



Quinault Indian Nation

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Members of the Chehalis Basin Flood Authority:

This letter provides technical comments from the Quinault Indian Nation ("Nation") regarding the Chehalis River Fish Study conducted by Anchor QEA as contracted for by the Chehalis River Basin Flood Authority.

As a signatory to the Treaty of Olympia (1855), the Nation is the only federally-recognized Indian tribe with treaty-protected fishing, hunting and gathering rights in the Chehalis River Basin. We remain concerned with the Authority's failure to recognize and respect the obligations to cooperatively and substantively engage the Nation and provide a substantive role in decisions that affect our treaty rights and co-management status.

In separate communications, we have previously expressed our concerns and opposition to the construction of dams within the Chehalis River system for flood control or other purposes because of their potential adverse impacts on salmon and steelhead populations and ecological functions of concern to the Nation. We note that the study conducted by Anchor QEA predicts that salmon and steelhead production will be significantly reduced under all scenarios, reinforcing our concerns for adverse effects on the ability of Nation to exercise its treaty rights. Under some scenarios, reductions appear to be so severe that listing under the ESA may be triggered, affecting our ability to exercise our treaty rights and restricting other activities of the Nation. Impacts to fish in the Chehalis Basin constitute an unlawful and unacceptable taking of our federally-protected treaty right.

Our ability to provide substantive comments on Anchor's analysis is affected by the short period of time available for review and continued re-analysis. Nation staff were provided access to Anchor QEA's November 2011 draft appendices on November 18, 2011, which was followed by a 2 ½ -hour presentation by Greg Hueckel on behalf of Anchor QEA on November 21, 2011. Our staff were only provided access to the actual model runs and underlying data on December 12, 2011. The Nation was not informed as to the process for finalizing Anchor QEA's draft report. Additionally, the Nation has not been informed as to the intended use or significance of the report to the Flood Authority. As a result, we were unable to conduct a thorough analysis or make recommendations that could have guided your final draft, which we understand is due to the Washington State Legislature in January 2012.

Given the magnitude and complexity of information provided, the extremely short review period,

and continuing changes to the technical analysis, the Nation is able to raise only general technical issues related to the materials provide to the Nation by Anchor QEA. Our comments should by no means be interpreted to represent a complete listing of our concerns with the analysis.

Modeling

A thorough understanding of the models, methods, data, and assumptions that were employed by Anchor QEA in its Fish Study would require substantial investment of staff time; an investment we are reluctant to make given the changing nature of the analysis and uncertain role of the Nation vis-à-vis the Authority's decisions. As we understand the analysis, Anchor's assessments are based on four models that are linked, so that errors are carried through the entire analysis or compounded. Without the proper time to evaluate each model, and the inputs and assumptions made in running them, the Nation cannot assess the level of confidence that should be accorded to Anchor's conclusions. This is best illustrated with one of the results Nation staff observed at the November meeting where the prediction of fish production was higher without fish passage than with fish passage.

The issue of greatest concern in the results is that for the multi-purpose, bottom-water release scenario, the SHIRAZ model predicts a slightly greater average return of Chinook and steelhead spawners per year for the non-passage option compared to the fish passage option. This is obviously counter-intuitive and may indicate a problem with the model's assessment of upper watershed capacity and productivity. This problem may be related to the lack of data collected from the upper reach and the assumptions used regarding its habitat capacity and productivity that were used in lieu of data. No satisfactory discussion of this issue was presented in the original document, nor was it explored in any detail. This clouds the interpretation for all other model results as they may also be affected by some problem in model parameterization and/or model function specification for the upper watershed but do not result in such counter-intuitive results. Outputs from modeling hypothetical scenarios can be easily misconstrued as facts by the uninformed, leading to an inadequate or erroneous basis for important decisions. This unexpected result increases our skepticism of Anchor's assessment and cautions that all other results need to be viewed and interpreted with additional scrutiny.

The modeling of fish outputs assumed that existing physical habitat conditions continue for the next 50 years, which we believe is an unreasonable assumption given the uncertainties of climate change and impacts of land use and development. For instance, dams do not naturally pass large woody debris or sediment (bedload) downstream, which results in severely degraded habitat downstream. It did not appear that the modeling approach adequately addressed accrual of habitat degradation, including uncertainties regarding alterations in land use and development in the basin over time.

Because of the timing of the study, Anchor QEA was unable to collect summer temperature data. Consequently, Anchor used limited available summer temperature data. Summer temperatures can be critical to assessment of fish impacts so an adequate data set to characterize ranges of variability is important. Additionally, temperature modeling was based on assumption of current

channel configurations. It did not address the prediction of channel aggradation that would likely result from a wider, shallower channel post-dam that will be more amenable to solar heating. Similarly, the study did not address the need for or impact of periodic dredging downstream of the project as a result of channel aggradation stemming from loss of flow velocity. Since this wasn't considered, the impact of this on downstream fish habitat and populations was also not considered.

Miscellaneous

Anchor QEA analysis assumed 80% fish passage survival as best case. The basis for this assumption is unsupported, as is an assessment of its validity. The Nation is concerned with the lack of an adequate sensitivity analysis regarding levels of uncertainty and the impacts of flood control structures on fish populations and ecological functions. We also note that in the Columbia River Basin (according to Paul Schlenger), the federal agencies are calling for 88-92% survival; if a project is to be built in the Chehalis Basin, it should incorporate state of the art fish passage facilities for both juveniles and adults. State of the art fish protection measures also include flow management, timing, quantity, and water quality characteristics. How flow is managed to protect fish affects both the power revenue that can be generated by the project and how flood storage is managed. In turn, this affects (often negatively) the benefits produced by the project. This was not addressed in the Anchor QEA study.

We are also concerned by the lack of a cost-benefit analysis for the proposed project. We caution that any such analysis should consider potential implications for listings under the federal Endangered Species Act, as well as impacts to the Nation's fishing economy and fishermen.

While the predicted reduction of flood levels of 2 feet at Chehalis/Centralia is not adequate to eliminate the previously observed floods, any reduction of flood levels would likely increase floodplain development. This fish study did not evaluate any effects on fish production that would likely result from additional floodplain development.

These general comments are provided for your information. We understand that because of the short timeframe for conducting this study and reporting results to the Legislature, our comments will not likely inform the final draft. However, we again stress that negative impacts of the project on our treaty fishing rights are unacceptable. Our rights and interests and our authorities as co-managers must be respected.

Sincerely,



Ed Johnstone, Fisheries Policy Spokesman
Quinault Indian Nation

cc: Paul Schlenger, Anchor QEA
Greg Hueckel, Consultant to Flood Authority
Lara Fowler, Consultant to Flood Authority