable harvest calculation DEIS Objective #2. Please update this discussion to more closely comport with current scientific knowledge and State policy on the questions of climate change.
- Analysis Area. Table 1.3.3. Sustainable Harvest Units, page 1-10: The noted table combines all DNR lands that are “Federally granted trust and State Forest purchase Lands” that represent 43% of the total forested acres that are allocated to cutting (Natural Area program acres are excluded). The commenter requests that the “Federally granted trust and State Forest purchase Lands” be disaggregated by county in the same way as the “State Forest Transfer Lands.” The analyses for this sustainable harvest calculation DEIS will be limited in value unless all State DNR lands and related impacts at the county level. Including “Federally granted trust and State Forest purchase Lands.”
- Figure 2.1.1. Difference in Volume Between Fiscal Year 2005-2014 Sustainable Harvest Level and Actual, page 2-3. The updated sustainable harvest calculation DEIS should revised this figure to show the differences is cutting level for each county between planned and actual level of cutting. Furthermore, the figure should be expanded to show the differences between planned and actual cutting levels for each, not just the entire decade.

- Riparian Thinning Options. Page 2-4 to 2-5: The updated sustainable harvest calculation DEIS should provide data on the planned and actual cutting areas for each county in terms of both area cut and log volume removed within all riparian areas.

Commenter

20

SUMMARY OF COMMENT

The sustainable harvest calculation EIS needs to provide detailed analysis of unfulfilled objectives in federal and state laws, rules, policies, programs that guide management of state trust lands. In particular the old forest targets in the *Policy for Sustainable Forests*, the 1997 HCP stand structure objectives, the U.S. pledge to halt deforestation and forest degradation by 2030, the 2021 Climate Commitment Act (SB 5126), and the Commissioner's Order on Climate Resiliency.

Commenter

19

SUMMARY OF COMMENT

DNR should meaningfully consider SEPA when calculating the next sustainable harvest calculation. DNR is perfectly situated to seize a leadership position in the forest sector by developing and implementing a science based carbon policy for DNR State Trust Lands. Designing and implementing a forward-thinking mitigation program for carbon sequestration now would allow DNR to fulfill the requirements of SEPA, to comply with State law regulating greenhouse gas emissions, to provide for the trust beneficiaries in perpetuity, and most importantly, to contribute to the global moral imperative of reducing the potentially devastating impacts of climate change on all communities.

Commenter

7

SUMMARY OF COMMENT

The DEIS should include a cumulative effects analysis of DNR timber harvest and harvest on adjacent U.S. Forest Service land.

Commenter

13

Topic: Silviculture

SUMMARY OF COMMENT

The commenter requests that DNR staff provide the Board with status information on any implementation of silviculture policies that are either behind schedule or are not progressing sufficiently so that the Board can decide whether to address these issues in the sustainable harvest calculation or in the policy update.

Commenter

15

SUMMARY OF COMMENT

The commenter would appreciate further discussions and analysis of DNR's silviculture needs and how assuring the necessary funding for that work can be secured. The commenter strongly believes that the beneficiaries and their customers can and should expect increasing yields from the forest estate through timely silviculture treatments.

Commenter

10

Topic: Species Management

SUMMARY OF COMMENT

The commenter mentions specific management plans prepared by the U.S. Forest Service as lacking a cumulative effects analysis as impetus for DNR to conduct a thorough analysis. The commenter cites the same report as evidence that assumptions in DNR's 2019 FEIS that the amount of marbled murrelet habitat on federal lands would either remain stable or increase as incorrect, citing the expected outcomes from the U.S. Forest Service's Nooksack Vegetating Management Plan as evidence that the outcomes are not in line with DNR's expectations that habitat will increase on federal land.

Commenter

13

SUMMARY OF COMMENT

The DEIS should include an analysis of any timber harvest (DNR or Forest Service) over the decade on the viability of northern spotted owls and marbled murrelets.

Commenter

13

Topic: Sustainability

SUMMARY OF COMMENT

The commenter suggests changing the wording in the proposal to use a word other than sustainable, citing potential confusion by the public about this term which is associated with balanced environmental systems.

Commenter

17

SUMMARY OF COMMENT

The commenter states that DNR has not considered or respected current scientific research on the impacts of their management decisions on the environment, and the needs of future generations, however they are cautiously optimistic that the next sustainable harvest calculation process will be more comprehensive in addressing factors that affect sustainability and will provide more science-based information and data to the public on these factors.

Commenter

20

Topic: Timing with Pending Litigation

SUMMARY OF COMMENT

It is premature to adopt a new sustainable harvest level while the trust mandate is under litigation and the analysis should be postponed until after the case is decided by the Washington Supreme Court. Depending on the outcome, the decision may lead to significant and fundamental changes to DNR policies and the sustainable harvest calculation.

