

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

COORDINATION TITLE- 14BON21 November FV3-7 inspection

COORDINATION DATE- 01 July 2014

PROJECT- Bonneville Lock and Dam

RESPONSE DATE- 10 July (FPOM)

Description of the problem - Ongoing maintenance and repairs have been conducted over the years to continue operations, but additional work is needed to improve and maintain these fishways to meet current standards. In addition, National Marine Fisheries Service (NMFS) 2000 Biological Opinion Action 126 states: "The Corps shall initiate an investigation and prepare a report on the Bonneville First Powerhouse Bradford Island and Cascade Island adult fishway auxiliary water system by the end of 2001. In the report, the Corps shall identify measures that will improve or replace aging components, thereby enhancing current and long-term performance and reliability." In response, the U.S. Army Corps of Engineers (USACE) conducted an initial assessment of the Cascade Island and Bradford Island fishway operating features. The Phase I findings were documented in Bradford Island and Cascades Island Adult Fishways Assessment Phase I Final Report (USACE, July 2004), including a list of concerns regarding the condition of fishway mechanical, structural, and electrical features.

A previous task order completed the second phase of the two phase project to assess the fishway condition and recommended feature repairs/replacement for the Bradford Island fishways at Bonneville Lock and Dam. The Phase 2 findings were documented in the Bradford Island Adult Fishways Assessment Phase 2 Final Report (Tetra Tech, Mar 2013).

This task order will complete a Design Documentation Report (DDR) with a new A/E for features of the Bradford Island fishway identified in the Phase 2 Report as the top 3 priorities for keeping the ladder running for ESA fish:

- FV1-1 valve
- FV1-2 valves
- FV1-1 bulkhead and bulkhead slots
- FV1-2 bulkhead and bulkhead slots
- FV3-7 valve;
- Construction/contraction joints of the North A-Branch Auxiliary Water Supply (AWS) conduit

Type of outage required - Dewatering of Bradford Island adult fishway.

Impact on facility operation - This outage will coincide with the BI bridge repair work (MOC 14BON08).

Bonneville project personnel will dewater the ladder to tailwater, salvage fish and water back up prior to the scheduled winter maintenance of the Washington shore/Cascades Island ladders. These activities will not impact scheduled maintenance.

Dates of impacts/repairs - 10-23 November

Length of time for repairs - 2 weeks

Expected impacts on fish passage

Downstream migrants: No expected impacts. This work is within the adult fish ladder and not near the downstream passage routes.

Upstream migrants: The impacts to fish passage are expected to be minimal as the work will take place while the Washington Shore ladder is still operational (prior to the in-water work period) and Powerhouse 2 is the priority powerhouse.

Table 1. 10 year average fish passage at BON for November 2004-2013

Date	All Chinook	All Steelhead	All Coho	Sockeye	Chum	Pink
1-Nov	192	93	265	0	5	0
2-Nov	163	99	221	0	4	0
3-Nov	200	91	198	1	5	0
4-Nov	207	93	174	0	5	0
5-Nov	178	92	174	0	6	0
6-Nov	168	107	151	0	6	0
7-Nov	74	84	126	0	3	0
8-Nov	55	63	108	0	4	0
9-Nov	53	44	76	0	4	0
10-Nov	50	56	56	0	2	0
11-Nov	67	65	59	0	4	0
12-Nov	53	76	58	0	4	0
13-Nov	52	85	55	0	3	0
14-Nov	36	74	69	0	3	0
15-Nov	36	57	57	0	3	0
16-Nov	24	68	59	0	4	0
17-Nov	20	60	45	0	4	0
18-Nov	22	63	41	0	2	0
19-Nov	20	60	31	0	2	0
20-Nov	17	60	37	0	2	0
21-Nov	15	41	18	0	2	0
22-Nov	12	48	17	0	2	0
23-Nov	10	36	14	0	2	0
24-Nov	11	29	6	0	2	0
25-Nov	7	32	8	0	1	0
26-Nov	5	27	4	0	1	0
27-Nov	5	29	3	0	0	0
28-Nov	8	31	3	0	1	0
29-Nov	6	30	2	0	1	0
30-Nov	7	27	2	0	0	0

Bull Trout: This work will occur outside the periods when bull trout have been reported at BON. Impacts are expected to be minimal to non-existent.

