OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- 19MCN13 Steelhead Overshoot Research Equipment Installation
COORDINATION DATE- 23 July 2019; Revised 7 August 2019
PROJECT- McNary Dam
RESPONSE DATE- 08 August 2019

Description of the problem

Main turbine units 1, 2, 13, and 14 need to be placed out of service to facilitate dive work to install hydro acoustic equipment on the trash racks. This work is necessary for the Steelhead Overshoot TSW Evaluation coordinated through the Science Review Work Group as ADS-S-16-1. The purpose is to evaluate the effectiveness of surface spill operation at McNary Dam to provide a non-turbine downstream return route for adult steelhead that overshoot their natal tributaries and/or downriver origin adult steelhead that overwinter in the McNary forebay. This study will assess a fall and spring surface spill operation, at the Top Spillway Weir (TSW) spillbay, for returning John Day and Umatilla rivers origin steelhead spawners that overshoot McNary Dam. Monitoring will evaluate the diel timing and duration of surface spill periods to determine when spill is most effective at passing steelhead downstream.

Type of outage required – Remove turbine units from service as outlined in table 1.

Table 1. Turbine unit and spillbay outages required to complete installation of research equipment.

Date	Units OOS all day	Unit OOS 4 hrs	Spillbays OOS
9-Sep-19	1 and 2	10	None
10-Sep-19	9, 10, and 11	14	None
11-Sep-19	13 and 14	1	15 - 22
12-Sep-19	13 and 14	None	15 - 22
13-Sep-19	14	None	15 - 22

Impact on facility operation – None.

Impact on unit priority- Turbine priority is 1, then 14-2 in descending order. When units 1 and 2 are OOS for up to 2 days it will shift operation to unit 3 then 14 – 4 in descending order (depending on unit availability). When units 13 and 14 are OOS for up to 2 days, operation will be unit 2 then 12 – 3 in descending order.

Impact on forebay/tailwater operation - None

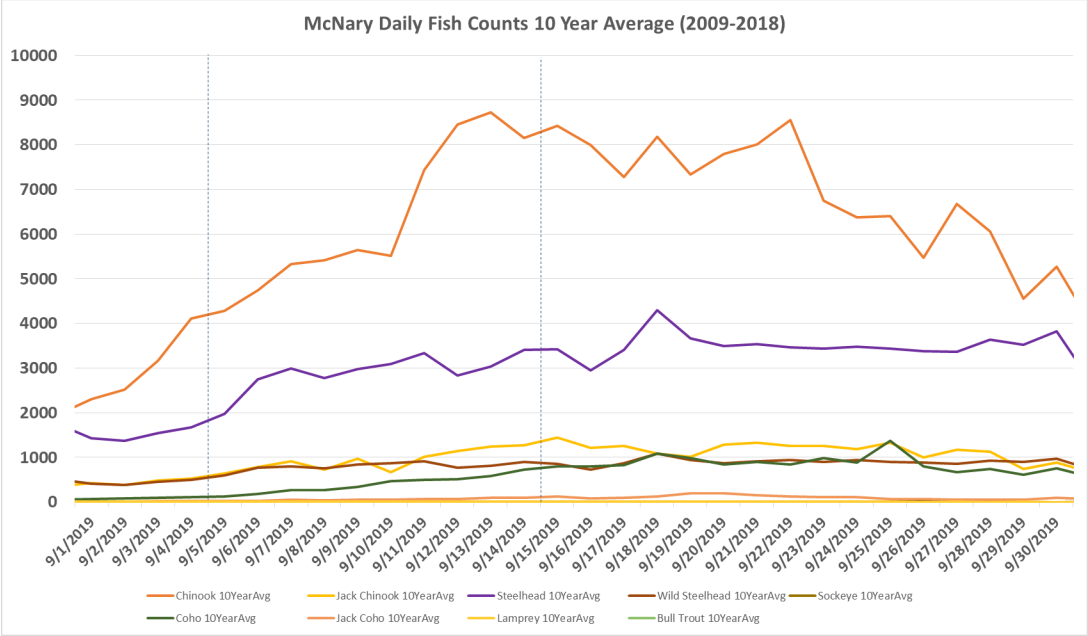
Impact on spill - None

Dates of impacts/repairs – September 9 – 13, 2019 (5 days during this time period)

Length of time for outage – 5 days

Analysis of potential impacts to fish

1. 10-year average passage by run during the period of impact for adults and juvenile listed species, as appropriate for the proposed action and time of year;



Generated 22 Jul 2019 07:37:19 PDT. DART Adult Passage Daily Counts
www.cbr.washington.edu/dart/query/adult_daily.

2. Statement about the current year's run (e.g., higher or lower than 10-year average).

   Fish runs are trending lower than average in 2019.

3. Estimated exposure to impact by species and age class (i.e., number or percentage of run exposed to an impact by the action).

   In September the following species are present (% of run) and passing based on the 10-year average during the proposed outage schedule:

   - Fall Chinook salmon ~15%
   - Steelhead ~15%
   - Pacific lamprey ~7%
   - Coho ~14%

4. Type of impact by species and age class (increased delay, exposure to predation, exposure to a route of higher injury/mortality rate, exposure to higher TDG, etc.).

   Shifting unit priorities may cause some adult passage delay.

Summary statement - expected impacts on:

Upstream migrants (including Bull Trout)

The overall impact on Chinook salmon and steelhead is expected to be minimal.

The impact on bull trout would be the same as the adult salmonids; however, very few bull trout have been observed at McNary Dam over the last twenty years.

