



February 9th, 2023

Sent by electronic mail

Scott Sargent, South Puget Sound Region Manager
Department of Natural Resources
Via: SEPA Center
1111 Washington Street SE
PO Box 47015
Olympia, WA 98504-7015

RE: *Comments on File No. 23-012602 (Juneau Timber Sale #102082 and Forest Practice Application #2423290)*

Dear Mr. Sargent,

Center for Sustainable Economy (CSE), Legacy Forest Defense Coalition (LFDC), and Save the Olympic Peninsula (STOP) have the following comments to offer on the SEPA analysis for the Juneau timber sale (File # 23-012602). Center for Sustainable Economy (CSE) is a non-profit environmental economics research and advocacy organization with members and partners in Washington who are concerned about the adverse environmental, social and economic impacts of DNR's logging program. Of particular concern with the Juneau timber sale is its effects on climate change and climate resiliency.

Save The Olympic Peninsula (STOP) is a Washington State-registered non-profit corporation based in Port Angeles, Washington. STOP's mission is to ensure the best use of the land, the lakes, the rivers and the skies above the Olympic Peninsula and adjacent lands in order to retain the unique character of this area, protect its environmental qualities, and provide for its enjoyment by generations to come.

The Legacy Forest Defense Coalition (LFDC) is a registered Washington State 501(c)(3) nonprofit organization, that is dedicated to building support for the protection our publicly owned, lowland legacy forests, which are invaluable assets in our battle against climate change.

Summary

At COP 26 in Glasgow, the United States and 140 other nations pledged to eliminate deforestation and forest degradation by 2030 as an essential strategy for avoiding the worst effects of climate change.¹ Unfortunately, the Juneau timber sale runs counter to the goals and objectives of this historic agreement. This sale will deforest and degrade mature and remnant old growth forests that are among the most carbon dense forests in the world, generate significant quantities of greenhouse gas (GHG) emissions, degrade carbon sequestration capacity, which is now approaching its maximum in the Juneau timber sale area, and make the land more susceptible to a wide range of climate stressors, such as water shortages, thermal pollution of coldwater fisheries, wildfires, heat waves, landslides, flooding, invasive species, and harmful algae blooms.

Despite this, climate impacts have been entirely excluded from the State Environmental Policy Act (SEPA) analysis for this sale. Nor has DNR made any effort to identify mitigation measures that will reduce these climate impacts, or consider alternatives to commercial timber harvest, such as placing the timber in a forest carbon reserve to earn revenues from carbon markets.

Instead of addressing the climate impacts of the Juneau timber sale and considering mitigation measures and alternatives, DNR has chosen to invoke previous, and entirely irrelevant analyses the agency completed at the programmatic level many years ago as an excuse for doing nothing at all at the project level. DNR's decision is at odds with clear requirements of SEPA to include climate as an important element of the environment² and quantify or at very least disclose sources of GHG emissions under the heading of air quality.³ This duty has been reiterated in a recent appellate court decision⁴ as well as a recent decision by Superior Court Justice Keith Harper in Jefferson County.⁵ We hereby incorporate by reference the administrative record (AR) for that case and append the index to that record as Exhibit A. We also attached an expert declaration from Dr. Dominick DellaSala as Exhibit B.

¹ A copy of the pledge and current signatories can be found online at: <https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>.

² WAC 197-11-444 requires consideration of effects on air quality and climate. Statutory authority at RCW 43.21C.110.

³ Washington State Department of Ecology, SEPA checklist guidance, Section B: Air. Available online at: <https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-Air>.

⁴ *Wa State Dairy Federation Et Al, Petitioner V Wa State Pollution Control Hearings, Respondents*. Case No. 52952-1-II, consolidated with No. 53144-5-II). June 29th, 2021.

⁵ *Center for Sustainable Economy and Save the Olympic Peninsula v. Washington State Department of Natural Resources, Board of Natural Resources, and Commissioner of Public Lands Hilary Franz*. No. 22-2-00015-16. In the Superior Court of the State of Washington in and for Jefferson County.

