**Comment #1 – Compliance with the 1994 NWFP’s Aquatic Conservation Strategy**

The 1994 Northwest Forest Plan contained an aquatic ecosystem concept known as The Aquatic Conservation Strategy that was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The strategy would protect salmon and steelhead habitat on federal lands managed by the Forest Service and Bureau of Land Management within the range of Pacific Ocean anadromy. This conservation strategy was to employ several tactics to approach the goal of maintaining the “natural” disturbance regime. Land use activities needed to be limited or excluded in those parts of the watershed prone to instability. The distribution of land use activities, such as timber harvest or roads, must minimize increases in peak streamflows. Headwater riparian areas needed to be protected, so that when debris slides and flows occurred they contain coarse woody debris and boulders necessary for creating habitat farther downstream. Riparian areas along larger channels needed protection to limit bank erosion, ensure an adequate and continuous supply of coarse woody debris to channels, and to provide shade and microclimate protection. Watersheds that containing the best habitat or those with the greatest potential for recovery should receive increased protection and receive highest priority for restoration programs. The Aquatic Conservation Strategy strived to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and restore currently degraded habitats. This approach was to prevent further degradation and restore habitat over broad landscapes as opposed to individual projects or small watersheds. Because it was based on natural disturbance processes, it would take decades, possibly more than a century, to accomplish all of its objectives. Some improvements in aquatic ecosystems, however, could be expected in 10 to 20 years.

The Aquatic Conservation Strategy (ACS) is comprised of four interlocking components; Key Watersheds, Riparian Reserves, Watershed Analysis, and Watershed Restoration. The proposed North Fork Stillaguamish Landscape Analysis EA and supporting documents fail to fully disclose compliance with the 1994 NWFP’s ROD Standards & Guidelines covering these four components of the Aquatic Conservation Strategy.

**Key Watersheds**

 This proposed project is located in two designated Tier 1 Key Watersheds, North Fork Stillaguamish and Deer Creek. Tier 1 Watersheds serve as refugia is crucial for maintaining and recovering habitat for at-risk stocks of anadromous salmonids and resident fish species. These refugia include areas of high quality habitat as well as areas of degraded habitat. Key Watersheds with high quality conditions will serve as anchors for the potential recovery of depressed stocks. Those of lower quality habitat have a high potential for restoration and will become future sources of high quality habitat with the implementation of a comprehensive restoration program.

Three fish stocks at risk were formally designated as federally threatened species under the Endangered Species Act; chinook salmon (1998), bull trout (1999), and steelhead trout (2007). The North Fork Stillaguamish Landscape proposed project area contains critical habitat for each of these three fish species.

Key Watersheds were not part of the land allocation hierarchy because the designation of key watershed overlays all other land allocations (Congressionally Reserved Areas, Late-Successional Reserves, Adaptive Management Areas, Managed Late-Successional Reserves, Administrative Withdrawn Areas, Riparian Reserves, and Matrix). This designation does not preclude all the above mentioned land allocations (1994 ROD- S&G, page Introduction A-6).

*Hierarchy of Standards and Guidelines (1994 ROD – S & G pageC-1)*

In some areas, land allocations overlap creating the need for prioritizing the application of Standards & Guidelines. Key Watershed designation would add additional requirements.

*Summary of Aquatic Conservation Strategy for Key Watersheds and Standards & Guidelines for Key Watersheds (1994 ROD – S&G pages B-19 and C-7)*

No new roads will be built in roadless areas in key Watersheds

Reduce existing system and non-systems 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

Key Watersheds are highest priority for restoration

Watershed Analysis is required prior to management activities except minor activities such as those categorically excluded under NEPA and not including timber harvesting.

The provided documentation for this NF Stillaguamish Landscape Proposal contains no tracking for this Key Watershed designation.

**Watershed Analysis**

This ACS component has also been either ignored or glossed over in the NF Stillaguamish Landscape Project documents. The NF Stillaguamish Landscape Project Analysis Draft EA incorporates by reference the two existing watershed analysis, the 2000 NF Stillaguamish Watershed Analysis and the 1996 Deer Creek Watershed Analysis. The scope and scale (spatial and temporal) of this NF Stillaguamish Landscape proposed actions have not been identified by these old watershed analysis. These proposed projects require updated / revised watershed analysis. The 1994 ROS contains the following guidance for this.

