From:	Glen St. Amant
To:	SR 520 DEIS Comments;
CC:	Karen Walter; Krueger, Paul W (UCO);
Subject:	Muckleshoot Fisheries Comments on SR520 DEIS
Date:	Tuesday, October 31, 2006 4:18:57 PM
Attachments:	SR520_DEISComm.pdf

Please find the attached comments from the Muckleshoot Indian Tribe Fisheries Division on the above referenced DEIS. Feel free to contact Karen Walter with any questions or comments.

Thank you,

Glen St. Amant
Muckleshoot Indian Tribe
Fisheries Division
Habitat Program Manager

MUCKLESHOOT INDIAN TRIBE
Fisheries Division
39015 - 172nd Avenue SE • Auburn, Washington 98092-9763
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October 31, 2006

Paul Krueger
Environmental Manager
SR 520 Project Office
414 Olive Way, Suite 400
Seattle, WA 98101

RE: SR 520 Bridge Replacement and HOV Project- Draft Environmental Impact Statement (DEIS)

Dear Mr. Krueger:

The Muckleshoot Indian Tribe Fisheries Division has reviewed the Draft Environmental Impact Statement (DEIS) and its associated appendices. We are attaching specific comments in the interest of protecting and restoring the Muckleshoot Indian Tribe's fisheries resources and access to those fishery resources.

We appreciate the extension of the comment deadline and the opportunity to review this DEIS. We are available for a meeting to discuss these comments, if necessary. Please call Karen Walter to arrange such a meeting at 253-876-3116. Please provide us with a written response to these comments.

Sincerely,

Glen St. Amant
Habitat Program Manager

Cc: Kitty Nelson, NMFS
Emily Teachout, USFWS
Jack Kennedy, ACOE
Austin Pratt, US Coast Guard
Krista Rave-Perkins, EPA
Stewart Reinbold, WDFW, Region 4
Richard Robohm, WDOE, NW Region

N-001-001 General Comments

In general, the DEIS and its associated appendices, including the addendums, do not fully discuss all alternatives and do not adequately identify potential adverse impacts to streams and wetlands, their buffers, fisheries resources and tribal fisheries. In addition, the DEIS and associated documents lack any material discussion about potential mitigation measures. The result is in an incomplete document that does not comply with NEPA requirements in 43 FR 55994 in several sections due to this inadequate analysis. The DEIS has limited discussion about potential environmental impacts and lacks any tables showing comparisons of impacts across all alternatives on affected waterbodies.

N-001-002 The DEIS also does not identify or discuss many of the issues related to project constructuion and operations of the new bridges that have the potential to impact Tribal fishing in the area. There will be substantial inwater work to construct the new bridge, which is estimated to occur over 4-5 years. It is also likely that the construction will take longer than originally estimated. In addition, all of the proposed bridge options will result in a larger bridge structure with inwater pilings and columns, which will effectively displace areas currently available to the Tribe to harvest treaty protected fisheries resources. The new bridge may also change water circulation that can affect fish migration patterns, which may affect fishing success. The Muckleshoot Indian Tribe is the federally recognized tribe that fishes in Lake Washington, and thus may be uniquely impacted by this project as a result. Appendices D, E, G, J, L and their addendums all failed to fully analyze the potential adverse impacts to Muckleshoot Tribal fishing as the result of construction and operations of the new bridges.

In summary, the DEIS does not adequately discuss or evaluate the alternatives as they may affect Treaty fisheries resources and fishing. A supplemental Draft Environmental Impact Statement should be written to address the concerns raised in these comments.

Page-Specific Comments

N-001-003 Chapter 2, pages 2-9 and 2-10
The information on these pages is incomplete or inaccurate in many areas. Please contact us so that we can provide you with more accurate and complete information.

N-001-004 Chapter 2, page 2-42
Chinook are not the only salmon that use Lake Washington to feed and find refuge. Coho, steelhead, sockeye and kokanee also use the lake.