Commenter

11

SUMMARY OF COMMENT

The commenter suggests DNR suspend the sustainable harvest calculation until the Supreme Court issues its opinion in the CNW et al V. Hilary Franz lawsuit and all appeal periods have expired and DNR completes its analysis of the value of standing trees on state lands.

Commenter

13

SUMMARY OF COMMENT

The 2025 - 2034 sustainable harvest calculation should be postponed until all pending litigation is settled, including the Supreme Court case (CNW v. Franz). The outcome of these cases would affect the scope of the sustainable harvest calculation, therefore the scope should not be finalized until after the cases are settled.

Commenter

6

SUMMARY OF COMMENT

The commenter requests that the western Washington sustainable harvest calculation be delayed until the case of CNW et al v. Hilary Franz is settled through a Supreme Court decision, and until after the ramifications of the Courts decision have been analyzed and DNR develops a modelling tool showing all impacts and consequences. If DNR does not postpone the sustainable harvest calculation, then the commenter requests the DEIS contain an analysis of all potential impacts of a Supreme Court decision on the sustainable harvest.

Commenter

20

SUMMARY OF COMMENT

The commenter believes it is premature, unwise, and inefficient for the Board of Natural Resources to make any decisions that define the scope of the sustainable harvest calculation process before the State Supreme Court Case, CNW v. Franz, is decided.

Commenter

15

SUMMARY OF COMMENT

DNR should postpone the 2025-34 sustainable harvest calculation process until the Washington Supreme Court Decides CNW v. Franz, No. 99183-9 (Oral Argument held on Oct. 21, 2021). This decision will affect the scope of the sustainable harvest calculation and going forward at this time would force the Board and the public to spend tremendous time and resources considering an sustainable harvest calculation that may be rendered moot. Because this decision will likely, based on past experience, be forthcoming in spring of 2022, this would not be a long delay. Also, DNR could focus on data gathering, data analysis, and other related tasks in the meantime, and be prepared to move forward once a decision is reached.

Commenter

7

SUMMARY OF COMMENT

DNR should not commence the 2025-34 sustainable harvest calculation until AFRC's litigation against the Board and DNR challenging the 2015-24 sustainable harvest calculation is resolved in court or settled in a manner acceptable to the Interveners. The outcome of this case could impact DNR's methodologies going forward, therefore it is prudent to wait.

Commenter

7

SUMMARY OF COMMENT

The next sustainable harvest calculation must be completed before 2025, and each subsequent decadal sustainable harvest calculation must be completed expediently and on time.

Commenter

5

Topic: Trust Land Transfer

SUMMARY OF COMMENT

The Trust Land Transfer (TLT) program is neither a statutory program created by the legislature nor policy developed by the Board. It simply is a tool to implement various aspects of trust management identified in the *Policy for Sustainable Forests* or for other fiduciary management needs. Additional TLT proposals under the current system will continue to erode the corpus of the trust. The commenter strongly encourages DNR to identify the potential impacts from TLT, carefully and transparently in regards to ecological outcomes, revenue, and harvest volumes, as well as the risk of further erosion of the corpus of the forested estate when developing the next sustainable harvest calculation.

Commenter

10

SUMMARY OF COMMENT

The commenter suggests that DNR develop and document a method in the sustainable harvest calculation DEIS of how it will model and map the areas in western Washington which can be protected through a Trust Land Transfer. This model should also calculate potential revenue produced through the selling of

carbon credits, as well as annual ecosystem services provided by protected areas.

Commenter

20

Topic: Trust Mandate

SUMMARY OF COMMENT

The commenter suggests DNR work with the legislature to change the requirement that DNR harvest timber. He suggests that the proposal should be to provide the greatest return to the beneficiaries, and that DNR scrutinize ecosystem services and selling of green bonds in place of timber harvesting. If this conflicts with existing law, DNR should work with the legislature to educate them on how financial derivatives are more lucrative than timber sales.

Commenter

12

SUMMARY OF COMMENT

The scope of the project should reiterate the vital nature of the sustainable harvest calculation process to DNR's management and operations, and how it impacts beneficiaries.

Commenter

5

SUMMARY OF COMMENT

The scope of the project should reiterate the importance of the harvest level for beneficiaries and how it will impact schools, hospitals, fire districts, libraries, recreation districts, and many other local services. Services are not only affected by the sale of timber, but also by all of the important living wage jobs associated with the harvest, transportation, and manufacturing of the harvested timber. Both the volume offered and the revenue obtained are critical to Washington's rural, west-side communities.

Commenter

5

SUMMARY OF COMMENT

The sustainable harvest calculation process should recognize that DNR manages trust lands on behalf of beneficiaries, many of which are small, special purpose districts, which rely upon a sustainable,

predictable, and viable sales program. The SEPA analysis should include impacts to these beneficiaries such as fire departments, hospitals, and emergency responders.