1. The1994 ROD, S&G pages B-20 to 23 and special note to the Fig B-2 on page B-22 showing the relationship between various levels of analysis - Watershed Analysis relative frequency described as Infrequent with redo based on monitoring, changing conditions, social values or process knowledge. Since 1996 Deer Cr WA and the 2000 NF Stillaguamish WA, updating these 2 watershed analysis is warranted based on post 1996 and 2000 MBSNF and external watershed partner monitoring results, changing management conditions, such as the ESA federal listing of threatened species status for the NF Stillaguamish  Chinook (1998), Steelhead Trout (2003) and Bull Trout (1999). Other management conditions that changed after the completion of these 2   watershed analysis was reoccurrence of large flood events in the NF Stillaguamish-Deer Creek watershed from 1995-1996 and into the 2000's time period. Considerable expenditure of federal appropriated funds along with State, County, and Tribal funds were employed to address high priority watershed restoration needs in Deer Creek watershed from the mid 1990's and into the early 2000's time frame. The majority of these restoration treatments were on roads (upgrading, stormproofing, and  decommissioning). Many of these treatments were monitored (most implementation, some effectiveness monitoring). All these management activities should have been assembled in an updated watershed analysis for Deer Creek.

 (2) ROD, S&G pages E4-to E7 Implementation (Components of the Monitoring & Evaluation Plan): relationship of monitoring to watershed analysis

(3) ROD, S&G Implementation page E-20 and 21: beginning with the last paragraph on page 20 - Watershed Analysis will be a on-going, iterative process that will help define important resource and information needs. As watershed analysis is further developed and refined, it will describe the processes and interactions for all the applicable resources. ......

(4) additional federal guidance for updating/ revising watershed analysis can be found in this document, Ecosystem Analysis at the Watershed Scale,1995
<https://www.fs.usda.gov/r6/reo/library/downloads/documents/watershd.pdf>
    Part 1: Process Overview - Introduction page 1 where it says the process is incremental; as new information from surveys and inventories, monitoring reports, or other analyses could be added at any time; (b) Incremental Approach pages 4 & 5 this paragraph fully states the need to update watershed analysis (c) Iterative Analysis Steps, page 9 summarizes the need to update watershed analysis based on new information and data collection.

(5) the draft Transportation Report accompanying the Draft NF Stillaguamish Landscape Analysis refers to the need to for watershed analysis. See page 5, Relevant Roads Management Standards and Guidelines, RF-2 (b) and RF-3.

Watershed Analysis Standards & Guidelines (1994 NWFP- ROD, page B-30)

It is required in Key Watersheds prior to resource management; it is required to change Riparian Reserve widths in all watersheds; earthflows qualify as unstable and potentially unstable areas will be analyzed for inclusion within Riparian Reserves; watershed analysis is important in developing monitoring strategies.

The results from the NF Stillaguamish Landscape Condition Based Management analysis and the individual resource specialist reports does not constitute a Aquatic Conservation Strategy’s Watershed Analysis.

**Riparian Reserves**

The NF Stillaguamish Vegetative Proposal involves Riparian Reserves for 3 of the 5 RR categories as described on pages C-30 and 31 (1994 NWFP’- ROD- S&G); fish-bearing streams, permanently flowing non-fish-bearing streams, and seasonally flowing or intermittent streams, and unstable areas such as earthflows.

This vegetative proposal involves tree removal (commercial, non-commercial thinning, and stand improvements, tree tipping into channels, aquatic organism passage, and road work (construction, upgrading, stormproofing, decommissioning) within all of the above riparian categories in Tier 1 Key Watersheds. These proposed actions require documentation in a updated / revised Watershed Analysis.