N-001-005 Chapter 2, page 2-47
Culverts cause more problems for fish than is listed here. Culverts can be too high for the fish to access. The stream channels below culverts may have pools that are too shallow for fish to provide a sufficient jump height. There may be no pools at the culvert outlet or

N-001-005 backwater to facilitate passage. The outlet water velocities may exceed the swimming speeds of juvenile salmon so that the culvert becomes a barrier. Culverts also result in the direct loss of instream and riparian fish habitat. Culverts can also adversely affect salmon habitat forming processes by interfering with the passage of wood, water and sediment. A discussion of culvert impacts can be found at http://wdfw.wa.gov/hab/engineer/cm/culvert_manual_final.pdf.

N-001-006 Chapter 2, page 2-49
The two culverts conveying Fairweather Creek under SR 520 should be assessed to see if these culverts are capable of passing adult and juvenile salmon and wood, water, and sediment to determine the existing conditions and potential impacts from the various project alternatives.

N-001-007 Chapter 2, pages 2-50 and 2-51
The Muckleshoot Indian Tribe Fisheries Division has found juvenile coho in Yarrow Creek and East Yarrow Creek below SR 520. In addition, the Watershed Company found juvenile coho in Cochran Springs Creek up to 108 Avenue NE. This information is publicly available at:
http://dnr.metrokc.gov/Wrias/8/fish-maps/coho/index.htm.

N-001-008 Chapter 3, pages 3-9 through 3-14
The DEIS should be modified to quantify the length and width of the new bridge/roadway structure in relation to individual waterbodies. For example, the discussion of the Portage Bay Bridge identifies 7 lanes, but fails to quantify the width and length for these 7 lanes. There is no discussion about the length, width and height of the bridge as it crosses southern Union Bay. The same is true for Lake Washington and Eastside areas. In the case of Lake Washington, the number of 60 foot pontoons should be disclosed for the high capacity transit option. Finally, the length, width and depth of the pontoons for the 4-Lane Alternative without expanded pontoons should be quantified.

N-001-009 Chapter 3, pages 3-22 through 3-28
The DEIS should be modified to quantify the length and width of the new bridge/roadway structure by waterbody for each option. For example, in the discussion of the 6-Lane Alternative, the DEIS mentions that the Portage Bay Bridge will be 9 lanes, but fails to quantify the width and length for these 9 lanes.

N-001-010 Chapter 3, page 3-24
The DEIS does not quantify and discuss impacts associated with the proposed bicycle/pedestrian bridges identified on this page. As a result, information is not presented for the reviewer to assess potential impacts to fisheries resources and their habitats as well as potential impacts to Tribal fishing.

N-001-011 Chapter 3, page 3-29
There is insufficient information and analysis to support the statement that the 6-Lane Pacific Interchange Option would have "only slighter greater net effects on aquatic habitat compared to the 6-Lane Alternative or the interchange along the East Montlake shoreline".

N-001-012 Chapter 3, page3-30
It is not clear if there are one or two options for the 6-Lane Alternative crossing of Lake Washington. In the 4-Lane Alternative there are two options discussed: 4 lanes with and without high capacity transit. Please clarify and if there are two options (with and without high capacity transit) and for each option, quantify the number, width and length of pontoons.

N-001-013 Chapter 3, page 3-31
The 6-Lane Alternative and all of the options in the Eastside project area should be quantified further by providing the total length and width of the roadway by waterbody.

N-001-014 Chapter 3, Page 3-40
The DEIS discusses 3 different ways for stormwater from the 6-Lane Pacific Street option to be routed but lacks any analysis about the potential for adverse impacts to occur to other affected waterbodies as a result. For example, it is not clear if there is capacity to send stormwater to the combined sewer system pipes that convey flows to the West Point Treatment Plant in Magnolia and what the potential impacts would be to Puget Sound. Also, please elaborate on the number and location of the new stormwater treatment wetlands and wet vaults that are proposed for the 6-Lane Pacific Interchange Option.

N-001-015 Chapter 3, Page 3-43
Additional information regarding the new bridge operations dock proposed for the east side of Lake Washington to accommodate two boats (one 50 ft and one 18 ft) is needed by providing the specific length, width, dimensions of any finger piers, number and size of piles, etc. The new docks should be discussed in the context of existing conditions and if there are any existing docks onsite. These existing docks should also be quantified to assess impacts and mitigation. Also, the proposed dock appears to be much larger (up to 20 feet wide) than is necessary to accommodate the two boats and should be reduced to avoid causing further adverse impacts to the fish habitat of Lake Washington, including the existing beach spawning sockeye site.

