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22 May 2022

Greta Smith, District Ranger
Darrington Ranger District
1405 Emens Avenue North
Darrington, WA 98241
Electronically submitted to: comments-pacificnorthwest-mtbaker-snoqualmie@usda.gov

Dear Ms. Smith,

Pilchuck Audubon Society represents over 1,000 members in the north Puget Sound region of Washington State. Our mission is to conserve and restore natural ecosystems focusing on birds and other wildlife for the benefit of the earth's biological diversity. The organization has worked to protect local forests and other wild lands since 1973. We are joined in these comments by Skagit Audubon Society, representing over 400 members in and near Skagit County, dedicated to biodiversity and ecosystem conservation since 1983. Our members use the National Forests and Wilderness areas for various forms of passive recreation including bird and other wildlife-watching; hiking, camping; gathering berries, mushrooms, and medicinal plants; and spiritual renewal.

This letter constitutes our scoping comments for the North Fork Stillaguamish Landscape Analysis.

The North Fork Stillaguamish Landscape Analysis (NFSLA) is similar in many ways to other recent watershed-wide logging projects on the Mt. Baker-Snoqualmie National Forest (MBSNF), in its enormous scope and potential for widespread ecological devastation. And yet, it contains several components that are even more disturbing. It is difficult not to see these components as an attempt to erode the guidelines of the 1994 Northwest Forest Plan (NWFP) and the 1990 MBSNF Plan, both designed to protect our forest ecosystems while providing a sustainable source of timber.

EIS Required
The unprecedented size of this proposal alone necessitates the preparation of a full Environmental Impact Statement (EIS). At nearly 62,000 acres, with logging occurring on 22,449 acres and 50 miles of temporary road construction, the cumulative impacts will be undeniably significant. Any effects will be magnified by the vast scope of the project. We are also concerned about the logistics of effectively administrating and monitoring such a huge undertaking with the limited staff available to the Forest Service.

Under the National Environmental Policy Act (NEPA), 40 CFR 1508.27(b), "Significantly" is defined by the following:

> (b) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. The following should be considered in evaluating intensity:
>
> > (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

This means that even if the Forest Service assertion that this project will improve old growth characteristics proves true, an EIS is required if this beneficial effect is considered significant. And if it is not, in fact, considered significant, we ask why the project should proceed?

> > (2) The degree to which the proposed action affects public health or safety.

This proposal has a very high potential for increasing risks of landslide and mass wasting. The tragic 2014 Oso landslide happened in this watershed, demonstrating that such slides can not only directly bury human beings and their properties, they can cause damming of rivers with resultant flooding which further jeopardizes human life and property. The infamous 1983 Deer Creek landslide, which severely degraded water quality in Deer Creek and the North Fork Stillaguamish River, is another prime example.

> > (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The North Fork Stillaguamish, Sauk, and Skagit Rivers are designated Wild and Scenic Rivers. They are also Tier 1 Key Watersheds, which "…serve as refugia and are crucial for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species. They are designated areas that either provide, or are expected to provide, high quality habitat."[1]

> > (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

For the reasons detailed in this letter, this project will indeed be highly controversial. Furthermore, the stated purpose and need, to improve old-growth characteristics of the "treated" forest, is controversial as well.

> > (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The purported beneficial effects of this project are highly uncertain, as discussed in this letter.

> > (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The subsequent wider application of Condition Based Management (CBM) as proposed in the NFSLA could have far-reaching effects. The proposed amendment to the 1990 Forest Plan could have serious adverse consequences for the Mountain Hemlock Zone. And allowing the modification of Late Successional Reserve

[1] 1994 Record of Decision (ROD), B-18

(LSR) designation and guidelines that were not evaluated in the Adaptive Management Area (AMA) Management Plan obviates the extensive analysis that underlay the NWFP and the AMA Management Plan.