Commenter

5

SUMMARY OF COMMENT

Skagit County and its junior taxing districts have seen significant revenue from past sustainable harvest calculations but are now facing revenue declines. Having a reliable, consistent sustainable harvest calculation for the 2025-2034 decade is crucial for future planning needs.

Commenter

2

SUMMARY OF COMMENT

What is often referred to as the “Trust Mandate” is the foundation for how DNR is asked to manage the lands for the Beneficiaries. This mandate has been synthesized down overtime from several places, such as the Washington State Constitution and the Enabling Act of 1889, and affirmed by State Courts including the WA State Supreme Court. The most difficult aspect for DNR to accomplish is to “Maintain undivided loyalty to beneficiaries”. With the many pressures on DNR to change management, it is important for DNR to maintain this undivided loyalty rather than to ask the trusts to accept less.

Commenter

21

List of Commenters

Table 1 provides the names and affiliations of those that provided scoping comments for the fiscal year 2025 to 2034 sustainable harvest calculation environmental impact statement.

Table 1 List of Commenters on the FY 2025 to 2034 Sustainable Harvest Calculation Project Proposal

Commenter Number	Commenter Name	Commenter Affiliation
1	Connie Beauvais	Port of Port Angeles
2	Peter Browning	Skagit County Board of Commissioners, Second District
3	Jim Cahill	Board of Natural Resources
4	Shaun Dinubilo	Squaxin Island Tribe
5	Rod Fleck	City of Forks
6	Connie Gallant	Olympic Forest Coalition
7	Peter Goldman	Washington Forest Law Center
8	John Harwood	Individual
2*	Lisa Janicki	Skagit County Board of Commissioners, Third District
9	Paul Jewell	Washington State Association of Counties
10	Travis Joseph	American Forest Resource Council
11	Steven Kropp	Center for Responsible Forestry
12	Robert Mitchell	Individual
13	Amy Mower	Individual
14	Todd Myers	Washington Policy Center
15	Sally Paul	Washington Environmental Council
16	Jessica Randall	Individual
17	Mary Jean Ryan	Individual
18	Tamela Smart	Lummi Nation
19	John Talberth	Center for Sustainable Economy
20	Mike Town	Sierra Club
21	William Turner	Sierra Pacific Industries
2*	Ron Wesen	Skagit County Board of Commissioners, First District

*The three Skagit County Commissioners submitted one letter signed by all three

Appendices

Appendix 1: Western Washington Forested State Trust Lands

Figure 1: Forested state trust lands in western Washington (yellow shaded area).