Five distinct population segments (DPS) of bull trout are listed as threatened by the USFWS. The Columbia River DPS (listed in 1998) is the only one of the five that is likely to occur in the vicinity of the proposed project. Historically, bull trout of the Columbia River DPS likely ranged through much of the Columbia River Basin with spawning and rearing occurring in the coldest creeks, often at higher elevations. Presently, bull trout of the Columbia River DPS are distributed

in a more fragmented pattern throughout the Columbia River Basin with fewer adult migratory fish and fewer, more compressed spawning reaches than historically occurred. WDFW and COE provided a list of anecdotal sightings/captures of bull trout in the mainstem Columbia River. From 2000 through 2012 there were eleven bull trout reported. Three were downstream of Bonneville Dam, with two at the mouth of Hamilton Creek (CRM 143) and one in 2005 at the Bonneville Dam Smolt Monitoring Facility (CRM 144). Upstream of the dam, one bull trout was found at Cascade Locks (CRM 149), two at Drano Lake (CRM 162), two at the mouth of the Klickitat River (CRM 180.5), one in 2002 at the John Day Dam Smolt Monitoring Facility (CRM 215), and one sighting at Dog Creek Falls by a reputable WDFW creel sampler who observed 18-24" cuts or dollies working old redds below the splash pool over the course of two weeks. Fish passage data from the Bonneville Dam fish ladders (COE, unpublished) show three sightings of bull trout moving through the fish ladders for 2000 through 2012 during the fish counting season (April 1st through October 31st). This occurred from 5/30/09 through 6/2/09 and was reported as 12 inch bull trout moving upstream through count window on each occasion.

Lamprey: This work will occur after the bulk of the lamprey migration season. Impacts are expected to be minimal to non-existent.

Comments from agencies

NOAA Fisheries - -----Original Message-----

From: Gary Fredricks - NOAA Federal [mailto:gary.fredricks@noaa.gov]

Sent: Tuesday, July 01, 2014 4:08 PM

To: Mackey, Tammy M NWP

Cc: Lorz, Tom; Hausmann, Ben J NWP

Subject: [EXTERNAL] Re: FPOM: official coordination 14BON21 November FV3-7 inspection

Tammy, I'm ok with the overall work however, the description leaves a bit to be desired. It doesn't really state what is going to be done other than add new A/E features to a DDR. Also, there seems to be six items under the top 3 priorities (and 3-7 is near the bottom of the list). Is there anything in the 3-7 inspection that would lead to a longer outage? I appreciate the inclusion of the 10 year passage data. Thanks, Gary

-----Original Message-----

From: Trevor Conder - NOAA Federal

[mailto:trevor.conder@noaa.gov]

Sent: Tuesday, July 15, 2014 11:32 AM

To: Mackey, Tammy M NWP; Gary Fredricks - NOAA Federal

Subject: [EXTERNAL] Re: FPOM: Official Coordination two MOCs for comment

Tammy,

It looks like Gary has already gave his blessing on these, and I don't have anything to add. As long as his concerns are addressed, I say go forth and do amazing work.

-Trevor

NWP - -----Original Message-----

From: Henrie, Gary S NWP

Sent: Wednesday, July 02, 2014 12:12 PM

To: Richards, Natalie A NWP
Cc: Mackey, Tammy M NWP
Subject: RE: [EXTERNAL] Re: FPOM: official coordination 14BON21 November FV3-7 inspection (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This DDR is intended to address Bradford Island Ladder features that are in need of repair within the next few years. For the inspection, the contractor will be doing a detailed inspection of the selected features to assess their current condition and recommend a repair/replace/modify strategy for each feature. The inspection will be the basis of the recommendation as well as the design of the recommendation. Prior to the inspection, the contractor will be preparing an inspection plan documenting what they'll need to look at, what project support will be needed, etc., etc., etc. to ensure the inspection is as smooth as possible and will be completed in the allotted inspection window.

FV3-7 is one of the features to be inspected due to observations of a couple slightly bent members. The valve is operational, Bonneville has reported no issues with the valve (none that I've heard at least), shouldn't lead to an extension to the outage.

Hope that helps.

Gary Henrie, P.E.
CENWP-EC-HD
503-808-4831

ODFW – -----Original Message-----

From: Erick VanDyke [mailto:erick.s.vandyke@state.or.us]

Sent: Tuesday, July 01, 2014 5:17 PM

To: Mackey, Tammy M NWP

Subject: [EXTERNAL] RE: FPOM: official coordination 14BON21 November FV3-7 inspection

Hi Tammy et al,

Given past issues regarding the stranding of white sturgeon during Bonneville fish ladder dewatering (see "MEMORANDUM FOR THE RECORD" dated 8 February 2011), it seems plausible that this November dewater could strand white sturgeon, and thus it seems warranted to include precautionary provisions to avoid stranding during this planned action. I would recommend the group consider including section 1.4, all or in part, from the aforementioned Memo to address this observed issue.

