



Legacy Forest Defense Coalition
P.O. Box 7154
Tacoma, WA 98417
Phone: (360) 872-3264
Email: info@wlfdc.org

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To: Board of Natural Resources
MS 47000
Olympia, WA 98504-7000
Submitted via email: bnr@dnr.wa.gov

Re: Letter of Opposition to: **Bologna** timber sale

Dear Chair Franz and Board Members,

We are writing to urge the Board to deny approval of the “Bologna” timber sale. This timber sale would involve the clearcut logging of structurally complex forests – a clear violation of DNR policies and procedures – and logging of mature forests within the channel migration zone of the Pilchuck River, in violation of state forest practices rules (WAC 222-30-022).

I am a licensed engineer in Washington State, studied open channel flow modeling and fluvial geomorphology at the University of Washington in Seattle, designed and built sediment transport models as part of my post-graduate research, and have close to fifteen years of professional experience modeling flood events and sediment transport in rivers and conducting flood risk assessments for public government and tribal agencies, and nonprofit organizations. I modeled the extents of the historic channel migration zone within this reach of the Pilchuck River, based on available LiDAR data, a two-dimensional GIS-based flood inundation model that I developed while working as an engineer for Cardno-Entrix, and my own personal knowledge of river channel hydraulics, fluvial morphology, and how rivers behave and evolve over time. In my professional opinion, **portions of both units 1 and 2 of the Bologna timber sale are within the channel migration zone** of the Pilchuck River (please see attached Geomorphic Analysis for details).

State law dictates that “RMZs are measured horizontally from the outer edge of the bankfull width or channel migration zone, whichever is greater.” The channel migration zone (CMZ) is part of what is described as the “core zone”. Logging within the core zone is strictly prohibited under WAC 222-30-022:

The core zone extends thirty feet measured horizontally from the edge of the bankfull width or outer edge of the CMZ, whichever is greater, for all timber habitat types. **No harvest or construction is allowed in the core zone** except as detailed in subsection (1) of this section. Any trees cut for or damaged by yarding corridors must be left on site. Any trees cut as a result of road construction to cross a stream may be

removed from the site unless used as part of a large woody debris replacement strategy. WAC 222-30-022(1)(a).

Under state law, a buffer is required that extends outward from the core zone, the width of which depends on the site class and other factors. Logging within this zone is also restricted.

Chapter 30.62B.330 of the Snohomish County Code prohibits **“any construction, development, earth movement, clearing, or other site disturbance which... is proposed by a public agency”** within the channel migration zone. The code applies from the Pilchuck River confluence with the Snohomish River up to River Mile 36.17. Units 1 and 2 of the Bologna timber sale are both located within this reach of the river, and at least partly within the channel migration zone. The Bologna timber sale therefore violates both state law, and Chapter 30.62B.330 of the Snohomish County Code.

We estimate that this timber sale would also result in the commercial logging of up to 25 acres of 80-93 year old, structurally complex, naturally regenerated, mixed hardwood and conifer forest along the Pilchuck River, including dozens of trees that are over three feet in diameter and close to 200 feet tall.¹ The decision to target these forests for commercial harvest defies fully functional stand structure objectives of the State Trust Lands Habitat Conservation Plan, and violates established Board policies and procedures intended to restore old growth conditions across the North Puget Sound HCP planning unit.

The Policy for Sustainable Forests requires DNR to manage structurally complex forests, especially stands in the botanically diverse stage of stand development, to achieve older-forest structures across 10-15 percent of each Western Washington HCP planning unit in 70-100 years.² As we show in **Addendums B and C** to this letter (attached), this timber sale would clearcut forests that are structurally complex. According to the Policy for Sustainable Forest FEIS, and PR 14-004-046, DNR is required to identify structurally complex forests to meet older forest targets, in part, based on the “scarcity of other structurally complex stands in the ownership block, landscape, or watershed.”³ The Bologna timber sale is located in the Pilchuck River watershed. Structurally complex forests are increasingly rare in the watershed, and in the North Puget Sound HCP planning unit as a whole, as we show in **Addendum A** to this letter (attached).

The Board of Natural Resources and DNR recognized during the habitat conservation planning process in 1997 that large contiguous landscapes of mature and old growth forest habitat, upon which many species of concern depend, were absent across much of its forested land base. To provide the habitat necessary to avoid further adverse impacts to these species, DNR made repeated commitments to restore old growth conditions across 10-15% of each HCP planning unit in Western Washington.⁴ For example, DNR is obligated under the Policy for Sustainable Forests, the Department's procedures for Identifying and Managing Structurally Complex Forests (PR 14-004-046), and the Multi-species Conservation Strategy of the HCP to work toward maintaining or

¹ Based on DNR's plot-based forest inventory data, historic aerial photographs, and LiDAR imagery.

² See Policy for Sustainable Forests, p. 46; Policy for Sustainable Forests FEIS, p. 3-177.

³ See Policy for Sustainable Forests FEIS, p. 3-177; PR 14-004-046, p. 3.