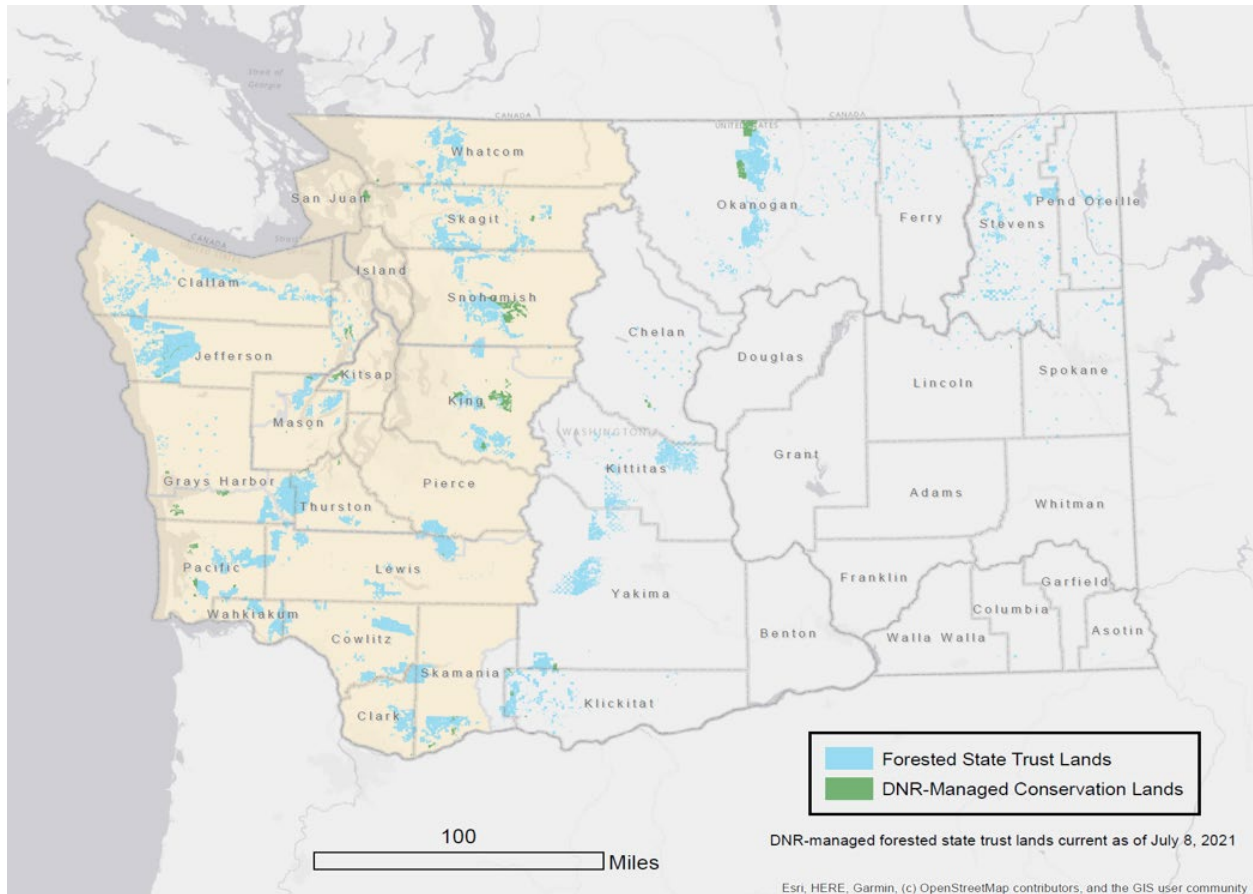
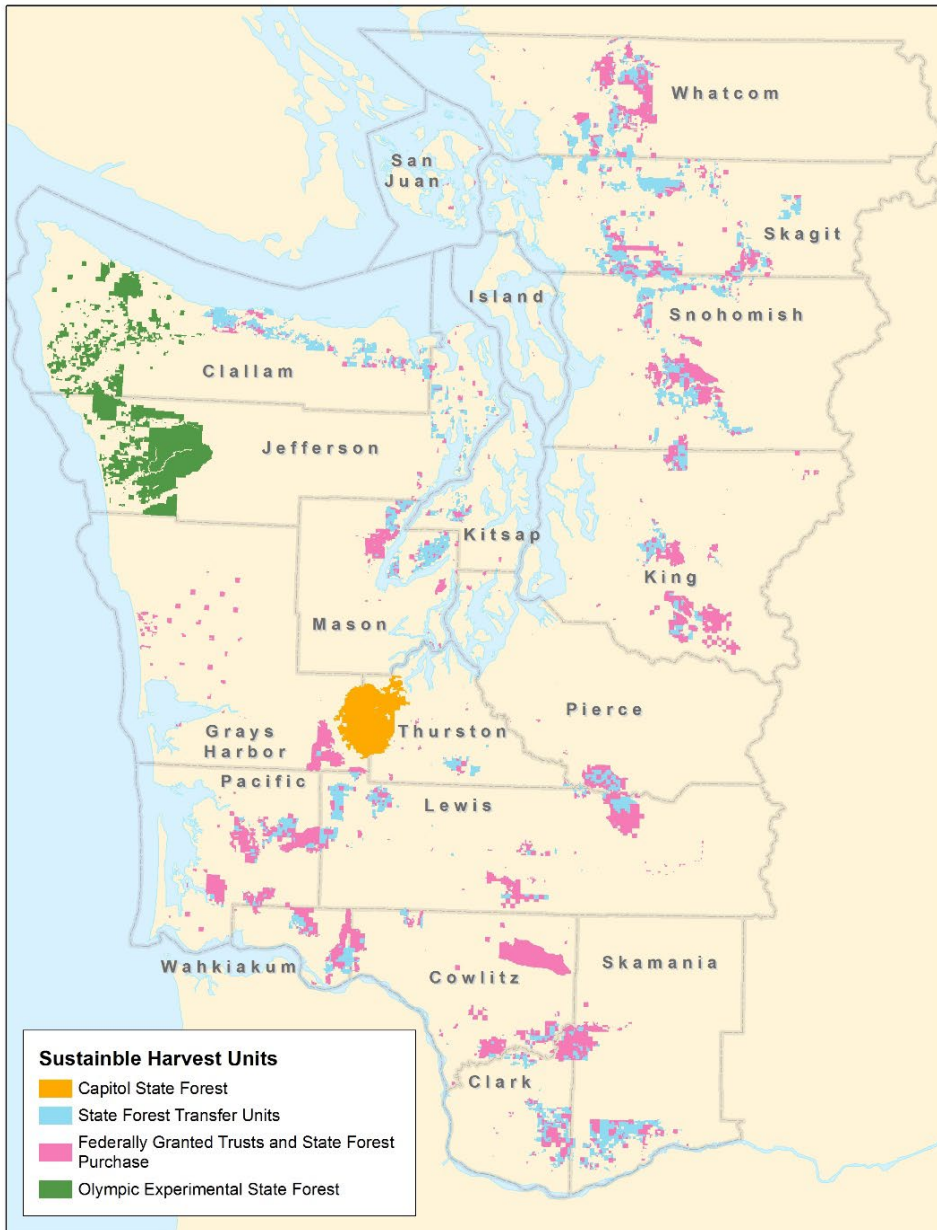


Figure 2: Forested state trust lands in western Washington by trust.



