



# L.I.G.H.T. FOUNDATION

Elmer City, WA 99124

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Attn: Nichelle Barnaby, Code Reviser  
Office of Reservation Attorney  
Confederated Tribes of the Colville Reservation (CTCR)  
P.O. Box 150  
Nespelem, WA 99155

Attn: Rebecca Hunt, Director  
Natural Resource Department  
CTCR  
P.O. Box 150  
Nespelem, WA 99155

Sent via email to: [nichelle.gallaher.ora@colvilletribes.com](mailto:nichelle.gallaher.ora@colvilletribes.com) [Rebecca.hunt.adm@colvilletribes.com](mailto:Rebecca.hunt.adm@colvilletribes.com)

RE: Comments on CTC 4-7 Forest Practices & CTC 4-9 Hydraulic Practices Proposed Amendments

Dear CTCR Office of Reservation Attorney Code Revisor & Natural Resource Director:

The L.I.G.H.T. Foundation (LF) is an independent, Indigenous-led, conservation 501(c)(3) nonprofit organization established on the Colville Indian Reservation in the traditional territory of the Nespelem Tribe. We support the restoration and cultivation of native plant species of Pacific Northwest Tribes and the culturally respectful conservation of habitats and ecosystems which are climate resilient and adaptive. LF recognizes that the authority and ability of the Confederated Tribes of the Colville Reservation (CTCR) to develop jurisprudence, coupled with actionable regulation and enforcement of those laws is the exhibition of true self-determination and sovereignty.

Indigenous Peoples and the ecosystems we have stewarded for time immemorial have been adversely impacted by the industrialization and privatization of resources for commodification and extraction. This has manifested in many forms since contact with Euro-Americans and has resulted with fractionated lands, piecemeal protections for environmental and public health, and reduced the resiliency of Indigenous cultural ecologies. The CTCR's Proposed Amendments for Colville Tribal Code (CTC) 4-7 Forest Practices and CTC 4-9 Hydraulic Practices provide us with an opportunity via public comment to address the negative impacts these colonialist and capitalistic structures have had on the traditional food systems, socio-economic structures, and cultural heritages of Indigenous Peoples within the Columbia River watershed generally, and the CTCR specifically. Keeping this position in mind, we are honored and humbled to support the advancement of CTCR governance by respectfully requesting the consideration of these comments and recommendations.

## **Worker Safety**

There is high probability that logging equipment operating on slopes over 50% will be extremely hazardous to operator safety. Steep areas that are not normally accessed for timber harvest will be naturally less stable and have a higher potential for erosion and runoff. The increase of weight, force, and energies of mechanized systems on steeper slopes, coupled with more frequent rain-on-snow



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events, microburst windstorms, and other examples of severe weather experienced on the Colville Indian Reservation may result with exacerbated risks and safety issues for operators.

## A. Recommendations to support Worker Safety:

1. Remove proposed amendment CTC 4-7-66 (d)(1) which allows tethered harvest systems on slopes 50-70%. In the event that the proposed amendment is approved, we recommend revising the threshold to 35-50% and striking the proposed 50-70% percentages.
2. We support the portion of proposed amendment CTC 4-7-66 (d)(1) which identifies that tethered harvest systems be conducted under requirements promulgated by the CTCR Natural Resources Department and approved by the Colville Business Council (CBC). We provide the following recommendations to integrate into those requirements, in the event that this proposed amendment is approved:
  - a) Identify and implement robust safety standards and enforcement,
  - b) Identify necessary training credentials and incorporate them into timber sale contracts and the permit,
  - c) Identify training cycles and inspection clearance timelines prior to the commencement of tethered harvest operations, and
  - d) Integrate robust local weather condition reporting and assessment into contract bids and safety requirements for logging contractors. Long-term and site specific weather data could be tiered to the project areas where proposed tethered harvest operations may take place.
3. We support proposed amendment CTC 4-7-66 (d)(6) which identifies that tethered harvest systems will not be used in unstable areas. However, there is a need for geotechnical assessments of known and potentially unstable areas (e.g. the Browns Pass region) to be completed by geologists and soil scientists to ascertain and map out which regions of the Colville Indian Reservation are too hazardous for these tethered harvest operations. Those regions should then be included in CTC 4-7-3 and removed from the CTCR Annual Allowable Cut and Commercial Forest Inventory assessments.