DNR's decision is also at odds with SEPA's clear requirements and procedures for tiering project-level analyses to prior, programmatic SEPA documents.⁶ Finally, DNR's failure to disclose and mitigate climate impacts belies DNR's Commissioner's Order 202006 on Climate Resilience, ordering DNR staff to take all practicable steps "to incorporate climate change considerations into all relevant decisions, policies, procedures, and operations."⁷

A. The Juneau timber sale will have long-term harmful effects on climate change and climate resiliency

With respect to climate impacts, there are three general categories that will be associated with the Juneau timber sale: (a) releases of both biogenic and fossil-fuel related greenhouse gas (GHG) emissions; (b) loss and degradation of carbon sequestration capacity and (c) increased vulnerability to climate stressors.

(i) GHG emissions

GHG emissions associated with DNR logging projects - including the Juneau timber sale - are easy to understand and quantifiable using published sources, yet under the heading of air quality, DNR has not made any attempt to do so.⁸ Trees are half carbon by weight, and when they are cut down and turned into wood products most of the carbon contained in those trees is eventually returned to the atmosphere through the decay of slash, stumps, needles, and other debris left over after logging, mill waste, and end use products. Multiple investigations in Washington, in other states, and nationally indicate that on average roughly 80% of the original carbon stored in trees is released into the atmosphere and landfills over a 100-year period through these processes, with much of that released within one or two years of logging. This contrasts with older forests and soils that draw down and store carbon for centuries.

⁶ WAC-197-11-443.

⁷ DNR (2020): Commissioners Order on Climate Resilience. Available online at: https://www.dnr.wa.gov/publications/em_climate_resilience_cplo_202006.pdf

⁸ See, e.g. Law, B., Hudiburg, T.W., Berner, L.T., Kent, J.J., Buotte, P.C., Harmon, M.E., 2018. Land use strategies to mitigate climate change in carbon dense temperate forests. *PNAS* April 3, 2018 115 (14) 3663-3668; Talberth, J., 2017. Oregon Forest Carbon Policy: Technical brief to guide legislative intervention. Portland, OR: Center for Sustainable Economy; Smith, J.E., Heath, L.S., Skog, K.E., Birdsey, R.A., 2006. Methods for Calculating Forest Ecosystem and Harvested Carbon with Standard Estimates for Forest Types of the United States. Gen Tech. Rpt. NE-343. Morgantown, WV: USDA Forest Service, Northeastern Research Station; Harris, N.L., Hagen, S.C., Saatchi, S.S., Pearson, T.R.H., Woodall, C.W., Domke, G.M., Braswell, B.H., Walters, B.F., Brown, S., Salas, W., Fore, A., Yu, Y., 2016. Attribution of net carbon change by disturbance type across forest lands of the conterminous United States. *Carbon Balance and Management* 11 (24); Hudiburg, T., Law, B.E., Moomaw, W.R., Harmon, M.E., Stenzel, J.E., 2019. Meeting GHG reduction targets requires accounting for all forest sector emissions. *Env. Res. Ltrs.* 14(2019): 095005.

In addition, carbon dioxide, methane, and nitrous oxide are released from disturbed and eroded soils, and carbon dioxide is emitted from fossil fuels combusted by machinery during road building, logging, application of chemicals and fertilizers, slash burning, transportation of logs to mills, manufacturing at mills, and transportation of finished wood products.

Life cycle analysis (LCA) is the gold standard for quantifying all these logging related releases of greenhouse gases. Hudiburg et al. (2019) have provided one of the most comprehensive inventories of such GHG emissions associated with Washington's timber harvest activities, and concluded that between 2001 and 2016, emissions attributable to timber harvest activities were roughly 32 million metric tons CO₂ per year, making the logging and wood products sector the second greatest source of GHG emissions in the state, even after deducting the fossil fuel related emissions included in other sector inventories.⁹ During that same period, statewide timber harvests averaged 3,116,296 thousand board feet per year (mbf),¹⁰ which translates into an emissions factor of 10.27 tCO₂-e/mbf. Applying that factor to the volume removed by the Juneau timber sales results in a preliminary GHG estimate of at least 74,077 tCO₂-e. DNR cannot simply ignore this significant emission of GHG pollution.