**Watershed Restoration**

The most important components of a watershed restoration are the control and prevention of road related run off and sediment production, restoration of the condition of riparian vegetation, and restoration of in-stream habitat complexity (1994 ROD S&G page B-31)

This NF Stillaguamish Vegetative proposal involves above mentioned restoration treatments (in the Riparian Reserves section). The forest resource management needs for these treatments needed to be identified and documented in a up to date watershed analysis. The current Draft EA and supporting specialist reports do not accomplish this,

**Comment 2 – Full Disclosure on ESA Consultation for Three Federally Listed Fish Populations**

Because the Forest is using this planning known as Condition-Based- Management, the specific locations for timber harvesting and temporary road construction in the riparian reserves is currently not known. Locations will be determined upon project implementation. I really don't understand how the Forest will conduct/complete ESA-Section 7 consultation (with both NMFS and US F&WS) and NMFS Essential Fish Habitat on this project without project site specifically. Formal consultation will be required because these projects will be called Likely to Adversely Affect (LAA).

Neither the 1996 Deer Creek Watershed Analysis nor the NF Stillaguamish WA contain this information.

Also these three ESA federally listed threatened species have existing species recovery plans (chinook salmon as of 2005, bull trout as of 2004 and steelhead trout as of 2019). All three of these recovery plans reference the role of federal forest land  NWFP's  ACS S&G in these fish population recovery efforts. This Draft EA and Fisheries Report need to document this

The NF Stillaguamish Landscape Analysis Draft Fisheries Report refences the 2005 N.F. Chinook Recovery Plan but fails to reference the 2007 Puget Sound Bull Trout Plan and the 2019 Puget Sound Steelhead Recovery Plan. These other two Recovery Plans need to be in these NEPA documents.

A updated / revised Watershed Analysis for Deer Creek and the NF Stillaguamish should have documented this.

And on this subject of ESA fish species designation there is a pretty major regulation requirement for the MBSNF to consult with both the National Marine Fisheries Service (chinook salmon and steelhead trout) and the US Fish & Wildlife Service (bull trout) regarding this draft vegetative landscape proposal. Again, the major red flags are proposing future tree removal and active road management treatments over a period of 10-15 years located in designated riparian reserves containing inventoried highly sensitive soils within a documented rain-on-snow elevation band in Tier 1 Key Watersheds.

As described in Draft Fisheries Assessment, besides ESA Consultation, the Forest will also need to consult with the National Marine Fisheries Service on Essential Fish Habitat for chinook, coho, and pink salmon under the Magnuson-Stevens Fishery Conservation & Management Act as amended by the Sustainable Fisheries Act of 1996.

According to the Draft Fisheries Report, Section 7 ESA Consultation for fisheries is uncomplete. It states that the USFS is working with their ESA counterparts and the project is on track to have ESA consultation completed in the near future. What is the time frame of “the near future”? And will this consultation be covered by a programmatic BA/Bo process or need to be covered as a stand-alone BA/BO process?

**Comment 3 – Work Force Capability / Capacity to Implement**

The Deer Creek watershed contains a lot of unstable soils and geologic features and a high degree of small stream channel drainage networks. Management history has shown where these unstable soil/geologic features are interlaced with these numerous small stream channels and intersect the road system there has been moderate to high history of landslides and debris torrents occurrence and subsequent damage and degradation to lower fish bearing channels. Soil typing and geologic surveys and mapping along with stream channel location and mapping have been done in the project area. I want to know when and who will be going to the field to verify these locations in order to lay out red flag areas for sale layout and road prism work? The MBSNF has not had a journey-level soil scientist on staff for a number of years.

If the MBSNF turns the administration of this sale over to the DNR, as it has done for other recent timber sales there needs to be description about this cooperative/coordinative between the USFS and DNR. It needs to cover details like sale area layout, on-the-ground operational review/oversight, and post-sale inspection (role of both agencies). The MBSNF would still need to provide management oversight for the entire project.

Given the amount of earth science and aquatic ecosystem work that is going to be required to implement this vegetative manipulation project (field work in the selected project area to delineate timber sale area boundaries, employment of one or more of the 44 soil, water, fisheries BMP's/ mitigation measures (Hydrology Analysis- Appendix B), and implementation and effectiveness monitoring field reviews, plus the ESA &EFH Consultation needs I have concerns that this workload can be met by the current and future Forest Earth Science and Aquatic Staff capacity

 And given that this proposal could have a timeline up to 15 years for implementation / completion, how will the information/and data be stored and made accessible? Over this time period, staffs will change due to retirement, transfers, reassignments and fluctuating budgets. How will these projects be tracked and documented over such a time period?