## **Opportunities to Mitigate Environmental Impacts**

### ***Native Plant Regeneration & Soil Health***

There is high probability that logging equipment on slopes over 50% will be substantially detrimental to soil health and regeneration. This will occur from the nature of tethered harvest operations and equipment rutting and will result with soil compaction, increased erosion, reduced soil productivity, loss of hydraulic function, restriction of root growth, removal of organic matter, soil displacement, and the introduction and distribution of invasive and/or noxious plant species which may outcompete native plants.<sup>1</sup>

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<sup>1</sup> See: Brame, Sarah and Jason Jimenez. *Steep Slope Logging with Ground Based Cut to Length Equipment with a Tether System on the Colville National Forest*. 9 September 2019. Available at: <https://ecoshare.info/wp-content/uploads/2020/04/Colville-NF-2019-Steep-slope-monitoring-report.pdf>. See also: Atherton, Jacob. *The*



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Access to and availability of sacred, edible, medicinal, and fiber plant materials for culturally appropriate subsistence or traditional harvest are threatened. Strong compliance and enforcement of forest and hydraulic practices will assist in the protection and conservation of native plant species of subsistence or traditional value to Tribal citizens, and those fragile native plant species and communities which are adversely impacted by soil disturbance, or which are particularly sensitive to changes in soil moisture. Furthermore, it will deter invasive or exotic species from establishing a foothold in areas where other native plant species and interdependent animal and aquatic species may be in need of refugia. Similarly, reseedling with appropriate native plant seed mixes will support forage for subsistence animal species of importance to Tribal citizens. Combined together, these actions will help support the Tribal citizens who may be food insecure or experience reduced access to harvesting the plant species of their cultural heritage.

## B. Recommendations to support Native Plant Regeneration & Soil Health:

1. Revise proposed amendment CTC 4-7-66 (d)(5) to “Seasonal restrictions will be observed, and such restrictions must be included in the permit and subsequent contract conditions. Tethered harvest may only occur on at least 12” of snow or frozen ground so as to minimize soil compaction, and may only occur as outlined in the permit approved by the Department.”
2. Remove proposed amendment CTC 4-7-66 (d)(7) which identifies that tethered harvest systems may be used in areas where soil has been identified having “severe” or “very severe” erosion hazard, a “severe” rating for rutting hazard, and soils with “low” compaction resistance (“high” compaction potential).
3. Revise proposed amendment CTC 4-7-66 (d)(8) to “Same-year reseedling of skid trails prior to next winter season is required to minimize soil displacement, erosion, and invasive species habitat shifts. The Department will outline in the approved permit all other mitigation measures required beyond the standard requirements outlined in this Chapter [...].” Additional mitigation measures the Department may consider include the strengthening and reinforcement of firm Best Management Practices (BMPs) for operations and equipment use, including, but not limited to:
  - a) Downed woody debris necessary to reduce soil compaction and erosion under mechanized systems,
  - b) Control measures for sediment and emergent soil, including grab logs to slow down sediment delivery into the watershed,
  - c) No post-harvest application of herbicides or pesticides, to retain native plant and pollinator species populations,

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*Potential Effects of Tethered-Based Forest Harvesting Systems on Soil Disturbance in Coastal British Columbia.* 1 January 2019. Available at:

<https://open.library.ubc.ca/soa/clRcle/collections/undergraduateresearch/52966/items/1.0376466>.



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- d) Increasing the standard spacing between skid trails to reduce soil disturbance and protect habitat, and
  - e) Logging equipment and supporting timber harvest vehicles (e.g. pumper trucks, low boys, etc.) entering watersheds (and particularly those tethered harvest systems which may operate in areas previously unavailable) should be required to wash their undercarriage upon entry and exit of every watershed so as to reduce the spread and distribution of invasive species and noxious weeds.
4. We support an increase of compliance checks for CTC 4-7 and CTC 4-9 enforcement actions as an exercise of Tribal sovereignty and recommend the establishment of additional ecological assessment monitoring as additional mitigation measures proposed under amendment CTC 4-7-66 (d)(8). This monitoring may include, but is not limited to:
- a) Occur on a regular basis of three-, six-, nine-, and twelve-months post-harvest,
  - b) An analysis of water temperature in adjacent or downstream waters pre- and post-harvest at intervals identified above,
  - c) An assessment of site-specific soil health indicators (moisture, compaction, organic materials) at intervals identified above,
  - d) An assessment of invasive species presence and encroachment at intervals identified above, and
  - e) An assessment of the health and stability of old growth trees at intervals identified above.