Appendix 2: Western Washington Sustainable Harvest Calculation Scoping Notice

DETERMINATION OF SIGNIFICANCE AND

REQUEST FOR COMMENTS ON SCOPE OF EIS

Description of proposal: The proposal is to establish a sustainable harvest level for the 2025 to 2034 planning decade for forested state trust land in western Washington.

Proponent: Washington Department of Natural Resources (DNR)

Location of proposal: All forested state trust lands located west of the Cascade Crest in Washington State (refer to attached map).

Lead agency: DNR

Determination: *Environmental Impact Statement (EIS) required.* The lead agency has determined this proposal potentially will have a significant adverse impact on the environment. An EIS is required under Revised Code of Washington (RCW) 43.21C.030(2)(c) and will be prepared.

Deadline for comments: December 9, 2021 by 5:00 pm

Scoping notice invites comments:

Scoping is the first formal step in preparing an EIS and initiates public involvement. Through scoping, DNR seeks public input on identifying the areas that require in-depth analysis, and those areas for which a more limited discussion is appropriate. This process helps to focus DNR's consideration on the issues that are truly significant, and avoids obscuring those issues with unnecessary detail. The primary purposes of scoping are to:

- Narrow the focus of the EIS to significant environmental issues;
- Eliminate issues that would have insignificant impacts, or that are not directly related to the proposal;
- Identify alternatives to be analyzed in the EIS; and
- Identify mitigation measures that address potential environmental impacts of the proposal.

Areas for public comment:

Agencies, affected tribes, and members of the public are invited to comment on the scope of the EIS. You may comment on alternatives, mitigation measures, probable significant adverse impacts, and licenses or other approvals that may be required.

DNR welcomes all comments relevant to the scope of the EIS. If you are suggesting a particular approach or impacts to consider, please explain why. The more evidence provided in support of a comment, such as peer-reviewed studies or reports, the more useful that comment will be to DNR in its analysis. Detailed and supported comments will help in developing a robust EIS. Suggested comment topic areas include the following:

- Probable significant environmental impacts that need to be considered in the adoption of the sustainable harvest level.
- Key environmental issues that need to be addressed and analyzed by one or more of the alternatives.
- Alternatives that need to be considered that will meet the need for, and the purpose of, the proposal.
- Specific mitigation measures that DNR should consider to avoid or minimize impacts.
- Identification of additional environmental information, studies, or reports relevant to the development of sustainable harvest level alternatives.

In the EIS, DNR will analyze the No Action Alternative and reasonable action alternatives (to be identified as a result of scoping). Alternatives to be considered in the EIS must meet the following parameters:

- DNR's trust mandate
- Applicable forest practices rules (Title 222 WAC)
- All other applicable state and federal regulations
- All current DNR policies, including the objectives of the *State Trust Lands Habitat Conservation Plan*
- Proposed purpose and need statement (attached to this notice)

You may submit these comments via one of the following methods:

- USPS mail: Department of Natural Resources, SEPA Center, P.O. Box 47015, Olympia, WA 98504-7015
- Online comment via survey monkey: <https://www.surveymonkey.com/r/WWSHC-25to34>

Background Information:

In Washington, DNR manages approximately 5.6 million acres of state trust lands. State trust lands are lands held in trust for specific trust beneficiaries, such as public schools and universities. The term "state trust lands" refers to both State lands and State forest lands:

- State lands (RCW 79.02.010(14)) are lands granted to the state by the federal government at statehood. State lands are also referred to as Federal Grant Lands.
- State forest lands (RCW 79.02.010(13)) are lands acquired by Washington State from the counties. There are two types: State Forest Purchase Lands, which are lands purchased or acquired by the state as a gift, and State Forest Transfer Lands, which are lands transferred to the state from the counties.

As a trust lands manager, DNR's responsibility is to manage these lands consistent with fiduciary principles, which include producing a perpetual supply of revenue for specific trust beneficiaries. On forested state trust lands, revenue is produced primarily through the harvesting of trees.