N-001-016 Chapter 3, Page 3-44
The DEIS needs additional information about the fluke and gravity anchors. For example, the DEIS fails to discuss the number and dimensions of the existing fluke and gravity anchors, and does not disclose the dimensions of the proposed anchoring system. This information is needed to determine potential impacts to fisheries resources and

N-001-016 Tribal fishing. There is the potential for these structures to further displace Tribal fishing because they effectively eliminate additional area that would be otherwise available for fishing.

N-001-017 Chapter 4, Page 4-15
The 6-Lane Alternative with the Pacific Interchange option may cause impacts to Tribal fishing as the result of boaters navigating around the new bridge columns in Union Bay due to the placement of columns just outside of the navigation channels in Union Bay.

N-001-018 Chapter 4, Page 4-17
The DEIS does not evaluate whether any contaminated sediments within the existing or future bridge footprint may be disturbed as the result of construction activities. Also, the
N-001-019 DEIS lacks any analysis about the quantity and location of any material that may need to be removed and filled with stronger material to address seismic concerns.

N-001-020 Chapter 4, Page 4-21
This section should discuss the potential for hazardous materials to adversely affect water and fisheries resources, including sediment from upland areas.

N-001-021 Chapter 4, Page 4-33
Fisheries resources will also likely be adversely affected by noise and lighting as the result of construction for this project. The proposed length of construction will occur long enough to affect one full life cycle of chinook exiting and returning to Lake Washington.

N-001-022 Chapter 4, Page 4-34 and Page 4-36
The discussion about the potential for this project to disproportionately affect the Muckleshoot Indian Tribe is limited. The project may affect fish resources themselves, not just fish habitat. In addition, the project may affect the ability of Tribal fishers to access areas to fish and successfully fish. These impacts may occur as a result of both construction and operations. There is no basis for the statement "with mitigation measures in place, including measures described in the ecosystems section of the Draft EIS, the project will not cause disproportionately severe and adverse effects on Native American fishing in the project area". First, there is no mitigation that has been identified to address impacts to salmon in the project area. Second, there are no measures proposed to address impacts to Tribal fishing for construction and operations impacts.

N-001-023 Chapter 4, Page 4-39
There are other predators besides northern pikeminnows in Lake Washington, such as bass, that will likely benefit from the new project, particularly the 6-Lane Alternative with Pacific Street Option. Also there will be additional shading impacts as the result of the new bridge, which could further facilitate predation opportunities in addition to the

N-001-023 number, size, and location of columns in the water. The DEIS fails to consider lighting impacts that may also facilitate salmon predation. Fish may also respond differentially to construction activities and the final bridge operations. Please quantify the number of piles, the length, and the width of temporary bridges.

N-001-024 Chapter 4, Page 4-40, 4-41 and 4-42
The discussion on impacts to streams on these pages is too limited and should include a table similar to Exhibit 4-17 regarding wetlands and buffers. This table should include the number of existing culverts that prevent fish passage and interfere with ecological processes and how many of these culverts will be repaired as part of this project. Also, the statement about stormwater treatment facilities meeting or exceeding federal and state water quality standards is not supported by data. In particular, there is no discussion about how antidegradation requirements of the Clean Water Act will be met. It will likely take years of monitoring to demonstrate that water quality standards are met. In addition, there is no data to support the statement that releasing treated stormwater into streams and wetlands will improve the physical structure of the Eastside streams especially when considering that the project will result in the removal of riparian buffer and trees from upland sources that are necessary to create instream habitat. Finally, the DEIS overstates the project's ability to "fully mitigate" the project impacts when mitigation measures for several impacts have yet to be identified and evaluated to see if they are sufficient to mitigate for the impacts as the result of this project.

N-001-025 Chapter 5, Page 5-36
Please see previous comments regarding the incomplete Environmental Justice analysis for the Muckleshoot Indian Tribe.

N-001-026 Chapter 5, Page 5-45
The DEIS lacks any quantification of new bridges, bridge removal, extent of wetland enhancement that benefits fish habitat, and the proposed shoreline enhancement across all alternatives and options. As a result, the statement regarding improving fish habitat is unsupported.