### ***Riparian Management Zones & Hydraulic Function***

We do not support the use of tethered harvest operations in Riparian Management Zones (RMZ) of any Water Type, Water Category, Shoreline Regulatory Areas, or through any type of Wetland. These harvest systems, with the increased slope in which they operate, are at a higher risk of landslides, as well as heightened levels of soil erosion, compaction, and degradation seen in off-road machine use. In the long-term, these effects may increase risks of slope movement and stability issues, decrease tree growth rates, and increase tree mortality. These compounding effects have significant implications for flooding and water quality in the RMZs.<sup>2</sup>

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<sup>2</sup> Ibid. Atherton, 2019. See also: Visser, Rien and Hamish Berkett. *Effect of Terrain Steepness on Machine Slope when Harvesting*. 2 January 2015. International Journal of Forest Engineering: Volume 26. Available at: <https://www.tandfonline.com/doi/full/10.1080/14942119.2015.1033211>. See also: Brais, Suzanne. *Persistence of Soil Compaction and Effects on Seedling Growth in Northwestern Quebec*. 1 July 2001. Soil Science Society of America Journal. Available at: <https://access.onlinelibrary.wiley.com/doi/abs/10.2136/sssaj2001.6541263x>. See also: Tavankar, Farzam, Amir Bonyad, Mehrdad Nikooy, Rodolfo Picchio, Rachele Venanzi, and Luca Calienno. *Damages to Soil and Tree Species by Cable-Skidding in Caspian Forests of Iran*. May 2017. Available at: [https://www.researchgate.net/publication/317080483\\_Damages\\_to\\_soil\\_and\\_tree\\_species\\_by\\_cable-skidding\\_in\\_Caspian\\_forests\\_of\\_Iran](https://www.researchgate.net/publication/317080483_Damages_to_soil_and_tree_species_by_cable-skidding_in_Caspian_forests_of_Iran).



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Tethered harvest operation suspension activities should not occur over any RMZ or Water Type in lieu of new road development, as the most effective forest practice BMPs to prevent erosion are recognized as road decommissioning and reduction of water crossings. The CTCR has done substantial work decommissioning and reducing new forest road development since the federal trust mismanagement settlement in 2012.<sup>3</sup> All roads (open, closed, decommissioned, and unauthorized) per watershed should continue to be assessed to determine which are the most detrimental to hydrologic issues (e.g., interrupt and alter flow regimes, change wood delivery, and contribute to excessive amounts of sedimentation). We support the proposed amendments to decreasing roads to 1.5 miles per acre (with a net decrease in forest road density by 2030, CTC 4-7-60 (a)(2)(D)). We also support the completion of a comprehensive transportation plan for the Colville Indian Reservation for land management and public safety.

## C. Recommendations for Riparian Management Zones & Hydraulic Function:

1. Remove proposed amendment CTC 4-7-66 (d)(2)(A-C), which sets three precedents for logging operations generally, and tethered harvest operations specifically, within RMZs.
2. Increasing riparian buffers in watersheds where tethered harvest operations occur to support downstream RMZs, habitats, and water quality to the benefit of aquatic and terrestrial species as well as cultural practices of Tribal citizens.
3. Revise CTC 4-7-66 (d)(5) to “Seasonal restrictions must be observed, and such restrictions must be included on the permit conditions and in the logging contract.”
4. Revise CTC 4-7-66 (d)(7) to “Tethered Harvest Systems may not be used in areas with soils identified as having ‘severe’ or ‘very severe’ erosion hazard, soils with a ‘severe’ rating to rutting hazard, and soils with ‘low’ compaction resistance (‘high’ compaction potential).”
5. We support proposed amendment CTC 4-7-66 (d)(6) which identifies that tethered harvest systems will not be used in unstable areas. However, there is a need for geotechnical assessments of known and potentially unstable areas (e.g. the Browns Pass region) to be completed by geologists and soil scientists to ascertain and map out which regions of the Colville Indian Reservation are too hazardous or at risk of landslides. This will help inform long-term roads infrastructure planning and management. Those regions should then be included in CTC 4-7-3, removed from the CTCR Annual Allowable Cut and Commercial Forest Inventory assessments, and incorporated into a comprehensive transportation plan for the Colville Indian Reservation for land management and public safety.