Providing a perpetual supply of revenue requires responsible management with an emphasis on long-term sustainability. A major component DNR's approach to sustainable management is calculation of a

sustainable harvest level, which is the volume of timber to be scheduled for sale during a planning decade according to applicable laws, policies, and procedures (RCW 79.10.300)(5). Put another way, the sustainable harvest level is the amount of timber DNR can harvest from forested state trust lands on a continuing basis without major prolonged curtailment or cessation of harvest.

The western Washington sustainable harvest level applies to all forested state trust lands located west of the Cascade Crest in Washington (approximately 1.4 million acres). These lands are divided into 20 sustainable harvest units, each of which is assigned its own sustainable harvest level for the decade.

- The Westside Sustainable Harvest Unit consists of all State lands (Federal Grant Lands) and State Forest Purchase Lands located west of the Cascade Crest, with the exception of lands located inside the Olympic Experimental State Forest (OESF) and Capitol State Forest.
- The OESF and Capitol State Forests consist of all State lands (Federal Grant Lands), State Forest Purchase Lands, and State Forest Transfer Lands located within their respective boundaries.
- Each of the 17 counties is a separate State Forest Transfer unit. Each unit consists of all State Forest Transfer Lands located within their respective county boundaries, with the exception of lands located in the OESF and Capitol State Forest.

The sustainable harvest level is defined in board feet, which is a unit of volume equivalent to a 12-inch square, one-inch thick piece of wood. The level is recalculated every 10 years. To ensure one generation of beneficiaries is not favored over another, the next decade's level cannot rise or fall more than 25 percent from the previous decade's level.

DNR is required to set a sustainable harvest level by Washington state law. Specifically, DNR must periodically adjust acreages designated for inclusion in the sustained yield management program and calculate a sustainable harvest level (RCW 79.10.320). Sustained yield means harvesting on a continual basis without major prolonged curtailment or cessation of harvest (RCW 79.10.310). The sustainable harvest level is a policy decision that requires approval from the Board of Natural Resources.

DNR calculates the sustainable harvest level through a forest estate modeling process. The forest estate model is a mathematical, computer-based representation of the forest. Capable of manipulating vast quantities of data, the model is able to look across landscapes and decades to determine the sustainable harvest level that is the best balance of DNR's management objectives, which include both revenue production and ecological values such as wildlife habitat.

Notice of Public Meeting: Due to safety considerations around COVID-19, public meetings will be held via webinar, with both a live and a recorded webinar available, as shown below.

<p>Live Webinar</p> <p>Webinar Date: November 9, 2021</p> <p>Webinar Time: 6:00 to 7:00 p.m.</p> <p>Webinar Link: https://dnr-wa.gov.zoom.us/webinar/register/WN_jkJ7RL-XTPmJ2QAUABhIYg</p>	<p>Recorded Webinar</p> <p>Webinar Date: Available</p> <p>Webinar Time: through end of comment period</p> <p>Webinar Link: Western Washington Sustainable Harvest Calculation for 2025-2034 WA - DNR</p>
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Responsible official: Ken McNamee

Position/Title: Northeast Region Manager

Phone: (509) 685-2710

Address: Department of Natural Resources, Northeast Region, 22 S Silke Rd, Colville, WA 99114

Date: _____

Signature: _____

There is no DNR administrative SEPA appeal.

Western Washington Sustainable Harvest Calculation

Purpose and Need

Proposal

The proposal is to establish a sustainable harvest level for the 2025 to 2034 planning decade for forested state trust land in western Washington.

PURPOSE

The purpose describes what DNR is trying to achieve.

- The purpose of the proposed action is to recalculate a sustainable harvest level consistent with DNR policies, including the [Policy for Sustainable Forests](#), the [1997 HCP](#), and applicable local, state, and federal laws.

NEED

The need describes why DNR is seeking to accomplish the purpose:

- Revised Code of Washington (RCW) [79.10.320](#) requires DNR to “manage the state-owned lands under its jurisdiction which are primarily valuable for the purpose of growing forest crops on a sustained yield basis insofar as compatible with other statutory directives. To this end, the department shall periodically adjust the acreages designated for inclusion in the sustained yield management program and calculate a sustainable harvest level.” This RCW is reflected in the Policy for Sustainable Forests ([Policy on Recalculation of the Sustainable Harvest Level](#)) with a specific requirement to “recalculate the statewide sustainable harvest level, for Board of Natural Resources adoption no less frequently than every ten years.”
- RCW [79.10.330](#) states that “[i]f an arrearage exists at the end of any planning decade, the department shall conduct an analysis of alternatives to determine the course of action regarding the arrearage which provides the greatest return to the trusts based upon economic conditions then existing and forecast, as well as impacts on the environment of harvesting the additional timber. The department shall offer for sale the arrearage in addition to the sustainable harvest level adopted by the Board of Natural Resources for the next planning decade if the analysis determined doing so will provide the greatest return to the trusts.” This RCW is reflected in the department’s policy on arrearage ([Policy on End of Decade Analysis: Arrearage](#)), a 2019 addition to the Policy for Sustainable Forests.