N-001-027 Chapter 5, Pages 5-46 and 5-47
Exhibits 5-19 and 5-20 on these pages should be expanded to show the potential effects on wetlands for all alternatives and options by waterbody or subbasin. In addition, there should be additional discussion about the effects of shading as the result of temporary bridges and barges used for construction purposes.

N-001-028 Chapter 5, Pages 5-48
Please note that there are other salmon predators besides northern pikeminnow that will respond to concentration of juvenile salmon as the result of the new bridge over Union Bay proposed as part of the 6-Lane Alternative Pacific Interchange Option. Also, please

N-001-028 provide the data to support the statement that "smooth vertical surfaces" on the new bridge columns would not likely provide attractive habitat for predator species such as smallmouth or largemouth bass.

Also on this same page, it seems premature, without data, to conclude that the bridge column wetlands would improve water quality to benefit aquatic habitat and offset the loss of water quality treatment functions from affected wetlands.

N-001-029 Chapter 6
This chapter should include an analysis of the existing bridge with respect to wind fetch, lake circulation, phytoplankton production, salmon and salmon predator behavior. This information should be used to compare the proposed bridge for all alternatives and options.

N-001-030 Chapter 6, Page 6-6
The new wider and deeper bridge could have more impacts than just shading. It is not certain how fish currently respond to the existing bridge and how they are likely to respond to a new, larger, deeper bridge.

N-001-031 Also on this same page, without data, it is premature to suggest that the new lagoons in the bridge columns will meet or exceed current federal and state water quality standards. Also, these standards are undergoing revision, so this analysis should also incorporate the new standards.

N-001-032 Chapter 6, Page 6-7
The existing sockeye spawning beach may be permanently lost, not just displaced, as the result of the new bridge operations facility and dock. More data is needed to determine if the removal of the two existing docks and construction of the new dock will constitute partial mitigation.

N-001-033 Chapter 8, Page 8-6
More data is needed regarding the proposed "temporary" work bridges to be built in Portage Bay for this project. This data should include the width, length, height over water, and number of piers and size of piers that will be needed for these bridges for each alternative. Similarly the work bridge that will be built at Union Bay and through the Arboretum needs additional data to assess potential impacts. Additional information is needed regarding the restoration of the affected areas as many of these areas are infested with non-native aquatic plants. The DEIS implies that WSDOT will allow these non-native plants to re-colonize the work areas and new bridges once the project is completed.

N-001-034 Chapter 8, Page 8-7
Since the floating bridge pontoon location is not identified in the DEIS, we reserve the right to comment on this proposal at a later date.

N-001-035 Chapter 8, Page 8-9
Data is needed about any potential contaminated sediment that may be disturbed as the result of construction and pile removal from the existing bridge for all alternatives.

N-001-036 Chapter 8, Page 8-15
The DEIS does not discuss the potential for barge traffic and bridge pontoon traffic to adversely affect Tribal fishers' ability to fish by blocking areas, damaging gear, etc as they navigate through and moor in the area.

N-001-037 Chapter 8, Page 8-17
The DEIS does not address noise impacts in water that may adversely affect salmon through direct and indirect mechanisms. The DEIS also fails to discuss how lighting during and post construction may adversely affect salmon by creating new predation opportunities.

N-001-038 Chapter 8, Page 8-24
Juvenile salmon may also be directly affected by fine sediments in the water column. See Lloyd (1987) for additional information.

N-001-039 Chapter 8, Page 8-25
Turbidity may also be generated from pile driving and could adversely affect salmon and other aquatic species. Timing will be important to avoid or minimize the effects of construction noise on salmon for both outmigrating juveniles and returning adults.

Also on this page, please elaborate on the temporary work bridges used for the Pacific Street Interchange Option by specifying the dimensions of these bridges, their locations and the area of vegetation that will be shaded by them.

N-001-040 Chapter 8, Page 8-27
Please elaborate on the effects of the previous slope failures that occurred during the original construction of SR 520 by discussing the delivery of this material to waterbodies, mitigation measures, etc. This information should be used to analyze the potential for the new bridge construction to cause new adverse impacts to waterbodies and the proposed mitigation measures.

