



- More data collection
  - Larger analysis area
  - Further refinement of dam configuration and operations would be necessary to avoid/minimize detrimental impacts and maximize beneficial impacts
  - Fish passage survival rate estimates are too high
    - *Response: Modeling conducted using anticipated survival rate targets for passage as well as with no passage provided. In this way, the analyses model the best and worst scenarios regarding fish passage. Fish passage survival rates below the target can be expected to be between the range of outcomes described for the passage scenarios modeled. This will be clarified in the report.*
  - Impacts of dam on fish populations are too low, especially for steelhead
    - *Response: As acknowledged in the report, Shiraz model refinement is necessary to improve model inputs for how fish survival may be impacted by altered access to upper watershed.*
  - A number of comments were received about the 2007 flood and its use in the report. Objections were made to statements about the use of the peak flow.
    - *Response: A new report prepared for the Corps of Engineers by WEST Consultants was referenced in comments. We received a draft copy of that report on January 16th and their conclusions were the peak flow of 63,100 cfs was not unreasonably high. We just received their report and are providing comments back to WEST.*
    - *Our draft report incorporates the 2007 peak flow at the Doty gage into our analyses. Our calculations show that FEMA/NHC overestimated the volume by 60%. That is the reason for the disclaimers. That is also the reason we didn't present the results of the modeling for the 2007 event in the Centralia-Chehalis area like the other flows modeled. We understand why people want to see those results, so we will add them but make sure our disclaimers about the input are clarified in the final report.*
  - Optimization of operations for instream flow and temperature
    - *Response: We did not originally optimize the operations of the multi-purpose reservoir for either instream flow or temperature as it was beyond our original scope of work. We did use the operations suggested by EES in their reports. Different operations could certainly be reviewed as the*
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*models we prepared could be readily modified. However, now that the IFIM, geomorphology, water quality and fish studies are completed, discussion on the optimal flow and temperature regime could be started.*

- Water temperature model calibration could be improved. The draft analysis overestimates temperatures
  - *Response: We are revising the water temperature models to address an input error and improve water temperature calibrations.*
- Fish spawning locations by reach are incorrect and/or inappropriately addressed in model
  - *Response: Data from WDFW will be re-checked. Model inputs will be revised, as appropriate, to ensure proper assignment of fish spawning in assessment reaches.*
- Model inputs of upper watershed habitat in existing and future conditions are too speculative
  - *Response: As described in draft report, the estimates of habitat capacity in the upper watershed will be updated using data collected in the late summer 2011.*
- Model inputs over-emphasize the extent of problem caused by high water temperatures, particularly during the spawning periods
  - *Response: To address this comment, the analysis will focus on peak months during which the life stage occurs. In addition, the model inputs will be updated using revised water temperature modeling outputs, as described above.*

#### Steps to Finalization of Study Report

Work is underway to address comments and document responses to comments. We have followed up with several people/agencies who provided comments for clarification of the basis of comments and/or agreement on common understanding of approach to address comments. Anchor QEA will provide a final report as well as a comment response table that includes responses to all comments. Anchor QEA is planning to deliver the final report in early March. It is Anchor QEA's understanding that the Flood Authority would plan to collect comments on the final report to be included with the overall record.

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