> (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

There has been extensive logging of privately owned timberlands in the lower North Fork Stillaguamish watershed in recent years. As stated in the eponymous Watershed Analysis (WSA):

> Increasingly intensive lowland conversion, development and resource extraction in the Puget Sound and the Stillaguamish River basin, have resulted in reduced amounts and diversity of available wildlife and fisheries habitats. These changes translate to increasing pressures on the headwater tributaries to function as refuges.[2]

An EIS is required to adequately address these cumulative impacts.

> (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

This area is rife with history, both Native American (stretching back at least 12,000 years) and related to European and other settlers.[3] An EIS is required to ensure that these resources are adequately protected.

> (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

There is a high probability of adverse effects on numerous ESA-listed species, as described below.

> (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

It is likely that implementation of this project would violate provisions of the National Environmental Policy Act, the 1994 NWFP regulating activities in Late Successional Reserves and Riparian Reserves, the 1990 Mt. Baker-Snoqualmie National Forest Plan, the Endangered Species Act, and other Federal laws.

Purpose and Need

The stated purpose of the NFSLA, "to accelerate the development of old growth characteristics while also enhancing early seral stages and forest openings as needed to support wildlife forage and species biodiversity, where appropriate,"[4] may sound laudable, but is not necessarily desirable nor achievable. Any theoretical potential benefits to the forest must be weighed against the known harm caused by road construction and the commercial extraction of trees.

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[2] NF Stillaguamish WSA, 2000, p.3
[3] Ibid, pp. 3-1 – 3-8
[4] North Fork Stillaguamish Landscape Analysis Scoping Letter, p. 6

The historically abused forest of the North Fork Stillaguamish watershed is recovering well on its own. It is possible that the youngest stands (less than 30 years old) may benefit from some light noncommercial thinning with cut trees left on the ground, and no road construction or reconstruction. But we question the validity of commercial thinning, with its associated roads and other ground disturbance, to improve old growth habitat. Scientific consensus does not exist regarding the effects of thinning on forest structure.

Artificially favoring shade-intolerant species such as Douglas fir over western hemlock in order to increase species diversity is not a natural succession path, and thus not necessarily the healthiest way for the forest to develop. Furthermore, the high value of down logs (which occur with natural "self-thinning" of young forests but would be removed with commercial thinning) for soil fertility and wildlife food and habitat is widely recognized. According to biologist David Haskell,

> At least half a tree's contribution to the fabric of life comes after its death, so one measure of the vitality of a forest ecosystem is the density of tree carcasses.[5]

Heavy commercial thinning of nearly 14,000 acres of forest as proposed by this plan would eliminate substantial quantities of nutrients and habitat from the forest ecosystem.

According to Dominick Della Salla PhD, chief scientist of the Geos Institute,

> Decades of research on spotted owls and prey shows that logging is not as short-lived an impact as some might hope. This is because the owls roost and nest in closed-canopy, dense forests and so do many of the species' prey. Opening up forests may encourage barred owls, a more aggressive competitor of spotted owls, thereby negating efforts by the U.S. Fish and Wildlife Service to contain this invading owl.[6]

The EIS should include an alternative with no commercial logging. If this project is truly intended to further the Finney AMA goal of "[r]estoration of late-successional and riparian habitat components,"[7] any trees cut should be left on the ground to contribute to soil fertility and essential wildlife habitat, as would happen in a naturally thinned forest.

Condition Based Management

We are very concerned about the proposed use of Condition Based Management (CBM). This appears to be a method of circumventing the National Environmental Policy Act, for it would allow land-disturbing activities to occur without evaluation of their environmental effects. Under this policy, ecosystem-altering activities would occur after the NEPA process and public involvement window have closed. In effect, this would mean that the Forest Service would be allowed to manipulate the landscape and waterways with no oversight whatsoever, likely in coordination with commercial interests under contract with the federal government. At a minimum, CBM violates the intent, if not the letter, of NEPA.