OBJECTIVES

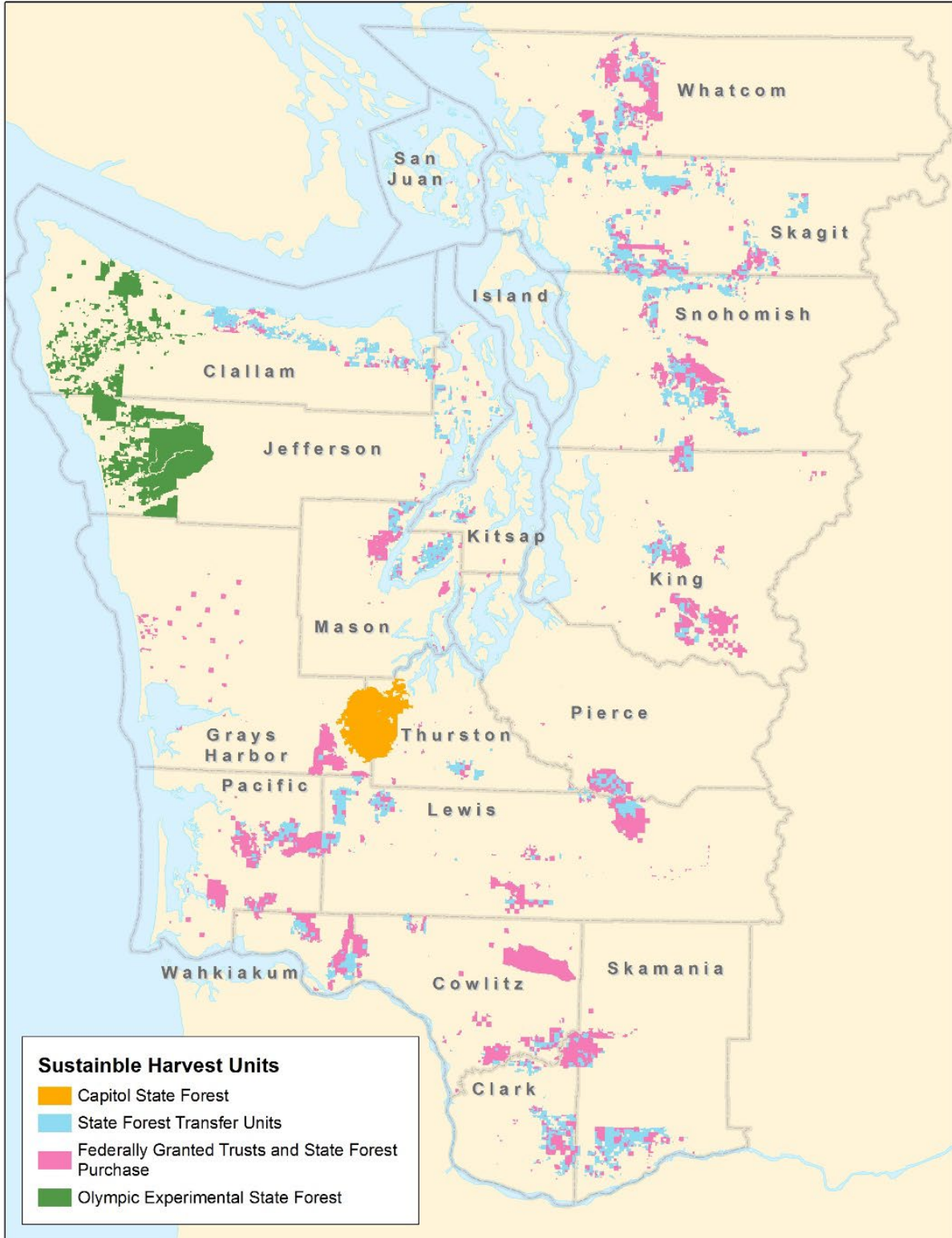
The objectives describe how the purpose and need are fulfilled:

- Objective #1: Incorporate new information into an updated forest estate model to calculate the sustainable harvest level that will inform the Board of Natural Resources when setting the decadal harvest level. New information includes changes in the land base, changes in forest inventory (including requirements of [2SHB 1168](#)), information concerning decadal arrearage and its causes, and changes in technology.
- Objective #2: Consider climate change as part of the affected environment, analyze climate change impacts and benefits of the alternatives, and identify possible mitigation measures that

will reduce or eliminate any identified adverse environmental climate change impacts of the proposal.

- Objective #3: Ensure alternatives analyzed are reasonable, feasible, and consistent with DNR's trust management obligations, existing DNR policies, and applicable local, state, and federal laws.