N-001-041 Chapter 8, Page 8-29
The DEIS fails to fully discuss the potential for identified contaminated sites to adversely affect waterbodies. Additional information is needed and should be compared across the

N-001-041 alternatives and options.

N-001-042 Chapter 8, Page 9-4
The University of Washington is currently pursuing permits to modify the Boat Marina located on Portage Bay. This project was not considered in the cumulative impacts section of the DEIS or the Appendix.

N-001-043 Chapter 8, Page 9-6
The mitigation measures identified on the page would only partially address the cumulative impacts associated with this project. For example, none of the measures address any potential increases to salmon predation populations. There are no measures yet identified to address any changes in adult migration behavior that result in sublethal or lethal effects to chinook and sockeye. The project needs substantial increases in mitigation to support the statement that the mitigation measures listed are sufficient to compensate for cumulative effects.

N-001-044 **Comments Specific to the various Appendices and Addendums**
Appendix A and Addendum to Appendix A- Description of Alternatives
Both the appendix and addendum lack sufficient information to be able to clearly evaluate each alternative and options discussed. More quantitative data is needed to inform the reader of the differences and similarities between the options compared against existing conditions.

N-001-045 Appendix E- Ecosytems Discipline Report (DR)
Page 3
The DR fails to note if all existing blocking culverts will be replaced to provide fish passage and passage of wood, water and sediment. All of these culverts should be replaced as part of this project as required by the State Hydraulic Code and not as mitigation for other aquatic habitat impacts.

N-001-046 Also on this page, this DR fails to consider impacts associated with lighting during construction and post-bridge construction that may adversely affect salmon migration, predation rates, etc.

N-001-047 Page 4
Since the mitigation plan for impacts to streams, wetland and impacts to fish is not completed, we reserve the right to provide additional comments when this plan is developed.

N-001-048 Page 43
Riparian wetlands are also important for fish. Coho, in particular, can use these areas to

N-001-048 rear. Filling of these wetlands or discharging stormwater to them may cause a loss of habitat for salmonids. The DR fails to consider this potential.

N-001-049 Page 46
The DR should clarify if the proposed treatment wetlands to be built in the bridge columns are being proposed as mitigation for wetland filling. They should not be proposed as mitigation for wetland filling.

N-001-050 Pages 46-55
The DEIS and the DR need a table that compares wetland and buffer impacts (filling and shading) for each alternative and options, including staging areas. Total values should be shown in this table to enable the reader to compare between options. Also, the shading impacts should consider the width as well as the height of the new bridges for all options. Finally, there needs to be a detailed functional assessment completed for impacts to wetland that includes loss of function due to a loss of vegetation in buffers and upland areas. The DR should discuss the loss of wetland function by subbasin for both east and west sides and include an evaluation of how much wetland is lost relative to the estimate of total acreage in the affected subbasin. An important function to discuss is the amount, frequency and duration of water stored by riparian wetlands that may be lost due to filling and/or riparian vegetation removal. The DR should also discuss the potential for temporal loss of vegetation that is large enough to provide shade currently but is replaced with smaller sized vegetation. This discussion should include necessary mitigation.

N-001-051 Pages 84-85

1. As noted in our previous comments to the DR (20 September 2005), we have concerns about the King County's (KC) Level 1 stream survey methodology. Our concerns include the limited repeatability of this methodology and its tendency to over-estimate pools by failing to consider residual pool depth compared to bankfull width of the stream in question. While the surveyors used Pleus et al. (1999) instead of the KC Level 1 stream survey to identify pools, the author did not use the updated version of Table 3-2 from Pleus et al. The pools should be re-evaluated based on the updated version of Table 3-2 from Pleus et al. Another concern with the KC Level 1 stream survey method is that it is insufficient to adequately measure wood, wood volumes, and location of wood to determine functionality and impacts. A better approach would be to use the updated versions of Pleus et al. (1999) and Schuett-Hames et al. (1999). Both recommended methodologies are available at http://www.nwifc.wa.gov/TFW/documents/.

N-001-052 2. Also on page 85, it is not clear why stream survey efforts conducting spot electroshocking were done in May of 2002. The results may be biased against coho and chinook presence because these fish species have typically outmigrated into Lake Washington at that time (Kerwin 2001).