(ii) Loss of carbon sequestration capacity

Every new clearcut and segment of logging road constructed on DNR lands puts some of the most productive carbon capturing land in the world out of commission for decades, if not permanently. The proposed roadwork associated with the Juneau timber sale will impact nearly 45,000 feet (about 20 acres), and will eliminate carbon sequestration capacity for many decades, or permanently if the roads are left open. New clearcut (or VDH) units totaling about 160 acres will emit more carbon than they release for 10-15 years after logging - as a consequence, on these acres, the land becomes a carbon emissions source and not a sink (AR REC 016675: 016695). Net ecosystem productivity - the best measure of carbon sequestration - goes negative during this time. These post-harvest releases as well as the carbon sequestration that is being sacrificed can be calculated with relative ease using methods and sources of information available to DNR. By reducing carbon sequestration capacity, DNR's logging program, including the Juneau timber sale, is helping to further increase GHG concentrations in the atmosphere and associated radiative forcing (DellaSala Declaration at par. 17).

(iii) Loss of climate change resiliency

In addition to generating significant quantities of GHG emissions, the Juneau timber sale, by deforesting 160 acres through clearcutting or other intensive practices, building, reconstructing, or maintaining nearly 45,000 feet of logging roads, and implementing

⁹ Hudiburg et al. 2019, note 8.

¹⁰ Bureau of Business and Economic Research, University of Montana, 2022. Washington Timber Harvest. Available online at: <https://www.bber.umt.edu/FIR/HarvestWA.aspx>.

harmful post-harvest regeneration activities (burning, spraying, etc.) will amplify the deleterious effects of climate change by making the land more susceptible to its effects. In particular, the Juneau timber sale in combination with similar logging projects on federal, state, and private lands in the region can be expected to amplify risks associated with:

- Depleted water supplies. Dry season stream flows are today dramatically depleted across the Pacific Northwest as a consequence of extensive logging and the rapid regrowth of water-hungry young vegetation after logging.¹¹ For example, long-term experiments in Coastal Oregon indicate that the conversion of mature and old growth conifer forests to homogenous plantations of Douglas fir produced a persistent summer streamflow deficit of 50 percent in plantations aged 25 to 45 years relative to intact, older forests.¹² Climate change will make matters worse by further reducing dry season flows thereby straining “the ability of existing infrastructure and operations to meet many and varied water needs.”¹³
- Warming waters. As the climate warms and dries in the summer, Washington waterways will also warm. This thermal pollution is intensified by intensive logging. In Oregon, Department of Forestry modeling concludes that a typical clearcut compliant with the Oregon Forest Practices Act on average, boosts water temperatures by 2.6 degrees Fahrenheit on top of any background increase due to climate change.¹⁴ According to multiple federal agencies, “the evidence is . . . overwhelming that forest practices contribute to widespread stream temperature problems.”¹⁵ Warmer water, in turn, will cause “harmful algal blooms to occur more often, in more waterbodies and to be more intense.”¹⁶
- Increased wildfire risk. Timber plantations and other intensively managed forestlands burn hotter and faster than natural forests. This is because they lack the moisture content and structural complexity needed to keep wildfires in check. Decades of monitoring by firefighters and researchers show that fires burning in complex natural

¹¹ Perry, T. D., Jones, J.A., 2016. Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. *Ecohydrology*. 1-13.

¹² Segura, C., Bladon, K., Hatten, J., Jones, J., Hale, C., Ice, G., 2020. Long-term effects of forest harvesting on summer low flow deficits in the Coast Range of Oregon, *Journal of Hydrology*, Volume 585, article id. 124749.

¹³ Dalton, M.M., K.D. Dello, L. Hawkins, P.W. Mote, and D.E. Rupp, 2017 *The Third Oregon Climate Assessment Report*, Oregon Climate Change Research Institute, College of Earth, Ocean and Atmospheric Sciences, Oregon State University, Winston, OR, page 18.