"1.4. When dewatering the collection channel and ladders

1.4.1. Project Fisheries should assume large numbers of sturgeon.

1.4.2. Sea lion hazers should be in place and ready to go.

1.4.3. A salvage plan should be readily available and reviewed by all dewatering participants. This may include hazing sturgeon out of the channel.

1.4.4. An After Action Review should occur after the dewatering.

1.4.5. Get the sturgeon people involved but don't turn it into a sturgeon research project.”

Although there may be differences between 2011 and the 2014 ladder dewatering [e.g., a different ladder, different time of year (November vs. January), to name a few], it seem prudent to plan ahead to avoid repeating the emergency salvage of 1,700 white sturgeon. In addition, it might be beneficial to more descriptively define what “hazing sturgeon” means (prior to inserting it in a plan), and whether sturgeon biologist might provide the level of professional guidance necessary for better avoiding negative interaction between native fish species and Bonneville operations. Thanks. Erick Van Dyke

BON Project Fisheries - -----Original Message-----

From: Hausmann, Ben J NWP

Sent: Wednesday, July 02, 2014 5:06 PM

To: Erick VanDyke; Mackey, Tammy M NWP;

Subject: RE: FPOM: official coordination 14BON21 November FV3-7 inspection

I want to clarify a few things for Mr. VanDyke and others not familiar with the salvage in 2011 referenced below or with salvage operations in general. First, stranding sturgeon and/or other fish is the reason we perform salvages on every ladder and unit dewatering. The 2011 salvage was the largest salvage every undertaken by Bonneville staff and as such, would have been impossible to anticipate. That said, we had zero mortalities and successfully returned all of these fish to the tailrace. In the multiple ladder and draft tube salvages occurring since 2011, we have seen nowhere near the numbers of sturgeon encountered at that time. Regardless, we had a new, larger sturgeon tank fabricated and the experience left us better equipped to handle and communicate a similar salvage if it were to occur again.

During the salvage in 2011 there were many erroneous e-mails circulated apparently originating from a member of the public. To address these e-mails, the Corps held a meeting to explain how the dewatering went and dispel the myths being dispensed. It was in that meeting that the brainstormed options listed below (1.4 thru 1.4.5) were mentioned. Here is a quick response to each:

1.4.1 Project Fisheries should assume large numbers of sturgeon. We do. This has been the case for us since the mid-2000s when we first began to see increased numbers of sturgeon in the fishways.

1.4.2 Sea lion hazers should be in place and ready to go. This is likely unnecessary and based on the inaccuracies dispensed via e-mail during the 2011 dewatering. The number of sea lions during that salvage were in the single digits and predation was not higher than other days in that month.

1.4.3 A salvage plan should be readily available and reviewed by all dewatering participants. This may include hazing sturgeon out of the channel. Dewatering plans are up to date and salvage operations are always discussed prior to commencing work. We will not be hazing sturgeon.

1.4.4 An After Action Review should occur after the dewatering. A salvage report is created after any fish salvage undertaken at Bonneville.

1.4.5 Get the sturgeon people involved but don't turn it into a sturgeon research project. We do not involve outside agencies in our salvages based on the training required to work under our Hazardous Energy Control Program. However, Bonneville has 4 full time biologists with extensive experience in handling sturgeon and all fish that we encounter in our facilities.

The potential differences mentioned by Mr. VanDyke between the proposed dewatering and the 2011 event are indeed significant and will likely result in the handling of very manageable

numbers of fish. Everyone should feel comfortable knowing that we too feel it prudent to plan ahead and that is what we do for every fish salvage we undertake. Not only the ones that get run through the regional forum. Because of that, we do not consider even large salvages to be "emergencies" as described below. This is routine work and the anomaly of 2011 has made us that much more aware of the need for proper planning and implementation of fish salvage operations.

I realize that ODFW did not have an FPOM representative during the period leading up to, during, and immediately after the 2011 winter maintenance period and associated fish salvage. With only MFRs and meeting minutes to go by it is difficult to get the full context of the events. Hopefully this has helped to clear up any misunderstanding of how those operations proceeded for anyone that wasn't involved.

Thanks. Ben Hausmann

Final results

Please email or call with questions or concerns.

Thank you,
Tammy

Tammy Mackey
NWP Operations Division Fishery Section
Columbia River Coordination Biologist
503-961-5733

Tammy.m.mackey@usace.army.mil