N-001-053 3. Also on page 85 , the relevance of the statement that 50% of shorelines are bordered by single family residences is not clear. The habitat issue of concern should be how much of the lake shoreline has been modified by the adjacent land use regardless of its type (see Toft 2001). This section lacks any discussion about existing piers in Lake Washington (see Kahler et al. 2000; Toft 2001). For example, as of 2001, there were 2737 docks with an overall frequency of 36 docks per mile (Toft 2001). Similarly, the predator discussion is incomplete. There should be discussion about the hypothesis that piers and boatlifts may potentially increase spawning habitat and/or reproductive success of bass as noted on page 39 of Kahler et al. (2000). Since the bridge is proposing to use piers for construction and a new pier will be built on the eastside, it is important to consider site-specific and cumulative impacts that may be caused by the project.

N-001-054 Page 95 comments

1. Please explain the relevance of salmon stock origin to the project, given the project may affect salmonid habitat of all salmonids regardless of origin.

2. There should be some discussion about the project's potential to affect both sea-run and resident cutthroat. Also the cutthroat trout identified in the project may not be native coastal cutthroat because they are not listed as such in the trout section of SASI. There should be a citation to support the statement about adult bull trout and cutthroat trout migrating in both directions in the Ship Canal.

3. Please provide data to support the statement that the area under SR 520 is less than 1% of the identified sockeye spawning area in the Lake. Also, the authors should discuss potential beach spawning data with Kit Paulsen at the City of Bellevue and Ron Egan at Washington Department of Fish and Wildlife.

N-001-055 Page 97
Please clarify the statement that the existing SR 520 Bridge does not affect sockeye spawning, considering that beach spawning was discovered after the bridge was built and there is no current data cited in the report. There is the possibility of the bridge affecting sediment transport and the upwelling process, thus affecting the suitability and extent of beach spawning habitat.

N-001-056 Page 99
Please note that there are steelhead and kokanee proposed for listing under the Endangered Species Act.

N-001-057

Page 101
1. Fine sediment can harm juvenile salmon by causing gill abrasion, etc. and can increase predation on juvenile salmonids (Lloyd 1987).

2. Please note that culverts cause more problems than just obstructing fish passage and altering water flow. Culverts can also affect habitat forming processes by obstructing wood, water, and sediment, in addition to becoming a barrier to adult and juvenile salmonids (WDFW, 2003).

Page 103
1. Culverts can affect fish and fish habitat in more ways than listed here. See previous comments.

2. The DR lacks any discussion about the role riparian habitat plays in the Lake (see Toft 2001 and Kahler et al 2000).

Exhibit 35, Page 104
Please provide the data and information that provided the basis for determining rearing potential in the last column of the table and explain why the footnote only discusses chinook when the table is supposed to represent salmonids. Also, it would be important to distinguish between winter and summer rearing and to consider differences between cutthroat and coho. There is data to suggest that many streams in Lake Washington are providing good rearing habitat conditions for cutthroat trout, but not necessarily for coho.

Page 105
Please provide the data to support the statement regarding elevated levels of pollutants limiting salmon use in Fairweather Creek.

Page 106
1. Please provide the full citations for Anderson and Ray et al. (2001). They are missing from the reference section.

2. The authors should use Berman (2001) for more current information on stream temperature impacts to salmonids.

3. Please provide any data to verify the returns of coho to the incubator site. Also, please clarify the source of these fish.

Page 114
As noted in the DEIS comments, MITFD staff found coho in Yarrow Creek up to Lake Wash Boulevard and in the East Tributary of Yarrow Creek below SR 520 as we noted in our 20 September 2005 comments. This section was not updated accordingly. Please

N-001-057 identify "the recent surveys" that the authors refer to for results for chinook juveniles.

N-001-058 Page 116
The new bridge information should be expanded by identifying the bridge dimensions per waterbody on this page.

Exhibit 48, page 119
The DEIS indicated that the new pontoons would be 18 feet deep, not 12 as shown in the table.

Page 120
The new bridge information should be expanded by identifying the bridge dimensions per waterbody on this page.

N-001-059 Exhibit 49, page 124
All culverts that currently block fish passage should be replaced regardless of alternative or option. Culvert retrofits do not always work and can result in additional habitat loss by placing permanent steel or concrete weirs into the channel.