The 2014 Oso landslide is a prime example of a changed condition that should trigger new environmental analysis. In fact, this was such a significant event that the 2000 NF Stillaguamish WSA may be no longer relevant, such that a new analysis should be undertaken—or at least an addendum issued to address the changed conditions (likewise, over 25 years of hydrologic evolution has occurred since the Deer Creek WSA was issued in 1996). If such an event were to occur during the execution of this project without further NEPA analysis of the previously planned actions, the effects could be disastrous.

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[5] Haskell, David. 2012, *The Forest Unseen*, New York, NY: Viking

[6] DellaSalla, Dominick, commentary in *The Oregonian*, 8-3-2012, https://www.oregonlive.com/opinion/2012/08/benefit_of_thinning_forests_fo.html

[7] ROD, D-13

If CBM is to be utilized, the environmental analysis for the NFSLA (which should be an EIS, for reasons previously stated) must thoroughly evaluate the effects of the most extreme actions that could potentially occur with any changed conditions—if this is indeed possible.

Late Successional Reserve 802

The vast majority of the area is designated as LSR under the NWFP. All vegetation manipulation treatments proposed for the forested areas of LSRs must "protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth related species including the northern spotted owl."[8] Any "thinning or silvicultural treatments" that occur in LSR must "…benefit the creation and maintenance of late-successional forest conditions."[9] The EIS for this proposal must demonstrate with rigorous scientific support how these criteria will be achieved.

According to the MBS Forest-wide LSR Assessment discussion of LSR 802, "[t]his…LSR is unique since it is not contiguous with other National Forest lands."[10] This characteristic limits habitat corridors between the LSR and other nearby suitable dispersal habitat on non-federal lands for spotted owls and other old-growth-dependent species. For this reason, preservation of old forest near the periphery of the LSR is of particular importance. Thus, the proposal to clearcut, or even thin, in the Matrix (MA-17) and Deer and Elk Winter Range (MA-14) lands near the eastern and southeastern borders of the AMA are especially concerning. Mature forest should be preserved in these areas specifically. Furthermore, thinning in stands up to 120 years of age in this peripheral area as proposed in the scoping notice for this project is unconscionable, given the relative rarity of such old forest in the AMA.

The NFSLA scoping notice suggests that LSR boundaries and activities within them may be modified within the Finney AMA for this project. While it is true that the NWFP provides that "…the LSR designation and/or standards and guidelines for LSR may be reconsidered in the Adaptative Management Area Plan,"[11] the Finney AMA Plan did not specify any such modifications. In fact, the Plan states, "[at] this time, none of the learning themes would require changing standards and guidelines established by the Northwest Forest Plan."[12]

Riparian Reserves

The NFSLA proposes to commercially log 5,478 acres and non-commercially thin 2,803 acres within designated Riparian Reserves. This designation was created in the NWFP to protect water quality and wildlife habitat. The NWFP delineated nine Aquatic Conservation Strategy Objectives (ACSO) that must be met by any activities that take place within Riparian Reserves.[13] Logging here will increase sedimentation and remove smaller trees that aid in shading streams, resulting in increased water temperatures. Commercial logging also will remove biomass that is needed for soil and water nutrients as well as in-stream wood and other biological debris.

Furthermore, the 1990 Forest Plan requires that:

> Along perennial streams and fish bearing intermittent streams, vegetation should be maintained to provide cover and/or root strength so as to maintain streambank stability and fish habitat capability at existing levels.[14]

The proposal to log in Riparian Reserves clearly violates this provision.

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[8] ROD, C-9
[9] ROD, C-12
[10] 2001 Mt. Baker-Snoqualmie National Forest-wide LSR Assessment, p.34
[11] ROD, D-13
[12] Finney AMA Plan, April 2011, p.1
[13] ROD, B-11-12
[14] 1990 Mt. Baker-Snoqualmie National Forest Plan, p. 4-119

Pollock et al. looked at the use by various vertebrates of different sizes of live and dead trees and how riparian thinning affected the long-term development of both large diameter live trees and deadwood. They found that:

> Species that utilize large diameter live trees will benefit most from heavy thinning, whereas species that utilize large diameter deadwood will benefit most from light or no thinning. Because far more vertebrate species utilize large deadwood rather than large live trees, allowing riparian forests to naturally develop may result in the most rapid and sustained development of structural features important to most terrestrial and aquatic vertebrates.[15]

We are not convinced that logging in Riparian Reserves will adequately protect ACS Objectives.

