

**OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE**

COORDINATION TITLE: 16 LWG 001 Slot A gatewell testing of John Day Fish ESBSs at Lower Granite Project

COORDINATION DATE: January 7, 2016

PROJECT: Lower Granite

RESPONSE DATE: January 21, 2016

Description of the problem: The Lower Granite Project has been using extended length submersible bar screens (ESBSs) from John Day Dam as replacements for Lower Granite ESBS's damaged during the 2012 fish season. Performance of John Day ESBS's in unit 3 gatewell slots B and C were tested during the 2013 and 2014 juvenile passage season. Fish examined by PSMFC biologists in slots with John Day ESBS's had similar descaling rates to those examined from gatewell slots with Lower Granite ESBS's. During the 2013 season unit 6 gatewell slots were dipped May 9, 16, and 23. Fish from gatewell slot 6C with John Day ESBS had an average descaling rate of 2.0% (196 sampled, 4 descaled). Fish in slots 6A and 6B with Lower Granite ESBS's had average descaling rates of 3.0% (287 sampled, 9 descaled) and 4.5% (296 sampled, 14 descaled), respectively. John Day ESBS's have not been used in A gatewell slots due to concern of possible fish passage impacts.

Lower Granite performs annual maintenance on ESBS's during the winter outage, continues to rotate ESBS's into the repair pit for long term rehabilitation (FPP Appendix A, 9.1.5.), and has one ESBS available for installation should a failure occur during the fish passage season. In the event of a failure the screen is pulled from the gatewell slot and replaced with the spare ESBS. The damaged ESBS is repaired and stored until needed. Pulling and replacing an ESBS requires the turbine unit be taken out of service and typically takes up to 3 hours if no complications occur. This time can be tripled if the spare ESBS is a John Day screen and an A slot screen fails. This scenario would require moving multiple ESBS's multiple times to replace the screen in the A slot. This has the potential to extend priority turbine unit outages during the fish passage season should an ESBS failure occur in an A gatewell slot of units 2 or 3.

The project would like the flexibility to install John Day screens in unit gatewell slots A in addition to B and C in the event of a failure. To test potential impacts John Day screens in A gatewell slots the Project would like to install modified John Day screen in turbine unit 3 gatewell slot A. Unit 3 gatewell slots will be dipped weekly to test the performance of the John Day screen as was done in 2013. Lower Granite proposes dipping unit 3 gatewell slots A with the John Day screen installed and B with a Lower Granite screen installed to compare descaling and/or injury rates May 19, 26, and June 2.

Unit 2 gatewell slot A with a standard Lower Granite screen will also be dipped as part of this evaluation.

If there is not an increase in descaling or injury rate in unit 3 gatewell slot A the Project proposes to operate with the option of putting John Day screens in A gatewell slots when necessary without further regional coordination. Standard Lower Granite screens will continue to be installed in A gatewell slots at the beginning of subsequent fish passage seasons. Updates on ESBS's will be provided in the Lower Granite weekly ESA report.

Type of outage required: Turbine units 2 and 3 will be rotated out of service May 19, 26, and June 2 for gatewell slot dipping.

Impact on facility operation: Turbine units will deviate from unit operating priority order (FPP Table LWG-5, order 2, 3, then 4-6 any order, then 1) for about 1-4 hours to perform gatewell dipping. Unit 3 will be operated while unit 2 slot A is being dipped. Every effort will be made to return units to service without delay.

Dates of impacts/repairs: Gatewell dipping May 19, 26, and June 2.

Length of time for impacts/repairs: Estimated time to dip unit 2 gatewell slot A is about one hour and unit 3 slots A and B is expected to 1-3 hours to complete.

Expected impacts on fish passage: Impacts to juvenile fish is expected to be minimal. A target number of 35-50 fish collected during gatewell dipping will be examined and released without delay using SMP standard sampling protocols. Dipping will occur between 1400-1700 hours to minimize potential impacts to adult fish passage related to deviation from unit operating priority order (see attached graph).

Comments from agencies:

Final results:

Please email or call with questions or concerns.