N-001-060 Page 131
1. The DR fails to disclose if the excavated sediment for the bridge columns will be tested for contamination and where the sediment will be disposed.

2. More information is needed regarding construction timing and lighting, both of which may increase predation opportunities, particularly in Union Bay at the Montlake Cut.

3. Tribal fishing could be adversely affected by construction bridges, barges, pontoon traffic, etc. for a significant period of time and area.

N-001-061 Page 135
It appears that the extent of riparian buffer removal, both temporary and permanent, may be underestimated on this page as it seems very likely that the construction area will be beyond 5 feet of the footprint of permanent structures.

N-001-062 Pages 136-137
The DR fails to consider any potential impacts to all adult salmon that must return through the cut to Lake Washington.

N-001-063 Pages 138-142
The Fisheries Mitigation measures identified on these pages are a starting point; however, additional mitigation will be needed to address the direct and cumulative impacts as the result of this project.

N-001-064 Page 140
WSDOT will need to resolve all of the Tribe's concerns, which will likely go beyond just coordination.

N-001-065 Page 142
Water quality monitoring should be conducted for the existing bridge to see if standards are met. Monitoring should also occur during and after construction for the life of the project.

N-001-066 Appendix E Ecosystems Discipline Report Addendum
Page 30
It is premature to conclude that areas outside of the project area will be used for compensatory mitigation to wetlands and streams.

N-001-067 Pages 41-42
There is no information about bass use of the existing bridge area including Union and Portage Bays; therefore, it seems premature to conclude that new bridges with larger columns will not provide attractive habitat for large and smallmouth bass. This is a huge data gap that needs to be addressed before permits are pursued.

N-001-068 Page 51
Any trees larger than 6 inches in diameter removed from areas within 200 feet of streams should be considered an impact that requires mitigation, including wood placement, to address the loss of future wood recruitment. We reserve the right to comment on the stream and fisheries mitigation plan as this is developed.

N-001-069 Appendix G Environmental Justice and its Addendum
The discussion about impacts to the Muckleshoot Indian Tribe's fishing and fisheries resources incorrectly concludes that "the build alternatives are not expected to have an effect on tribal use of the fish resource". There is no analysis to support this statement.

Appendix L Navigable Waters Discipline Report
Page 35
The movement of barges and pontoons can have a greater effect than just interfering with the movement of tribal fishing vessels. See previous comments.

N-001-070 Appendix T Water Resources and its Addendum
Page 59
The pollutant loading calculations were completed for total suspended solids, total copper and total zinc. These calculations did not include other parameters, such as cadmium, chromium, oil and grease, which are also common pollutants found in stormwater from

N-001-070

motor vehicles (WDOE, 2006). In order to analyze whether the proposed project will cause violations of Washington State water quality standards and cause degradation to the existing quality of the surface water, a more comprehensive set of parameters, which are relevant to highways, should be analyzed. In addition, the range (maximum and minimum) of concentrations (and loads) of each pollutant should be estimated for the comparison of No-Build and Proposed Project alternatives and options, not just the medians. In addition, the CH2MHill et al. (2002) report that is the basis for many of the conclusions regarding pollutant loading and effluent pollutant concentrations was not made available with the DEIS and its appendices. We reserve the right to provide additional comments once we have had an opportunity to review this report.

References

Berman, C. U.S. Environmental Protection Agency. Oregon Temperature Standard Review. EPA Region 10. 65 pp.

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Kerwin, J. 2001. Washington Conservation Commission. Salmon and Steelhead Habitat Limiting Factors. Water Resource Inventory Area 8.

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Lloyd, D.S. 1987. Turbidity as a water quality standard for salmonid habitat in Alaska. North American Journal of Fisheries management 7: 34-45.

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Toft, J.D. 2001. Shoreline and Dock Modifications in Lake Washington. University of Washington School of Aquatic and Fishery Sciences. Prepared for King County Department of Natural Resources.

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WDOE, 2006. Phase I Draft Fact Sheet for National Pollutant Discharge Elimination System (NPDES) and State Waste discharge General Permit for Discharges from Large and Medium Municipal Separate Storm Sewers. Washington State Department of Ecology, Lacey, WA.