Roads

We are extremely concerned about the effects of road reconstruction and new road construction for this project. The construction of 50 miles of temporary roads has high potential for multiple adverse effects. So-called "temporary" roads have the same impacts as permanent roads, albeit possibly for a shorter time period. The fact that half these proposed "temporary" roads will follow previous "non-system" road locations does not alter the fact that they are actually new construction. Over nine miles of closed, ML-1 roads would also be reopened for this project. It should be noted that often these roads are well on their way to reforestation, and reopening them is much more involved than simply removing a gate. Reconstruction activities can cause as much damage to the environment as new road construction.

All roads magnify the risk for landslides, sedimentation of streams, wildfire, noxious weed introduction, and human disturbance including toxic waste and other dumping, dispersed camping and off-road travel, poaching, and other wildlife harassment. All of these effects must be fully considered in the EIS.

Standards and Guidelines for Key Watersheds include:

> Reduce existing system and nonsystem road mileage outside roadless areas. If funding is insufficient to implement reductions, there will be no net increase in the amount of roads in Key Watersheds.[16]

This enormous project will continue for at least a decade. Even if all the new roads are decommissioned as planned after completion of logging (something for which funding often seems to come up short), there will be a net increase of road miles for a considerable length of time.

Furthermore, the NWFP provides that "road construction in LSR is generally not recommended unless potential benefits exceed the costs of habitat impairment."[17] If roads are to be built or reconstructed for this project, the Forest Service must be able to demonstrate that the benefit will definitely outweigh the harm caused by both the road construction activities and their continued existence and use for the life of the project, as well as by the act of road decommissioning.

In addition to the temporary roads built for this project, all existing roads not needed for recreation, Tribal, or administrative use should be decommissioned immediately after completion of their use for this project.

1990 Forest Plan Amendment regarding Mountain Hemlock Zone

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[15] Pollock, Michael M. and Timothy J. Beechie, 2014. Does Riparian Forest Restoration Thinning Enhance Biodiversity? The Ecological Importance of Large Wood. *Journal of the American Water Resources Association* (JAWRA) 50(3): 543-559.

[16] ROD, B-19

[17] ROD, C-16

In the 1990 Forest Plan, logging was prohibited in the Mountain Hemlock Zone MA-19 because there was a lack of evidence that this zone could be successfully reforested. The NFSLA attempts to circumvent this sensible provision by proposing to clearcut or burn within this area without attempting to reforest it. The purported goal of this change is to promote huckleberry habitat, but the effect would include the loss of a small but important forest type. At the same time, there is no deficit of early seral habitat in the NF Stillaguamish watershed, and over 25% of the Finney AMA itself is considered to fit this description.[18] That said, we do not fundamentally object to collaboration between the US Forest Service and local Indian Tribes that may allow use of traditional Native forest management practices such as broadcast burning in certain areas. But we are highly skeptical that industrial logging is necessary or appropriate to meet needs for huckleberry habitat.

Climate change and carbon sequestration

The large volume of wood to be removed in this proposal would have a significant effect on carbon reserves. Carbon loss would also occur through soil erosion from logging and road-building, fossil fuels burned in the process of sale layout, road construction, logging, and possibly trail decommissioning; in addition to possible underburning.