¹⁴ Oregon Department of Forestry (ODF), 2015. Detailed analysis: predicted temperature change results. Agenda Item 7, Attachment 3 to the meeting packet prepared for the Board of Forestry, June 3rd, 2015. Salem, OR: ODF.

¹⁵ EPA-FWS-NMFS, 2/28/01 Stream Temperature Sufficiency Analysis Letter to ODF and ODEQ.

¹⁶ US Environmental Protection Agency, “Climate change and harmful algae blooms,” available online at: <https://www.epa.gov/nutrientpollution/climate-change-and-harmful-algal-blooms>.

forests create a mosaic of intensely burned and relatively untouched areas. On the other hand, fires burning in homogenous tree plantations are more likely to be uniformly severe.¹⁷ New research that examined burn severity after Oregon's historic wildfires in 2020 concluded that "[e]arly-seral forests primarily concentrated on private lands, burned more severely than their older and taller counterparts, over the entire megafire event regardless of topography."¹⁸ This should be a wakeup call to DNR that the practice of replacing structurally complex, mature forests, such as those in the Juneau timber sale with monoculture plantations is a practice that exposes nearby communities to increased wildfire risk. Two recent court decisions have flagged the connections between clearcut-style logging and increased fire hazard and further underscored the need for re-consideration of clearcut style management in areas near communities.¹⁹

- Heat waves. Mature forests in the Juneau timber sale area now act as temperature refuges, helping to keep the land and waters within and adjacent to the sale area cool during both routine and extreme heat wave events. During heatwaves, which are becoming more frequent and extreme, surface temperatures in open clearcuts can exceed 130 degrees Fahrenheit while under the shaded forest canopy temperatures are often 40 to 50 degrees cooler (AR REC-016904). A recent analysis by CSE and OSU researcher Christopher Still reviewed data from NEON tower sites in plantations and undisturbed old growth forests in southwest Washington and found that the degraded plantation site was hotter (+4.5 °C), lost more water, was less efficient at photosynthesis, and experienced a more dramatic impact to carbon cycling, flipping from a sink to a source during the heat dome event.²⁰ All of these impacts can be expected as a result of the Juneau timber sale.
- Increased incidence and severity of landslides. The vast network of clearcuts and logging roads permeating industrial timber plantations and heavily logged DNR lands present a significant risk of landslides, especially during extreme precipitation events,

¹⁷ See, e.g., Stone, C., Hudak, A., Morgan, P., 2008. Forest harvest can increase subsequent forest fire severity. In Proceedings of the Second International Symposium on Fire Economics, Planning and Policy: A Global View. Armando González-Cabán, ed. Riverside, CA: USDA Forest Service, Pacific Southwest Research Station.

¹⁸ Evers, C., Holz, A., Busby, S., Nielsen-Pincus, M., 2022. Burn severity in seasonal temperate rainforests under record fuel aridity. *Fire* 5(2), 41. <https://doi.org/10.3390/fire5020041>.

¹⁹ *Cascadia Wildlands*; and *Oregon Wild v. Bureau of Land Management*; and *Seneca Sawmill Company* 6:19-cv-00247-MC. United States District Court of Oregon. 2019; and *Bark; et al. v. United States Forest Service*; and *High Cascade Inc.* No. 19-35665 D.C. No. 3:18-cv-01645-MO. United States Court of Appeals, Ninth Circuit. 2020.

²⁰ Still, C., Talberth, J., 2022. Deforestation, forest degradation, heat waves and drought. Evidence from the Pacific Northwest heat dome of 2021. Port Townsend, WA: Center for Sustainable Economy. Available online at: <https://www.sustainable-economy.org/deforestation-and-forest-degradation-are-making-heat-waves-and-drought-more-intense-evidence-from-the-pacific-northwest-heat-dome>.

such as the 1996 floods. Under almost all climate change scenarios for the Northwest, the frequency of these events will increase. Maintenance of strong root systems is an important factor in stabilizing soils during these events. Clearcutting (including areas within variable retention harvest units) reduces the strength of root systems dramatically, and thus is a major factor in increased landslide risk.²¹ Logging roads channel water runoff and cause debris torrents that can travel many miles downstream, pick up momentum, and become heavily destructive.²² Studies indicate that clearcuts exhibit landslide rates up to 20 times higher than background rates. Near logging roads, landslide rates are up to 300 times higher than in forested areas.²³