Thank you,

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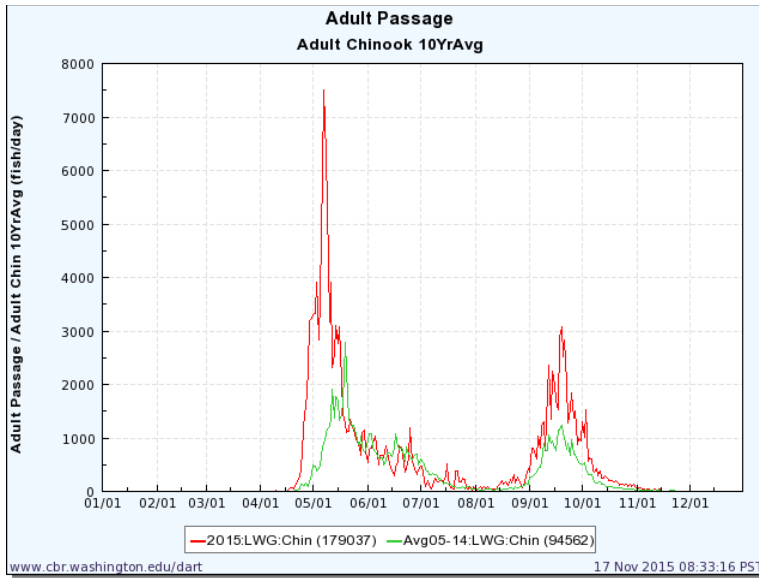


Figure 2. 2015 and 10 year average Chinook passage at Lower Granite.

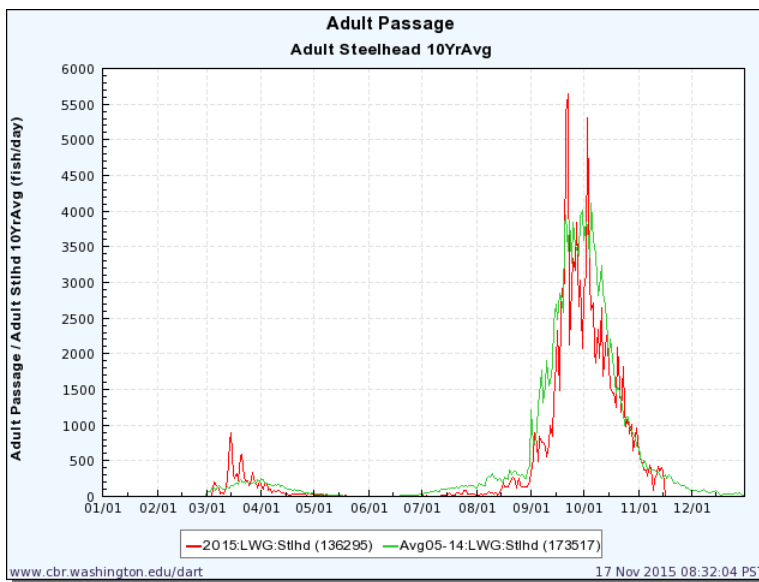


Figure 4. 2015 and 10 year average steelhead passage at Lower Granite Dam.

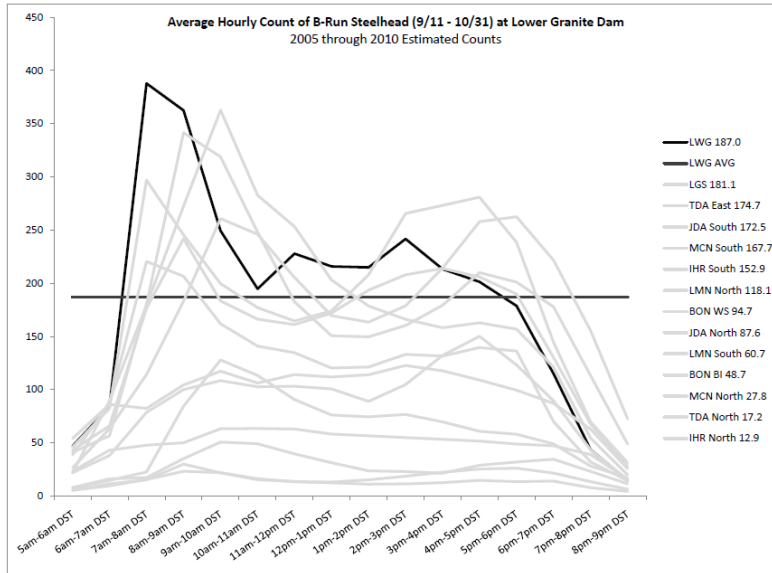


Figure 6. Average diel counts of steelhead passage at Lower Granite (2005-2010).

References:

- 13 LWG 09 JDA screen testing MOC
- 13LWG09 appendix A JDA ESBS Modifications
- 13LWG09 appendix B LWG GatewellDipping050913
- 13LWG09 appendix C LWG GatewellDipping051613
- 13LWG09 appendix D LWG GatewellDipping052313
- 13LWG09 appendix E LWG GatewellDipping052313_4c
- LWG gatewell dipping 130702_2
- LWG gatewell dipping 130702_3