**Comment 4 – The following are concerns / questions I have from reviewing the Draft EA and the individual specialist reports**

**Draft EA**

Need for the Proposal - Page 5, 5th paragraph

To provide multiple uses on the landscape into the future, there is a need to improve terrestrial and aquatic conditions and processes that respond to a changing climate, while identifying and managing sustainable recreational opportunities

*based on what field data/information collected where and when?*

• Terrestrial: Enhance the development of late-successional and old-growth forest habitats by
improving habitat diversity in young stands, improving spotted owl and marbled murrelet nesting
habitat, increase forest biological complexity and resiliency, maintain unique habitats, restore
native plant communities, support tribally reserved treaty rights and resources they depend on

*based on what supporting field data/ information ?*

• Aquatic: Enhance the health of streams and associated aquatic ecosystems by modifying the
transportation system to reduce road derived impairments, increase floodplain and channel
complexity, and remove barriers to aquatic species migration

*based on what field data/information and when and where collected ?*

*.*• Riparian: Enhance riparian areas for the benefit of both aquatic and terrestrial species

*what featured species, based on what field data/information ?*

Summary of Alternatives Proposed Activities page 14 Improve Instream Habitat *Quality*

*what field data/information support increasing LWD into channels by mechanical means, what metrics would be used to determine the amount and channel placement location, stated desired future condition vs current condition?*

**Fisheries**

Besides the all the ESA consultation points raised in Comment #2 above in the Fisheries Specialist Report on page 20, 3rd paragraph, second sentence, Existing instream large wood is limited.

*what field data/information is this based on and what is considered large wood?*

Page 27 under Fish Habitat – Wood Recruitment

*(no wood recruitment to channels from mechanical means as stated in the Draft EA on page14* found in this draft fisheries report

Page 28, 4th paragraph use of sample field verification of various perennial and intermittent streams in the MBS Snoquera Landscape Analysis to develop two common ecological relationships connected to vegetation functions; referred to as Riparian Reserve Condition1 and Riparian Reserve Condition 2.

*Using this field data from a MBSNF south zone watersheds for application to the NF Stillaguamish watersheds requires invokes some skepticism. Differences in watershed features and characteristics such as soils/geology, hydrology, topography, tree species composition along with land ownership patterns, and forest management history (timber harvesting, road management, etc) could involve issues in using this model. These possible watershed differences need to be disclosed in this part of the report.*

**Silviculture**

Page 13 Existing Condition, 2nd paragraph. It states there are about 352 stands involving approximately 19,169 acres that are proposed for commercial and non-commercial treatment. Earlier in the report on page 10 – Methodology it states Common Stand Exam was collected in 2021on just 44 stands proposed for variable density thinning in the eastern portion of the NF Stillaguamish Vegetation Project Area. After these stand exams were performed a change in the project boundary before scoping to include areas that were not sampled. Forest areas were delineated based on similar characteristics in sampled stands.

*44 percent of 352 stands is only 12.5 percent, a pretty small sample to base proposed vegetation treatments. Also, how many of these sampled stands are located in Riparian Reserves and how many of the 352 stands are in Riparian Reserves?*

Page 11 Limitations, Due to an expansion to the project area after the initial field season in, data collection, along with the Insect and Disease Assessment performed by Forest Health and Protection, occurred in only in the Eastern portion of the project area within the original project boundary. Estimates and conclusions based off this information can only be characterized within the area in which it was collected. Data would need to be collected and analyzed for the expanded section of the project area prior to implementation to ensure compliance with all conditions required for treatment as part of condition-based management*.*

*Data needs to be collected and analyzed for the expanded section as well as in the western portion of the project area before a NEPA decision, not after during condition-based management implementation. Relying on just a 12.5 percent stand sample base to drive this vegetative treatment proposal does not support this silviculture management purpose and need.*

Page 24 -25 Economics – Due to unknown, site-specific situations, the estimated acres presented for the project area are maximums and subject to change. According to recent timber sales on the Mt. Baker-Snoqualmie National Forest and project design, treated acreage is expected to reduce by 50-60% of total stand area. This is due to portions of stands containing no-cut riparian buffers or being inaccessible for timber harvesting equipment. Road reconstruction costs may also be prohibitively high in some areas, making it not economically viable to include certain stands and associated access roads in a timber sale when the
value of timber to be harvested is less than the costs of harvest. In general, when less stand area is accessible for harvesting, delivered log prices decline, or costs increase, fewer of the
proposed treatment stands would be economically viable because the high costs would lead to deficit timber sale or stewardship contracts. When these situations occur, treatment areas would need to be dropped from road reconstruction and timber harvest to maintain economic viability, leading to a reduction in timber volume*.*