- Increased risk of flooding. Research has demonstrated that heavily logged watersheds are at a much higher risk of flooding than those maintained in natural forest conditions. For example, Jones and Grant found that logging increased peak discharges by as much as 50% in small basins and 100% in large basins over a 50-year study period.²⁴ A 2008 Forest Service science synthesis confirmed the detrimental impacts of logging and logging roads on peak flows across western Oregon and Washington.²⁵
- Enhanced habitat for invasive species and organisms that put public health at risk. Invasive species find few barriers in monoculture tree plantations and other heavily logged sites since key natural processes that keep such species in check have been removed. As succinctly stated by Norse, "in monocultures, without barriers to dispersal, insects and pathogens find unlimited resources in all directions."²⁶ As Washington's climate changes, a wide variety of non-native plants, insects, and disease-causing organisms, such as viruses, bacteria, prions, fungi, protozoans, and internal (roundworms, tapeworms) and external (lice, ticks) parasites will spread, adversely affecting the health of humans, livestock, and pets in addition to fish and

²¹ Schmidt, K.M., J. J. Roering, J.D. Stock, W.E. Dietrich, D.R. Montgomery, Schaub, T. 2001. The variability of root cohesion as an influence on shallow landslide susceptibility in the Oregon Coast Range. *Can. Geotech. J* (38): 995-1024.

²² Swanson, F. J., J. L. Clayton, W. F. Megahan, Bush, G., 1989. Erosional processes and long-term site productivity, pp. 67-81 in *Maintaining the Long-Term Productivity of Pacific Northwest Forest Ecosystems*. D. A. Perry, R. Meurisse, B. Thomas, R. Miller, J. Boyle, J. Means, C.R. Perry, R. F. Powers, eds. Portland, Oregon: Timber Press.

²³ Heiken, D., 2007. *Landslides and Clearcuts: What Does the Science Really Say?* Eugene, OR: Oregon Wild.

²⁴ Jones, J., Grant, G.E., 1996. Peak flow responses to clearcutting and roadbuilding in small and large basins, western Cascades, Oregon. *Water Resources Research* 32(4): 959 - 974.

²⁵ Grant, G.E., Lewis, S.L., Swanson, F.J., Cissel, J.H., McDonnell, J.J. 2008. *Effect of Forest Practices on Peak Flows and Consequent Channel Response: A State-of-Science Report for Western Oregon and Washington*. PNW-GTR-760. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

²⁶ Norse, E., 1990. *Ancient Forests of the Pacific Northwest*. Washington, DC: The Wilderness Society.

wildlife. A recent Forest Service assessment concluded “[e]vidence suggests that future climate change will further increase the likelihood of invasion of forests and rangelands by nonnative plant species that do not normally occur there (invasive plants), and that the consequences of those invasions may be magnified.”²⁷

- Elevated risk of harmful algae blooms. Harmful algal blooms (HAB) are an urgent concern statewide as climate change unfolds. Industrial forest practices greatly amplify this risk through three channels: (a) by warming waters; (b) by decreasing natural flow rates, and (c) by contaminating water supplies with glyphosate and urea, along with other chemicals and fertilizers that enhance HAB growth. With the presence of glyphosate and urea in streams, nontoxic algae growth is inhibited and HABs dominate without competition.²⁸ Modern drinking water treatment costs increase significantly when more rigorous treatment is needed to cleanse contaminated source water. Managing land to prevent source water contamination may be more cost-effective and may better protect human health than treating water after it has been contaminated.²⁹

B. DNR has failed to disclose, mitigate, or seek alternatives to any of the climate impacts associated with the Juneau timber sale.