⁴ DNR's Addendum to the FEIS for the 2007 (page 2) sustainable harvest calculation describes forests in the niche diversification and fully functional stages of stand development as “old-growth like” forests.

restoring "fully functional" or "old growth-like" forests across 10-15 percent of lands covered by the HCP. DNR commonly refers to the 10-15% target as the "older-forest target". In the Policy for Sustainable Forests FEIS, the Board's preferred alternative "emphasizes that the 10 to 15 percent older-forest targets will be accomplished" within 70 to 100 years.

The 1997 Biological Opinion for DNR's HCP anticipated that the Department would work to maintain or restore a minimum of 12% of lands covered under the HCP within the Northwest HCP planning unit to fully functional conditions by 2096. According to the Intra-Service Biological Opinion, it is necessary for DNR to provide a minimum percent of fully functional forest to "ensure that stand structural stages not provided by other conservation strategies of the HCP are present in the HCP area." The agency has abdicated those commitments by clearcut logging thousands of acres of structurally complex forest every year — a class of rare future old growth specifically identified for protection in DNR's Policy for Sustainable Forests.

Although DNR asserts they will meet their older forest target in the North Puget Sound HCP planning unit by 2070, data obtained from DNR's Public Disclosure Office reveals that DNR has only set aside 34,547 acres of structurally complex forest in the North Puget Sound HCP planning unit for conservation, which represents **just 7.5% percent of the North Puget Sound HCP planning unit** that has protected, structurally complex forests that are excluded from commercial timber harvest (see **Addendum A** to this letter). The "Bologna" timber sale is located in the North Puget Sound HCP planning unit. These stands should have been protected to meet older forest targets in the North Puget Sound HCP planning unit.

There are many wildlife species that depend on structurally complex habitat for survival. For example, the conservation of suitable breeding, foraging, and nesting habitat for the northern goshawk, Vaux's swift, pileated woodpecker, myotis bats, Pacific fisher, and olive-sided flycatcher, are dependent upon the "large contiguous landscapes of mature and old growth forest" that the 1997 HCP is "expected" to provide.⁵ Other representative species that require structurally complex forest habitat include the brown creeper, northern pygmy owl, Townsend's warbler, red tree vole, northern flying squirrel, and black bear.⁶ DNR's "cut it now" and "grow it later" approach to habitat conservation defies common sense, and jeopardizes the viability of species that are already at risk of becoming listed as threatened or endangered.

DNR's PR 14-004-046 directs DNR to develop landscape level management strategies to achieve the 10-15% older forest target during the forest land planning process that will be conducted for each HCP planning unit. PR 14-004-046 is the mechanism DNR developed to ensure compliance with the 10-15% older and fully functional forest objectives of the Policy for Sustainable Forests and its associated State Trust Lands HCP. The Procedure lays out a step-by-step plan, which entails identifying existing structurally complex forest stands that will grow into older forests, designating those forests in a mapping database, and protecting them from logging until the planning area's forest goals are met. Only after the 10-15% target is met may structurally complex forest stands be considered for harvest activities. DNR completely ignored these

⁵ See DNR. 1997. Final Habitat Conservation Plan, pp. III-78 – III-99.

⁶ See DNR. 2019. Alternatives for the Establishment of a Sustainable Harvest Level for Forested State Trust Lands in Western Washington, Final Environmental Impact Statement.

procedures, and never identified, mapped, designated, or protected structurally complex forests as required.

All of the timber sales referenced above are to be treated using even-aged harvest. However, PR 14-004-046 dictates that:

Harvest activities in older forest and other structurally complex stands designated as suitable to meet older forest targets must enhance the older forest condition.

The above referenced timber sale, as presented to the Board, will not enhance older forest conditions, or contribute to the development of fully functional forests.

The Policy for Sustainable Forests and associated HCP implementation procedures constitute DNR's plan for implementing the HCP, and also serve as mitigation for timber harvest on lands covered by the HCP. Commercial harvest of the oldest and most biologically diverse lowland forests remaining in Western Washington is inconsistent with Board of Natural Resources approved policies and procedures intended to preserve and promote biodiversity and the development of older or fully functional forests. Although DNR has not designated the lands included in the above referenced timber sale as contributing to older-forest targets, DNR's own analysis indicates that it will not meet their older forest target in the North Puget Sound HCP planning unit until 2070, and that less than 10% structurally complex forests have been set aside for conservation in the North Puget Sound HCP planning unit. This forest obviously has the potential to contribute to the attainment of older forest targets and should be managed for that purpose.

