Lebanon Fish Counters
Thursday, August 6, 2020 1:00 PM

Attendees	Organization
Lance Kruzic X	NOAA
Melissa Jundt X	NOAA
Joel Watts X	ODFW
Elise Kelley X	ODFW
Jeff Kinney X	City of Albany
Darren Gallion X	USACE
Christopher Walker X	USACE
Artem Kuryachy X	USACE
Melanie Barrett X	USACE
Mehdi Roshani X	USACE
Steve Schlenker	USACE
Tammy Mackey X	USACE

Agenda Topics

1. Introductions

2. Current Status – Monitoring occurring from sunrise till sunset down using temporary system, slated to run from May to October

    a. Installed June 12, 2020
    b. Camera on each orifice, as well two cameras viewing the notch on the South Ladder
    c. Data in possession, terabytes, but encountering issues processing
    d. How many fish have gone through the orifices? Is there any idea of the splits between orifice and notch? Darren: 25-27 chinook passed, 8 came through orifice. About a third going through orifices.

3. Design & Installation
    a. North Ladder Slide Gate
        i. Clarification on operation?
        ii. If slide gate is closed under typical operation, then Riverwatcher installation would be straight forward.
        iii. City of Albany does not touch the North ladder. Had to set flow and once it's set then it's set. They do not adjust it. Provide O&M to clean but do not adjust mechanical operations.
        iv. Gate is typically open.
    b. NOAA Concerns for Proposed South Ladder location
        i. Blocking or racking off the 2' by 2' orifices is not ideal
            1. Is any change to the volume of flow rate in the ladders permitted? If so, what does that range look like?

a. Don't want entrance system in the fishway. Either block all orifices or none. Pretty large change to overall fishway. Maybe do something upstream of the gate area? Not to mess hydraulic in Fishway if possible. Some change may be okay, but NMFS would have to analyze and concur. Joel prefers an upstream installation as well. Helped City of Albany balance the fishway and it's a difficult process even given the original design.

2. Melissa gave background: Design started with placing bar rack over orifices at Weir 8. Fish approaching orifices will not know they're blocked and may get injured. May get blocked by debris so how to maintain them then. How about closing them off? This will affect the flow since the orifices are very efficient. There will be changes in the fish way as a result. Joel had concerns about other species passing through the orifices. Mostly focusing on Chinook with this action though.

ii. Proposed install of Riverwatcher upstream with guiding structure

1. Floating Resistance Board Weir

a. "A resistance board weir consists primarily of an array of rectangular panels made of evenly spaced PVC pickets aligned parallel to the direction of flow. The upstream end of each panel is hinged to a rail that is anchored to the substrate and the downstream end of the panel is lifted above the surface by a resistance board that planes upward in flowing water. When all components are installed, the resulting barrier inhibits fish from migrating upstream except through the passing chute yet allows water to pass. A passing chute on one of the panels guides fish into a livebox where they can be visually counted, electronically counted or captured, before being allowed to pass upstream." – FishBio

b. "A floating resistance board weir is also easy to clean and maintain because the upstream end of the weir is attached to the river bottom and the downstream floating end collapses under the weight of a person or two. Debris, sometimes as large as a 50 foot log, can be passed down river without interrupting fish monitoring operations." – FishBio

i. No rake necessary?

c. Joel: Generally they function well, but have not seen them at all flows. Generally in temporary weirs but not during highest flows of the season. Needs compatibility to accommodate maximum flow. Could the forebay somehow be off-channeled?

d. Jeff said most February that part is underwater. May not be possible to install during February. Most of the North ladder is underwater during the winter. Most February and into March depending on what Army Corps is releasing. No reducing flow

over the actual dam itself. Anything bolted towards the middle of the dam itself the City of Albany would be vary of.

2. Other ideas for some sort of guiding structure that would be acceptable and meet guidelines/criteria?

c. Agreement on O&M of the system; something to start to consider

4. Questions, comments, concerns:
   - Easy way to make new trash rack structure? More like a crowder window.
   - Joel's concern would be debris issues and how to clean that. If can use structure we already have, Joel would be in support of that.
   - Some sort of log boom maybe.
   - Lance would want things to be as status quo as possible for speed. Want status quo for the rest of the year, so something removable would be preferred. Would help to perform O&M as well during the period of performance.
   - Is resistance board in just the south ladder feasible or not? Would it need to span the entire river? Not sure.
   - Driving Design Installation: Off the shelf installation, addressing debris, and not affecting flow
   - Block the side inlets and put the Riverwatcher in the middle? Would need to know average velocity through the racks since fish could potentially challenge it. Target is 1 ft/s or less going through the rack/picket weir.
   - If placing the camera into a picket about ten feet from the weir, would this create problems with flow on the ladder?