Pacific lamprey passage will not be impacted by the shift in unit priorities.

Downstream migrants
Impacts to steelhead kelts, juvenile salmonids, or juvenile lamprey as a result of this work are expected to be minimal. Juvenile passage is mostly complete by September and relatively few will pass during the proposed unit outages.

Comments from agencies

Draft notes from SRWG that occurred on 30 July 2019:

a. ADS-S-16-1 - Evaluation of a Surface Spill Operation to Return Adult Steelhead Overshoots Downstream of McNary Dam – Norton filling in for Walker – Goal is to evaluate the surface spill operation at MCN. Want to do a fall and spring study to evaluate overshoot/fallback. Condor – one thing need to discuss is what turbine units will be wired up and what gatewells, so can coordinate that in FPOM. Wanted to discuss how sampling protocol would change if got into uncontrolled situation with spill; how blocks with TSW would change. Ham – talked with the project, the priority there is 1 and 14 are highest priority. Question was how we're going to use that data; in his mind it's about controlling for total passage – if have high TSW passage, is that because TSW passage is high, or because passage everywhere is high. Haven't seen huge diel effect in the past, but can be operation things that happen. Will give more confidence in what's happening at TSW. While screens are in will have 2 XDRS per slot, when out will still have one, so will have guided vs unguided passage. Condor – when are screens coming out in fall? Johnson – screens come out in December; would have to get them ready by 1 March for study start-up in overshoot units. Condor – concern with just units 1 and 14, they could be higher passage just due to location, would like to see one unit that's more central, to compare, with a transducer in it. Sullivan – spoke internal at BPA about whether there'd be a benefit of something similar. Condor – funding was up to four units. As long as get a central unit that's likely to be on, that would be fine. Ham – Thing discussed about 2 vs 4 units. Could do one slots per unit, or two slots for 2 units. Value of 2 units you get some redundancy. Talked about leaving the equipment in over the winter, and chance of losing equipment not zero, so if lose one transducer you would still have one if only did 2 units. Condor – still prefer a middle unit. Would be OK with just doing 3 units. Ham – that's a compromise that would work. Johnson – Walker did contact him about taking one of the transducers out of 1 and putting it in 10, he just hasn't heard from his supervisor yet in what the response was. Morrill – clarified would be 1 in 1, 1 in 10, and 2 in 14. Ham – may study it and decide unit 10 isn't the best; Condor – that's ok, just want one of the central ones.
Condor – wish we could have more blocks of spill, knows BPA doesn't support it. His only concern is that there'll be some environmental variability that causes a lot of passage in a short time, and won't have a lot of the periods covered. Made him think that if we have situation where don't have full coverage at PH, how we'll deal with that. Ham – timing and duration of spill is laid out, is randomized, and if you added something in there there wouldn't be 24 hours between sample periods. Haven't thought through how to take advantage if there is more spill. Ham – how often would it be before you'd know if there'd be more spill? Shutters – in the past have had more forced spill in the winter, have in the past had to try to reparcel data outside of the study period. Ham – one you'd have more excess spill that all went through the TSW (would require spill gate openings as well). Once you open spill gates, that's when you get into trouble, have no detection there. We're going to have to give operators some kind of direction if want this to happen. If water went through TSW, would break the design but would at least have detection. Would recommend operating the TSW as much as you could before opening spill bays. Shutters- another aspect could look at is spill priority list, could maybe try to coordinate trying to avoid forced spill that way. Sullivan –BPA

agrees with going to TSW first with forced spill.
Condor – monitoring in spring primary or secondary bypass? Going to do periodic SMP operations? Johnson – will do routine operations, every other day secondary bypass. Count the adults that come through every day, don't scan but should be picked up by facility. Condor – species? Johnson – can do species, usually try to do clips. That's routine data. Condor – not doing that in Sept? Johnson – no, primary bypass in fall. Condor – may be good to cross-correlate bypass data with hydroacoustic data. Ham – thought NOAA would be looking at fallback/overshoot data. Condor – were planning at looking at fallback reascension data and final detection site and doing a write-up on that, to say something about how this operation effected things. Would occur after a few years. Bellarud- will do a running analysis every year, but won't be able to say anything for a number of years. Ham – so analysis will be extended out, but could they coordinate data analysis? Bellarud – yes.
Sullivan – What's the timeline for installing equipment? Ham – on schedule. Project is aware and working on outage requests. From BPAs perspective – would have 60 days of monitoring if start on 15 September, would the project be OK with that? Ham – that is the plan, to start on 15 September, 2-week shift from proposal on screen. Last block may move a day at the end. Sullivan – for spring, if monitoring 1 Mar – 9 April, awareness that if plan on leaving that equipment in place. Ham – will take the equipment on screens off, but leave the rest in. Study screens will be the first in. Sullivan – how are we getting equipment out, or will it stay in through August. Ham – would like to take it out, but understand sometimes that doesn't work. Condor – will see a proposal that's adjusted with new dates etc.? Ham – yes. Will get that back to folks via the Corps. Ham – would like folks to prioritize comments to this study soonest. Have to get outages in place.
Jake – currently have review meeting for final proposals for 18 Sept, do we need special meeting for MCN study? Shutters – can schedule a meeting sooner if need to. Condor – would recommend putting this one on accelerated schedule. Shutters – will organize a discussion as the revised proposal is distributed. Morrill – would like comments compiled and resent to SRWG.

Final coordination results

After Action update

Please email or call with questions or concerns.
Thank you,

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