State Trust Lands in Western Washington by Sustainable Harvest Unit



Appendix 3: Additional Information

This appendix contains links and references to additional information to consider during scoping provided by commenters.

Additional information provided by commenter 10.

CLIMATE CHANGE AND CARBON:

https://www.ncasi.org/wpcontent/uploads/2020/12/Review_Carbon_Implications_Proforestation_Dec2020.pdf

[North American Softwood Lumber – Environmental Product Declaration \(awc.org\)](#)

https://www.ncasi.org/wpcontent/uploads/2020/07/NCASI_White_Paper_Avoided_GHG_Emissions_July2020.pdf

McCauley, Lisa A., Robles, Marcos D., Wooley, Travis, Marshall, Robert M., Kretchun, Alec, Gori, David F. 2019. Large-scale forest restoration stabilizes carbon under climate change in Southwest United States. *Ecological Applications*, 0(0), 2019, e01979.

Gray, A. N., T. R. Whittier, and M. E. Harmon. 2016. Carbon stocks and accumulation rates in Pacific Northwest forests: role of stand age, plant community, and productivity. *Ecosphere* 7(1):e01224. 10.1002/ecs2.1224

Gustavsson, L., Madlener, R., Hoen, H.-F., Jungmeier, G., Karjalainen, T., Klöhn, S., ... Spelter, H. (2006). The Role of Wood Material for Greenhouse Gas Mitigation. *Mitigation and Adaptation Strategies for Global Change*, 11(5–6), 1097–1127.

Lippke, B., Oneil, E., Harrison, R., Skog, K., Gustavsson, L., Sathre, R. 2011 Life cycle impacts of forest management and wood utilization on carbon mitigation: knowns and unknowns, *Carbon Management*, 2:3, 303-333.

McKinley, D.C., Ryan, M.G., Birdsey, R.A., Giardina, C.P., Harmon, M.E., Heath, L.S., Houghton, R.A., Jackson, R.B., Morrison, J.F., Murray, B.C., Pataki, D.E., Skog, K.E. 2011. A synthesis of current knowledge on forests and carbon storage in the United States. *Ecological Applications*. 21(6): 1902-1924.

Skog, K.E., McKinley, D.C., Birdsey, R.A., Hines, S.J., Woodall, C.W., Reinhardt, E.D., Vose, J.M. 2014. Chapter 7: Managing Carbon. In: *Climate Change and United States Forests, Advances in Global Change Research* 57 2014; pp. 151-182.

Vance, E.D. 2018. Conclusions and caveats from studies of managed forest carbon budgets. *Forest Ecology and Management* 427 (2018) 350–354

Ganguly, I.; Pierobon, F.; Sonne Hall, E. Global Warming Mitigating Role of Wood Products from Washington State’s Private Forests. *Forests* 2020, 11, 194. <https://doi.org/10.3390/fl102019>

ECONOMICS:

<https://washington.municipalbonds.com/bonds/recent/>

<https://ofm.wa.gov/washington-data-research/statewide-data/washington-trends/economic/trends/washington-and-us-capita-personal-income/capita-personal-income-county>

ENVIRONMENTAL JUSTICE:

<https://washingtonstatereportcard.ospi.k12.wa.us/>

<https://www.k12.wa.us/policy-funding/child-nutrition/child-nutrition-program-reports>

<https://ofm.wa.gov/washington-data-research/statewide-data/washington-trends/economic/trends/washington-and-us-capita-personal-income/capita-personal-income-county>

<https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/InformationbyLocation/WashingtonEnvironmentalHealthDisparitiesMap>

Additional information provided by commenter 14:

UNEMPLOYMENT AND POVERTY MAPS

<https://esd.wa.gov/labormarketinfo/county-unemployment-map>

<https://ofm.wa.gov/washington-data-research/statewide-data/washington/trends/social-economic-conditions/families-poverty-families-children-under-age-18-poverty-individuals-poverty-individuals-age-65-and-older-poverty>

Additional Information provided by commenter 15

WATER RESOURCES

Perry & Jones. 2017. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA

Hall et al. 2018. Nisqually Community Forest VELMA modeling to evaluate effects of forest management scenarios on streamflow and salmon habitat

Commenter is also happy to provide names of folks to reach out to for more information on ecohydrology modeling, watershed forestry, and water resources, upon request.

CLIMATE AND CARBON

Washington Forest Ecosystem Carbon Inventory, [em_wa_carbon_inventory_final_111220.pdf](#)

Robertson et al. 2021. “Leveraging the potential of nature to meet net zero greenhouse gas emissions in Washington State”

Buotte et al. 2020. “Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States”

WEC Carbon Friendly Forestry Conference recordings from 2021 & 2020.