CENWP-OD 5 September 2017

MEMORANDUM FOR THE RECORD

Subject: Draft minutes for the 05 September 2017 Willamette Fish Facility Design Group meeting.

The meeting was held in the Mount St. Helen’s Room at the NOAA Fisheries West Coast Region Offices in Portland, OR. In attendance:

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On the phone: Fielding, Gramlich, Kovalchuk, Malone, Richards and Tarbox.

**Meeting Purpose:**

Finalize previous meeting notes. Provide an update on status of active design projects.

1. August notes were approved. The notes from June 6 and 26th are pending. Any further comments on Burchfield’s edits need to be in by Friday, September 08, 2017.
2. Updates on projects
   1. Fall Creek – The pipe lining contract was awarded on 1 September. The other construction work is proceeding. The webcam is back up but the view is only what has already been constructed. Blue River is on a level 1 evacuation due to the fires and the whole area is most likely affected by the fires.
   2. Cougar – The work is on schedule. The PDT is finishing the 60% DDR for an internal District review from 12 -26 September. The outside agency review will be in November. The CFD modeling will still be shared at the October meeting. The PDT will give an overview of the 60% at the November meeting.
3. Detroit DSP/tower temperature analysis
   1. Temperature simulations of different FSS inflows and temperature targets [Powerpoint presentation by Buccola] - There are still 3 projects going on simultaneously. Two of the three DDRs are being done in house but the 3rd (FSS) is contracted out. Since the FSS will be gravity fed, it will be dependent on surface flow. Buccola presented a Power Point slide show on the temperature modeling. There are two big questions that drive the temperature modeling: what is the maximum surface flow that can be released through the FSS and which temperature target optimizes the surface flow while meeting the downstream temperature target. The two temperature targets are the 2017 ODFW proposed targets and the pre-dam targets. The flow is prioritized in the model. In certain cases, a flow restriction prevents the target from being met. The presentation will concentrate on three flow scenarios 250, 1000 and 1500 cfs. These flows were decided by the team as the most likely minimum flows throughout the year. The main difference in the model results is with the temperature targets not the different flows. In each scenario, the three different flows all track a similar line. However, in the hot dry year, the differences in the flows are slightly more noticeable. Reaching the fall targets for the 2017 ODFW proposed target is difficult because during the summer the colder water has already been released. The new temperatures are supposed to improve conditions for the returning adults. Calculating the incubation period emergence day, the difference between the two targets in the hot dry year is about 2 weeks but the cold wet year is pretty similar. Buccola also calculated the amount of time spent in the temperature range of 14-16°C known as the rearing period. The pre-dam target creates 14-17% more time than the 2017 target. The major difference in the two targets is that under the 2017 targets, cooler water is let go in the summer resulting in higher fall temperatures under all flow conditions. The majority of juvenile fish will be collected in the spring and fall. The PDT doesn’t want any competing flows during that time period. They are proposing a minimum of 1000 and maximum of 4500 cfs for the collector to prevent competing flows. Competing flows happen when not all the flow is going through the collector, like through the RO or the turbine.
   2. Temperature effects on spring Chinook production and growth – [Presentation by Malone] Malone presented a growth model that can track two scenarios. Optimal food production is at 15-18°C (sourced from EPA document) and this translates to fish growth. Using that information, the two temperature regimes were run. The model outputted emergence dates and weights of fish. The results showed that the previous targets produced bigger fish than the new targets. The earlier emergence date is only a small factor in the size of the fish. The higher min and max temperatures during the summer was the driving factor in the growth size. Food is the secondary driver of fish production behind temperature. Survival is not in the model but bigger fish have higher survival. Since the ODFW targets are primarily for adults, this modeling was to check the effect on the juveniles. According to Norm’s modeling, the emergence date for the 2017 targets are earlier than the pre-dam. Malone used the ideal dates stated in the WFOP. But even when adjusted for actual conditions, the results showed that the temperature for food production was more important than the emergence date. Mullen said that you don’t want to just grow all fish to yearlings because the diversity of fish returning will be lost. It is necessary to preserve the two life histories – sub yearling and yearling. Population life cycling modeling is more than just growth, all the factors have to be used. The SLAM model can take into account different factors. The Harvest Policy Inputs model was run for the proposed 2017 targets. Malone said that the point of the model results was to make sure all effects of the new temperature regime are being considered. The assumptions in the model are assumptions and not reality. The cooler temperatures are expected to create higher productivity for the spawning adults but it also decreases the juvenile production. The actual results from the first year of the targets should be analyzed. The model can help figuring out RM&E needs. Malone also presented the return rates of wild ChS based on PIT tags (35,000 released and 50-60 fish returned based on detections at Willamette Falls) from 2006-2014 and was asking about the disease rates in the Santiam. It is likely that C. Shasta is present in the Santiam River.
4. Update on development of downstream fish passage criteria for Detroit DSP – In August, NMFS and COE met and will continue to meet monthly to develop a draft on the criteria for downstream passage.

The next WFFDWG meeting is scheduled for October 3, 2017.