- (i) *DNR has dismissed its project-level duties by invoking prior, programmatic analyses.*

DNR has not addressed the climate impacts of the Juneau timber sale at any level. Instead, DNR has inserted generic language dismissing this duty under the headings of ‘Cumulative Effects’ and ‘Air Quality’ that are presumably being relied upon to support the determinations of non-significance (DNSs) for each of the timber sale projects identified above with respect to climate impacts. Under the heading of Cumulative Effects (A.13.a), the environmental checklist contains the following statement:

DNR analyzed carbon sequestration and carbon emissions from projected land management activities within its final environmental impact (FEIS) statement for the 2015-2024 Sustainable Harvest Calculation and the FEIS for the 2019 HCP Long-Term Conservation Strategy for the Marbled Murrelet. At the western Washington scale, land management activities on DNR managed lands, sequester more carbon than

²⁷ Kerns, B., Guo, Q., 2012. Climate Change and Invasive Plants in Forests and Rangelands. U.S. Department of Agriculture, Forest Service, Climate Change Resource Center. Available online at: <https://www.fs.usda.gov/ccrc/topics/climate-change-and-invasive-plants-forests-and-rangelands>.

²⁸ Glibert, P. M., Harrison, J., Heil, C., & Seitzinger, S., 2006. Escalating worldwide use of urea—a global change contributing to coastal eutrophication. *Biogeochemistry*, 77(3): 441-463.

²⁹ Dissmeyer, George E., ed. 2000. Drinking water from forests and grasslands, a synthesis of the scientific literature. USDA Forest Service. Southern Research Station, General Technical Report SRS-39.

emitted. Individual activities, such as this proposal, are likely to emit some greenhouse gases, including CO₂, however at the landscape scale, DNR's sustainably managed lands sequester more carbon than emit, including this proposal.

Under the heading of Air Quality, the environmental checklist contains the following statement:

Harvest operations and the removal of timber will result in minor amounts of CO₂ emissions from the direct proposal site. See A.13.a. for details regarding completed analyses of carbon emissions and sequestration on DNR-managed lands in western Washington.

These statements represent the entirety of what DNR has done in response to Judge Harper's ruling and the evaluation of climate impacts, writ large. For the reasons below, these brief statements cannot serve as a legally sufficient analysis of climate impacts. There is nothing in the 2015-2024 SHC FEIS or HCP FEIS that can serve as a basis for concluding that the Juneau timber sale individually, or DNR timber sales cumulatively, will not have significant climate impacts. And the cursory language under the heading of Air Quality is facially inadequate with respect to SEPA regulations and guidance since it neither quantifies nor discusses GHG emissions sources. As a result, and with respect to climate impacts, the DNS for the Juneau timber sale is clearly erroneous and should be remanded back to DNR for further analysis.

(ii) *The discussion of climate impacts in the FEISs for the Sustainable Harvest Calculation and HCP cannot be used as a basis for determining that DNR's logging program as a whole as well as individual timber sale projects have no significant climate impacts. In particular:*

(a) The HCP and SHC FEISs base their evaluation on incremental, rather than absolute levels of logging related emissions.

While the SHC and HCP FEISs contain sections that purport to discuss the climate impacts of DNR's logging program, they don't actually contain that analysis. Instead, they compare the incremental change in a limited set of logging related emissions and carbon stored in forests, soils, and wood products associated with a broad set of management activities across seven alternatives, all which contain more or less the same high levels of logging that exist today. See also DellaSala Declaration at par. 14, 15, 16. The FEISs do not contain a 'no action' alternative without logging, an alternative that would represent the baseline forest carbon conditions that would exist if DNR forests were allowed to grow to their maximum ecological potential (a strategy referred to as proforestation).

Only by using this 'with and without' framework can the real climate impacts DNR's management activities, including its logging program, be assessed. As a result, the FEISs do not evaluate the significance of the actual level of emissions (only the incremental changes)

associated with DNR's logging program; and do not take all life cycle GHG emissions into account or evaluate that level of emissions against any objective criteria established by policy or law - such as numerous federal and state policies and laws that have generally established that GHG emissions exceeding 10,000 metric tons CO₂ are considered a significant source that needs to be subject to regulation³⁰

(b) The FEISs use invalid evaluation criteria for determining significance.