*So when in the planning process (pre or post NEPA decision) will this disclosed economics scenario be determined? Given the need for more stand exams and on-site identification of the numerous delineated riparian reserves in the posed project area, the possibility of this happening in this NF Stillaguamish Vegetative Landscape Proposal is moderate to high.*

**Soils & Hydrology**

Missing in these specialist reports is a narrative on the geological features of the NF Stillaguamish watersheds. The geology and associated glaciated soils are the foundation for the vegetation plant associations in these watersheds.

*The soil Existing Conditions and Affected Environment in the Draft Soil Resource Report is lacking this reporting basic information. The short narratives on soil erosion, mass wasting, landslides lacks an adequate documentation of the history of these reoccurring events. The Hydrology Report lacks documentation of the flooding history in the NF Stillaguamish River basin. The number and magnitude of these floods over the past 40-50 years have contributed to either the direct loss or degraded habitat for a number of at-risk fish populations, three of which are now listed as ESA threatened species.*

*And both reports don’t document the fact that timber harvesting and associated road building was curtailed in the Deer Creek watershed as described in the 1990 Forest’s LRMP’s – Appendix H- Hydrologic Cumulative Effects Assessment. From 1990 to the present no programmed timber harvest and associated road work has occurred on MBSNF land in Deer Creek. This management action has been a significant positive impact on the recovery on the aquatic system (riparian and in-channel).*

**Transportation**

Glossaary Question -Temporary Road. A road authorized by contract, permit, lease, other written authorization, or emergency operation and not intended to be a part of the forest transportation system and not necessary for long-term resource management.

*Given the possibility that under a Condition Based Management as envisioned in the Draft NF Stillaguamish Vegetative EA, the need for temporary roads in the proposed project could span a time period of 10-15 years, how would temporary roads be managed? Would they be closed and then reopened again based access for timber sale harvesting treatments over such a time period? What type of annual maintenance would these temporary roads be assigned*?

**Summary Comment**

After reviewing all the provided draft documentation (EA, Specialist Reports, Maps), my input is that the documentation does not support the proposed actions and doesn’t provide enough background and support information in describing the purpose and need. The scope and scale (spatial and temporal) of the proposed vegetation manipulation (tree felling and removal), the amount of ground disturbance (new road operations), and stream channel alterations in numerous delineated Riparian Reserves in Tier 1 – Key Watersheds containing critical habitat for three ESA threatened fish populations is not adequately supported by the draft specialist resource reports.

This landscape scale proposal for the North Fork Stillaguamish River Basin should have been done using a process such as the federal interagency, *1995 Ecosystem Analysis at the Watershed Scale*.

My comments to this NF Stillaguamish Landscape Vegetation Management Project proposal and supporting specialist reports are based on my 25 years (1980-2005) experience and knowledge as a MBSNF senior aquatic ecosystem staff member (fish biologist).

I led the aquatic staff in the planning and development of the aquatic sections of the 1990 Land & Resource Plan to include the lead role in the development of the Hydrologic Cumulative Effects Assessment.

In 1993-1994 I participated as a requested participant in the FEMAT development of the NWFP. Took lead role on the aquatic staff in implementing the NWFP’s ACS components.

Served as Forest’s watershed restoration coordinator (1995-2005).

Lead role in planning, developing, and implementation of multi-year programmatic BA/BO’s with NMFS and USF&WS for ESA-Section 7 Consultation and ESH Consultation.

Familiar with NF Stillaguamish River Basins 5th field watersheds especially Deer Creek. Spent more field time in Deer Creek than any other watershed on the MBSNF from 1980-2005). Participated in many fish utilization and habitat surveys, hydrologic and soil sensitivity assessments, timber sale layout delineation, and monitoring of timber sale activities in the 1980’s (pre-sale, harvesting, post harvesting) and many watershed restoration monitoring efforts (implementation, effectiveness, and validation).

James E. Doyle

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