Harris et al concluded that logging in the United States releases five times the CO2 as wildfire, bark beetles, windthrow, land use conservation, and drought combined.[19] Oregon State University's Polly Buotte and colleagues found that wetter western forests, including the MBSNF, have the potential to sequester up to six years of current fossil fuel emissions in the region if left unlogged. [20]

Another recent paper by Law and others showed that leaving forests standing is more effective at mitigating climate change than cutting trees:

> The recent Intergovernmental Panel on Climate Change report on impacts, mitigation, and adaptation found, and member countries agreed, that maintaining the resilience of biodiversity and ecosystem services at a global scale is "fundamental" for climate mitigation and adaptation, and requires "effective and equitable conservation of approximately 30 to 50% of Earth's land, freshwater and ocean areas, including current near-natural ecosystems." Our key message is that many of the current and proposed forest management actions in the United States are not consistent with climate goals, and that preserving 30 to 50% of lands for their carbon, biodiversity and water is feasible, effective, and necessary for achieving them.[21]

An EIS is necessary to adequately evaluate and mitigate for the effects of carbon loss and resulting climate impacts that would result from this project.

Fish

The North Fork Stillaguamish River basin is home to Endangered Species Act (ESA)-listed chinook salmon, steelhead, and bull trout; as well as coho (listed as sensitive by the USFS), pink, chum, and sockeye salmon, Dolly Varden trout, and sea-run cutthroat. According to the NF Stillaguamish WSA, "[up] to 80% of chinook in

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[18] Finney AMA Plan, April 2011, p. 9

[19] Harris, N.L., Hagen, S.C., Saatchi, S.S. *et al.* Attribution of net carbon change by disturbance type across forest lands of the conterminous United States. *Carbon Balance Manage* **11,** 24 (2016). https://doi.org/10.1186/s13021-016-0066-5

[20] Buotte, Polly C., Beverly E. Law, William J. Ripple, and Logan T. Berne. Carbon sequestration and biodiversity co-benefits of preserving forests in the western United States. *Ecological Applications*, 30(2), 2020, e02039

[21] Law, B.E.; Moomaw, W.R.; Hudiburg, T.W.; Schlesinger,W.H.; Sterman, J.D.;Woodwell, G.M. Creating Strategic Reserves to Protect Forest Carbon and Reduce Biodiversity Losses in the United States. *Land* 2022, 11, 721. https://doi.org/10.3390/land11050721

the Stillaguamish basin spawn in the North Fork." [22] Logging and roadbuilding, particularly over such a large area, will have adverse impacts on water quality and fish habitat by increasing sediment and elevating stream temperatures. Conducting these activities in Riparian Reserves will intensify these effects and prevent the attainment of Aquatic Conservation Strategy Objectives.

Marbled Murrelets and Northern Spotted Owls

Designated Critical Habitat exists within the planning area for northern spotted owls (NSO) and marbled murrelets (MM), both listed as threatened under the ESA.

NSO populations are declining precipitously, and this bird cannot tolerate *any* additional adverse effects. According to a 2021 meta-analysis, the northern spotted owl is declining at an annual rate of 2 to 9 percent range-wide, with barred owls having strong effects on local extinction range-wide, occupancy declining in all areas, and habitat loss continuing to play a role.[23] Here in Washington State, spotted owl populations have declined by up to 77 percent![24]

The Washington State Department of Fish and Wildlife's 2016 Periodic Status Review found that statewide, marbled murrelets had declined by 44 percent over the previous 15 years .[25] The *Northwest Forest Plan 25 Year Status and Trend Review of Marbled Murrelet Populations* found that in Zone 1, which includes the sale area, the population is decreasing by 4.9 percent per year.[26]

Removal of trees, roadbuilding, and noise from heavy equipment and helicopter use will adversely affect these species. Surveys for MM and NSO must be done prior to planning of sale units; no road construction or logging activities should occur within at least ¼ mile of nesting areas. Timing restrictions must be imposed *and enforced* so that noisy activities do not occur during peak MM feeding times, i.e. the period between 2 hours before and after sunrise and sunset.

The NFSLA may increase barred owl effects on NSO, as described by biologist Dominick DellaSalla:

> Decades of research on spotted owls and prey shows that logging is not as short-lived an impact as some might hope. This is because the owls roost and nest in closed-canopy, dense forests and so do many of the species' prey. Opening up forests may encourage barred owls, a more aggressive competitor of spotted owls, thereby negating efforts by the U.S. Fish and Wildlife Service to contain this invading owl.[27]

The minimum 15% canopy cover that will remain after completion of this project could hardly be called "dense." In addition, thinning will adversely impact owl prey (flying squirrels).