Moreover, the standard adopted by DNR in each FEIS for determining whether or not the GHG emissions associated with DNR logging projects have significant climate impacts - i.e. whether DNR lands sequester more carbon than they emit - is irrelevant (DellaSala Declaration at par. 11, 12, 13). A useful analogy would be to imagine an analyst from the Bureau of Ocean Energy Management (BOEM) concluding that new oil and gas leases would have no climate impacts because the oceans still sequester more carbon than would be emitted by these projects.

Aside from the fact that sequestration by forests and oceans is not attributable to DNR or BOEM management activities (nature provides this service for free), the reality is that climate change is happening because the accumulation of GHG emissions associated with human activities, including logging, have long ago exceeded the Earth's capacity to fully absorb these emissions and are degrading that capacity further.

Because of human activities, atmospheric concentrations of GHG gases and radiative forcing (RF) continue to rise. All new sources of emissions and each new acre of foregone sequestration is contributing to the climate crisis (DellaSala Declaration at 12). Instead of comparing emissions associated with logging with carbon sequestered by forests, soils, and wood products in a given year, a credible climate impacts analysis would begin by evaluating the significance of logging related GHG emissions by themselves without reference to what is sequestered and stored elsewhere by ecosystems, wood products, or landfills (DellaSala Declaration at par. 13).

(c) In western Washington, DNR forestlands likely emit more carbon than they take in.

But even if DNR's criteria is accepted - whether DNR forestland emit less carbon than they take in - is accepted as a legally or ecologically credible standard, the data do not support this conclusion. As a preliminary matter, it is important to point out that the conclusions of the climate impacts analyses contained in the FEISs are premised on outdated data, and contradicted by more recent data, including the data contained in Washington's Forest Ecosystem Carbon Inventory, and recent research such as Hudiburg et al. (2019). These

³⁰ See, e.g. Washington Department of Ecology's draft Greenhouse Gas Rule for Projects. Available online at: <https://ecology.wa.gov/DOE/files/36/36bdb605-225d-4a74-9edd-8bc600714977.pdf>

more recent documents paint a drastically different picture of stocks and flows of carbon and logging-related emissions than what is represented by DNR in the environmental checklist.

Statewide, there is no statistically significant difference between the amount of carbon removed by timber harvest (removals) and sequestered (growth minus mortality) by DNR lands, even after taking into account the amount of CO₂ removed by timber harvest and stored in long-lived wood products. As noted above, about 20% of the carbon removed during logging operations is generally stored in long lived wood products, according to conventional methodologies. On the other hand, GHG emissions from DNR logging projects extend well beyond just the carbon emitted from the decay of the slash, stumps, needles, and mill waste; and encompass all of the direct, indirect, fossil and biogenic carbon sources noted above. So using unadjusted removals as a proxy for logging related emissions provides a reasonable estimate.

Data from western Washington (below) is even more troubling. The most up to date data available from the USDA’s Forest Inventory and Analysis Program (FIA) clearly shows that on DNR’s western Washington forestlands more carbon is removed by timber harvest and mortality than is being added by growth.

Average annual net sequestration on DNR forestlands in Western Washington				
Source: USDA FIA, EVALIDator 2.03 (12-9-22)				
(Dry short tons)				
<u>Ecoregion</u>	<u>Growth</u>	<u>Mortality</u>	<u>Removals</u>	<u>Net</u>
242A	985,701	288,777	814,111	-117,187
242B	15,189	0	27,971	-12,782
M242A	2,444,319	690,854	1,138,124	615,341
M242B	1,414,550	327,389	562,721	524,440
M242C	384,959	172,081	58,664	154,214
M242D	39,581	589,748	823,459	-1,373,626
				-209,600
(tCO ₂ -e)				
<u>Ecoregion</u>	<u>Growth</u>	<u>Mortality</u>	<u>Removals</u>	<u>Net</u>
242A	1,640,547	480,625	1,354,962	-195,040
242B	25,280	0	46,553	-21,274
M242A	4,068,190	1,149,819	1,894,231	1,024,140
M242B	2,354,299	544,888	936,562	872,849
M242C	640,705	286,402	97,637	256,665
M242D	65,876	981,544	1,370,520	-2,286,188
				-348,847

As such, the DNR's assertions in each of the environmental checklists that "[a]t the western Washington scale, land management activities on DNR managed lands, sequester more carbon than emitted" is demonstrably false according to the most recent, and most accurate forest carbon data available.