### ***Old Growth & Reserve Trees***

Logging at the scale identified in the CTCR Integrated Resource Management Plan results with a large net loss of forest carbon storage, and may degrade the forest ecosystem’s ability to provide natural protections against extreme weather events and eradicate the seed source genetically attuned to the conditions of the Colville Reservation environment. However, wildland fires or Indigenous cultural

<sup>3</sup> Kramer, Becky. *Colville Tribes’ Land Suite Settled*. 25 February 2012. The Spokesman-Review. Available at: <https://www.spokesman.com/stories/2012/feb/25/colville-tribes-land-suit-settled/>.





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burning generally consume less carbon than logging operations, while also improving the availability of key nutrients in the soil and stimulating rapid forest regeneration. To effectively mitigate climate change, large land managers like the CTCR could increase forest protection from all logging operations to avoid carbon emission release and absorb large amounts of carbon from the atmosphere to preserve in biologically diverse landscapes.<sup>4</sup>

#### D. Recommendations for Old Growth & Reserve Trees:

1. Regarding CTC 4-7-66 (d)(8), a cost-benefit analysis of existing logging practices and implementation which identifies the annual gross and net income may be necessary to help inform a watershed management approach that is mindful of long-term and irreversible shifting climate conditions which impact the economic feasibility of timber harvests currently designed and implemented in the CTCR Integrated Resource Management Plan. The analysis may include the accounting of carbon emissions into its design, reporting to better understand inputs and outputs of climate impacts, and identify potential alternative economic models to investigate.
2. Revise CTC 4-7-68 (a) to “On all acres harvested outside of riparian zones, a minimum of seven (7) reserve trees per acre, well distributed, shall be left standing, especially all existing anchor trees. Old growth tree species, or those larger diameter trees per acre that have the potential to become old growth in areas of over a slope of 35% will be maintained to protect slope stability, watershed function, provide wildlife habitat, and as a local seed source.” Additional language recommended for consideration in this revision may come from the “Big Tree” Resolution already in existence and approved by CBC.
3. Remove proposed amendments to CTC 4-7-68 (b), which assume that all lands adjacent to lands receiving an approved permit under CTC 4-7 are fully stocked as a ‘reserve patch’ and places the burden to correct false assumptions on the Department.

The ongoing monitoring of tethered logging systems, coupled with best practices of climate adaptive and holistic watershed management will be vital to ensuring that the forest ecosystems of the Colville Indian Reservation remain resilient and strong in the face of climate for generations to come.

Thank you for this opportunity to review and provide public comments on this important Code Amendment process. The L.I.G.H.T. Foundation appreciates your consideration and is committed to working with all our Tribal partners and allies to support the protection and conservation of native plant species which are vital to the traditional food systems, socio-economic structures, and cultural heritages of Indigenous Peoples throughout the Pacific Northwest.

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<sup>4</sup> See: Smith, Danna; Chad Hanson; and Matthew Koehler. *Logging is the Lead Driver of Carbon Emissions from US Forests*. 4 April 2019. Earth Island Journal. Available at: <https://www.earthisland.org/journal/index.php/articles/entry/logging-carbon-emissions-us-forests/> See also: *The Significance of Carbon Emissions from Logging on Federal Forests*. 11 July 2022. Climate Forests. Available at: <https://www.climate-forests.org/post/the-significance-of-carbon-emissions-from-logging-on-federal-forests>.



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Sincerely,



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Joaquin J. Marchand, B.A.B., M.P.A.  
Executive Director  
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