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[22] NF Stillaguamish WSA, 2000, p. 3-152

[23] Franklin, Alan B., *et al.* Range-wide declines of northern spotted owl populations in the Pacific Northwest: A meta-analysis. *Biological Conservation* 259 (2021) 109168

[24] Duger, Katie, *et al.* The effects of habitat, climate, and Barred Owls on long-term demography of Northern Spotted Owls. *The Condor* 118(1): 57-116 (2015) https://bioone.org/journals/the-condor/volume-118/issue-1

[25] Desimone, S. M. 2016. Periodic status review for the Marbled Murrelet in Washington. Washington Department of Fish and Wildlife, Olympia, Washington.

[26] McIver, Willaim R., Scott F. Pearson, Craig Strong, Monique M. Lance, Jim Baldwin, Deanna Lynch, Martin G. Raphael, Richard D. Young, and Nels Johnson. Northwest Forest Plan—the first 25 years (1994–2018): Status and trend of marbled murrelet populations in the northwest forest plan area, 2000-2018

[27] DellaSalla, Dominick, commentary in *The Oregonian*, 8-3-2012, https://www.oregonlive.com/opinion/2012/08/benefit_of_thinning_forests_fo.html

Furthermore, heavy thinning can increase shrub growth, favoring corvid populations which prey on MM. Human presence with the attending food waste can also attract these predators, and must be mitigated by, at a minimum, thorough daily work site cleanup.

The EIS must consider these impacts and provide effective mitigation measures.

Other wildlife

The EIS for this project must consider effects on the many other species of wildlife that use the area, including but by no means limited to grizzly bears and primary cavity excavators.

This proposal would temporarily reduce grizzly bear and gray wolf habitat by reopening roads and constructing new "temporary" roads. This effect could and should be minimized by requiring that roads used for logging each phase of the project be fully closed and/or decommissioned before reopening others.

The NFSLA proposal would have undeniable, dramatic effects on habitat for primary cavity excavators. The current self-thinning forest is a gold mine of present and future snags.

Trail decommissioning

This portion of the NFSLA is incomprehensible. Overcrowding on trails in the MBS National Forest is a well-documented and serious problem that could be allayed by increasing options for hikers. The trails slated for decommissioning are valuable but underused recreational assets that should be preserved rather than destroyed. Indeed, the North Fork Stillaguamish WSA recommended that these trails—as well as the Boulder River, Squire Creek, Niederprum and Three Fingers trails—be restored.[28]

We wonder what damage has been observed on the Round Mountain and Mt. Higggins trails and Myrtle Lake spur that is so severe that the adverse effects of decommissioning these trails (presumably using motorized equipment) would be outweighed by any benefit. We suspect that problem areas could be remedied at far less cost by simple maintenance. If access through private land is a concern, the Forest Service should apply for funds to reroute the historically significant Mt. Higgins trail through National Forest land.

Conclusion

In summary, we request that the Forest Service complete a full Environmental Impact Statement for the North Fork Stillaguamish Landscape Analysis to address the issues raised herein. There are viable management alternatives that could actually benefit the environment in this area, and we suggest that a non-commercial logging alternative be included in the analysis. This option could include no new (including "temporary") road construction or reconstruction, decommissioning of all non-trunk roads, aquatic organism passage improvements on remaining roads, and trail rehabilitation where appropriate. We encourage collaboration with local Native American Tribes to consider traditional, non-harmful management techniques—which also should undergo rigorous environmental analysis.

Thank you for giving us the opportunity to provide these comments. Please do not hesitate to contact us with any questions or for further information or discussion.

Sincerely,

Bill Derry, President, Pilchuck Audubon Society
Jeff Osmundson, President, Skagit Audubon Society

[28] NF Stillaguamish WSA, 2000, p. 3-7