C. DNR must conduct project level review of climate change impacts for timber sales even when it previously engaged in review of climate change impacts at the programmatic level.

Even if the prior FEISs invoked by DNR in the SEPA checklist were relevant and actually disclosed GHG emissions, loss of carbon sequestration capacity, and loss of climate resiliency due to DNR's logging program, DNR must still conduct project level review. SEPA requires an agency to "phase" its environmental review when the sequence is from a non-project document to a document of narrower scope, such as a site-specific analysis.³¹ With phased review, the coverage of general matters in broader environmental documents is followed by environmental review in subsequent narrower documents concentrating solely on the issues specific to the later analysis.³² Thus, phased review requires two separate and distinct steps: (1) Phase 1 is environmental review of impacts on a broader scale in the programmatic EIS and (2) Phase 2 is environmental review of site-specific project level impacts in a site-specific EIS or DNS. While an agency is allowed to rely on existing environmental documents to evaluate the environmental impacts of a site-specific proposal, the agency is still required to engage in an independent analysis of impacts at the project level.³³

SEPA provides guidance on how this phased review must be carried out:

A nonproject proposal may be approved based on an EIS assessing its broad impacts. When a project is then proposed that is consistent with the approved nonproject action, the EIS on such a **project shall focus on the impacts and alternatives including mitigation measures specific to the subsequent project** and not analyzed in the nonproject EIS. If it is not valid, the analysis shall be reanalyzed in the project EIS.³⁴

This is precisely what CSE, STOP, and LFDC are seeking - an informed disclosure of climate impacts, alternatives, and mitigation measures specific to the Juneau timber sale performed by the DNR responsible official. The existence of prior analyses - especially information contained in non-project EISs - necessitates further refinement during project level SEPA analysis in order to address impacts (like GHG emissions or lost carbon sequestration capacity from roads) that can only be ascertained at the level of individual projects.

³¹ WAC 197-11-060(5)(b) and (c).

³² WAC 197-11-774; WAC 197-11-776.

³³ WAC 197-11-600(2); WAC 197-11-704(2).

³⁴ WAC-197-11-443 (emphasis supplied)

Nonproject EISs, like those cited by DNR, provide guidance for more refined and relevant analysis of climate impacts at the project level, where the impacts actually take place.

D. Request for relief

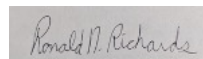
To obviate the need for further litigation on this issue, CSE, STOP, and LFDC hereby request the following relief:

- a. That DNR rescind the determination of non-significance for the Juneau timber sale since that determination is clearly erroneous with respect to climate impacts.
- b. That, to the extent that DNR moves forward on this project in the future, a full accounting of climate impacts be disclosed in the project's revised SEPA analyses. An adequate climate impacts analysis should include estimates of GHG emissions associated with the projects using life cycle analyses, calculation of lost carbon sequestration capacity, as well as a complete discussion of climate resiliency risks incorporating the best available scientific information.
- c. That DNR include a 'climate smart' alternative in its revised SEPA analysis that sets aside mature, old growth and legacy forest components of these projects as forest carbon reserves and uses low impact techniques like variable density thinning to accelerate the development of carbon rich late successional/old growth stand conditions in portions of the sale area occupied by dense, young timber plantations.

Sincerely,



John Talberth, Ph.D.
President and Senior Economist
Center for Sustainable Economy
Port Townsend, WA
(510) 384-5724
jtalberth@sustainable-economy.org.



Ron N. Richards
Chair
Save the Olympic Peninsula
Port Angeles, WA
(360) 477-5367
ronaldrichards@gmail.com



Stephen Kropp, Director
Legacy Forest Defense Coalition
PO Box 7154
Tacoma, WA 98407
(253) 272-8844
stephen@wlfdc.org