OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE- 14 MCN 15 Control gate repair - MCN ORFL lamprey entrance structure

COORDINATION DATE- June 26**,** 2014

PROJECT- McNary Lock and Dam

RESPONSE DATE- July 1**,** 2014

Description of the problem: The control gate to the new lamprey passage structure at fish entrance SFEW2 on the Oregon shore fish ladder at McNary Dam only opened about half way, due to a problem with the control mechanism at the west side control station. The rod that raises the gate on its west side has become disconnected from the gate. We need a dive to correct the problem site, which is under about 15' of water.

Type of outage required: Shutting down the two fish pumps and placing the Oregon ladder on orifice flow for one hour, after 1300 hours when fish numbers are down, per the diel chart for the Oregon shore fish ladder. Also, raising the entrance gate at SFEW2 to reduce powerhouse backwash. This will allow the diver to safely enter the water.

Impact on facility operation: Reduction of attraction flows for the Oregon ladder by approximately 5100 cfs (2500 cfs per fish pump and ~100 cfs for the orifice flow reduction). The ladder would still be receiving gravity flow (1000 cfs), exit flow (~130 cfs) and attraction flow from the Juvenile Collection Channel (450 cfs), so this represents about a 78% reduction in attraction flow for up to 1 hour. The Washington ladder would not be affected.

Dates of impacts/repairs: Proposed diving to repair will be on or about July 10, 2014. Delaying it further would mean going into the main lamprey season with a faulty passage structure, which only allows 50% of the flow to pass through the lamprey passage structure, and would adversely affect the lamprey study.

Length of time for repairs: Estimated one hour.

Expected impacts on fish passage: We will be averaging approximately 1000 Chinook, 100 steelhead and 1900 sockeye per day on the Oregon ladder. Almost all the sockeye this time of year are Canadian fish, because Ice Harbor only had about 50 (Snake River sockeye) pass per day during the same time period in the past. By waiting until 1300 hours, we avoid the busiest time of the day for fish passage according to the attached diel fish passage chart. (Review attached south ladder fish passage graphs.)

Comments from agencies:

From: Dugger, Carl R NWW
Sent: Wednesday, July 02, 2014 1:23 PM
To: Moody, Gregory P NWW
Cc: Setter, Ann L NWW; Gersbach, William J NWW; Johnson, Bobby NWW; Benoit, Richard A NWP; Smith, Mark R NWW; Juhnke, Steve D NWW
Subject: Sockeye data for proposed July 17 dive/Lamprey structure repair/Revised FPOM request (UNCLASSIFIED)
Greg,

The Portland District has revised the proposed dive date, for the lamprey structure repair at SFEW2, to Thursday, July 17.

This should be pleasing to Tom and Gary, who had expressed reservations about the earlier proposed dates.

Attached is a table showing sockeye data for both McNary ladders as well as the Ice Harbor data for July 17 for the years 2010 to 2013. Sockeye numbers really start trailing of that time year. Snake River sockeye numbers (read: "endangered") also are pretty low (as always). Diel numbers show that the 1 PM start time further decreases the number of sockeye that could be using the ladder on that date. The endangered Snake River sockeye only make up 1.1% of the sockeye run over McNary Dam; the rest are all unlisted Canadian fish, which I understand are mostly hatchery stock.

Unless there are unexpected complications, the dive should be over in less than an hour, so that is very limited down time for the Oregon ladder at a time of day when fish use is low, in any event. The McNary average of 2179 is well below Tom's 5000 fish cutoff criteria.

Is it safe to say we have FPOM's support on this, with this latest revision?

- Carl

From: Dugger, Carl R NWW
Sent: Friday, June 27, 2014 2:03 PM
To: Tom Lorz; Gary Fredricks - NOAA Federal; Moody, Gregory P NWW
Cc: Setter, Ann L NWW; Smith, Mark R NWW; Juhnke, Steve D NWW; Mackey, Tammy M NWP; Gersbach, William J NWW; Johnson, Bobby NWW; Bailey, John C NWW
Subject: RE: [EXTERNAL] RE: 14 MCN 15 Control gate repair - MCN ORFL lamprey entrance structure.docx (UNCLASSIFIED)
Tom,

Thanks for your comments.

We will keep a close eye on the sockeye count. It is looking to be another record run for sockeye, but that will probably be over 99% unlisted Canadian fish. As of yesterday, the Ice Harbor numbers, which indicate listed Snake River sockeye, were still very low.

An Idaho sockeye expert once told me that the Idaho run is about a month behind the Canadian run, even though it is from a lower latitude. However, the Idaho run is from a much higher altitude, so that probably accounts for the unexpected difference.

We are in a real bind on this haywire lamprey structure, and there are no good answers. We may not even be able to get divers here on July 10, but that is probably our best option if we can pull it off, to retain the integrity of the study.

I'll keep you posted.

- Carl

From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]
Sent: Thursday, June 26, 2014 4:29 PM
To: Moody, Gregory P NWW
Cc: Tom Lorz
Subject: [EXTERNAL] Re: FPOM MOC: 14 MCN 15 Control gate repair - MCN ORFL lamprey entrance structure (UNCLASSIFIED)

Greg, I'll second Tom's opinion on this one. You may have to plan way in advance for the dive but just be aware that if the sockeye run is still high on the 10th, you may have to postpone the work. We learned loud and clear last year that delay for sockeye equals lost fish. Thanks, Gary

On Thu, Jun 26, 2014 at 4:10 PM, Tom Lorz <lort@critfc.org> wrote:
Only issue is depending on the sockeye run we might want to push it back a few days if we are having a high peak or close to it, also if the snake river fish are still present in good numbers we should delay. We do not want to delay sockeye. The sockeye runs are usually short lived so things might have died down by the 10th. We should keep track of the run and proceed accordingly. Target something like less than 10,000 sockeye passing the Oregon ladder or something like that.

thanks

tom

Final results:

The diver entered the water on Thursday afternoon, 17 July, after the ladder was placed on orifice flow, the fish pumps were shut down, and the entrance gate was raised to protect the diver. After the diver installed a clevis on the gate of the lamprey passage structure, the crane successfully lifted the gate from the jammed position. The diver was able to screw the control shaft into the connecting clevis, and install a set nut to secure the control shaft. Afterwards, we were able to raise the lamprey structure entrance gate to its fully raised position. The lamprey structure is now fully operational.
The ladder went into orifice flow at 1325, and the fish pumps went down at 1339. Fish pumps were restarted after 1715, and the ladder resumed normal flow by 17:54.

Took a lot longer than I expected, but we got the job done.

On the 17th, 3671 sockeye, 265 Chinook and 534 steelhead passed over the Oregon ladder. 2696 sockeye passed on the 18, so the numbers have been continually declining. Typically about 0.5% of the sockeye passing McNary have been endangered Snake River fish. The rest are all unlisted upriver fish, mostly from the Okanogan river lakes in Canada.

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

Carl R. Dugger
Supervisory Fisheries Biologist

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