In March, and again in April and May of 2023, DNR management defended the decision to prioritize forests like "Bologna" for commercial harvest by repeating the common assertion that nearly half of all forestlands managed by DNR have already been protected or set aside for conservation. **This is simply not true.** Only about 17% of state forestlands managed by DNR in Western Washington have been truly set aside for conservation; and a majority of those forests are not mature, structurally complex forests, but younger forests that were clearcut logged, often sprayed with herbicides, and replanted with nursery-grown Douglas fir cultivars between 1950 and 1990. When DNR asserts that half of all state forestlands have been set aside for conservation, they are including areas that are either managed on extended rotations, or will be available for commercial harvest in the future, including designated spotted owl habitat, potentially unstable slopes; areas that are currently inaccessible to logging equipment; and other areas that are unforested, such as gravel pits, powerline corridors, roads and parking lots. These are not conservation areas.⁷ DNR also classifies and takes credit for stream buffers as conservation areas, regardless of their size. Narrow, 50-100 foot stream buffers on small, non-fish bearing streams were never intended to function as conservation areas or provide suitable wildlife habitat for federal or state wildlife species of concern.⁸

⁷ See LFDC Response to D. Danato Report to BNR and associated attachments (incorporated by reference), submitted by the Legacy Forest Defense Coalition to the Board of Natural Resources on May 2, 2023.

⁸ Although riparian management zones, as defined in the HCP, are intended to "contribute" to the conservation of all aquatic and riparian obligate species, their "primary purpose", according to the Riparian Conservation Strategy of the 1997 HCP, is "to maintain or restore the ecological functions in riparian and upland areas that

Data obtained from DNR's Public Disclosure Office reveals that almost half of the lands that DNR has designated as contributing to fully functional stand structure objectives in the North Puget Sound HCP planning unit are located within riparian buffers (see **Addendum A** of this letter). A strategy that relies so heavily on stream buffers to meet older-forest and fully functional stand structure objectives results in a fragmented landscape that is subject to edge effects, lacks interior forest habitat, lacks large conifers, and is often dominated by alder and other early successional or invasive species. We believe this approach is both unrealistic, and inconsistent with the intent of the Multispecies Conservation Strategy and the objectives of the Policy for Sustainable Forests.

There is still much we do not understand about the ecology of native Pacific Northwest forests and the organisms that are found there. According to Lindenmayer and Franklin (2002):

"Effects of human disturbance on biodiversity are poorly known, and some impacts may be irreversible. Others such as synergistic and cumulative effects can be extremely difficult to quantify or predict.... [and] for some species will probably never be known... Ultimately, this makes large ecological reserves valuable as 'safety nets' relatively free from human disturbance."

It is well established that rotting snags and logs found in these older forests provide tunnels, dens, and nesting cavities required by many organisms, from spotted owls to land snails and springtails. Dead and dying trees are used by a broad array of both vertebrates and invertebrates for foraging and nesting, and roosting. They also provide essential habitat for many species of mushrooms. A study of Douglas fir forests in western Oregon found that large logs in advanced stages of decay had the richest bryophyte flora of any forest substrate.⁹ These features are very difficult to restore in managed forests. Despite our best efforts to retain these structures during harvest, much of this habitat is lost when these forests are logged. Natural forests also contain significant components of non-commercial tree species such as silver fir, spruce, cottonwood, alder, and big leaf maple. Some wildlife species have been found to be either strongly associated or dependent on specific tree species.¹⁰ When these species are logged and replaced with commercial nursery conifer seedlings, the species that depend on them may be lost as well.

Older, native forests can also contribute to the productivity of working forests or plantations. For example, small mammals including voles, shrews, and squirrels that find refuge in older forests may disseminate spores of mycorrhizal fungi to forests managed for timber production. Natural

directly influence salmonid freshwater habitat." Accordingly, "the primary design criterion" for determining the width of the riparian management zone is to "provide the quantity and quality of instream large woody debris that approximates that provided by unmanaged riparian ecosystems." Riparian management zones are not designed nor intended to provide critical habitat for other wildlife species, including state and federal candidate species and other species of concern, listed Table III.14 of the HCP, that are associated with structurally complex forests.

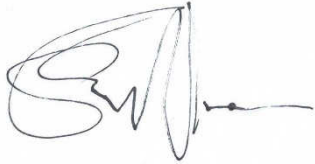
⁹ See Rambo, T. R. 2001. Decaying logs and habitat heterogeneity: implications for bryophyte diversity in western Oregon forests. *Northwest Science* 75: 270-277.

¹⁰ See Hagar, Joan C. 2007. Wildlife species associated with non-coniferous vegetation in Pacific Northwest conifer forests: A review," in *Forest Ecology and Management*, Vol. 246, pp. 108-122.

parasites and predators found in mature or structurally complex forests may also play an important role in preventing or limiting pest outbreaks in managed stands.

Instead of logging the oldest and most biodiverse lowland forests that remain in Western Washington, we urge DNR to focus on developing a management strategy to generate revenue for trust beneficiaries that conserves older forests, accelerates the development of fully functional forests, and complies with the requirements of DNR's 1997 Habitat Conservation Plan, the Intra-Service Biological Opinion for the HCP, PR 14-004-046, and the 2006 Policy for Sustainable Forests.

Respectfully

A handwritten signature in black ink, appearing to read 'SK', with a horizontal line extending to the right from the end of the signature.

Stephen Kropp