

OFFICIAL COORDINATION REQUEST FOR NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE - 17 LGS 17 MOC Trash Boom and Barrier Installation

COORDINATION DATE – September 11, 2017

PROJECT - Little Goose Lock and Dam

RESPONSE DATE - September 25, 2017; Updated November 3, 2017

1. Description of the problem

The Corps has contracted the repair of the trash shear boom and the installation of the spillway boat barrier to Northbank of Vancouver (NCM). Most of this work will be completed outside of the adult fish passage season from January 1 through February 28. In order to ensure completion, it is imperative to begin the following items during the latter part of the fish passage season. This coordination is for conducting work in the forebay during the latter part of the juvenile and adult fish passage seasons.

- a. **Partial Pre-Assembly of Boat Barrier Floats and Log Boom Barrier Floats:** A total of approximately 55 strings of 5-10 floats per string. Each string would be approximately 4 foot wide by 70 foot long for a 5 float string) or 140 foot long for a 10 float string. Once assembled the floats would occupy a 30,800 square foot rectangle (approximately 140 feet by 220 feet). The component building blocks of the float strings consist of one cylindrical float (3' diameter x 4' length) and one 10' length of connecting cable. Given that, the opaque area of the 30,800 square foot rectangle would only be 21.4%. The strings of 5-10 floats would be assembled on-shore in the staging area next to the navigation lock. Once assembled the string will be lowered onto the water and tow it out to the "yet-to-be-determined" storage location and staged until installation (see item e below). The contractor would like to start this work on November 1st and the work would last approximately 2 weeks. Storage would last until December 15th.
- b. **Removal of the Intermediate Float:** The coating removal, refurbishment and recoating will need to occur during the same time period as the other typical float repair. The contractor would like to conduct this work on September 29th. The intermediate float is scheduled to be the first float repaired as it is currently in the water (see Figure 1. for approximate location) and not able to be inspected until removed from the water. In addition, the intermediate float is critical to the assembly of the trash shear boom and will be the first item reinstalled starting December 15th. NCM plans to remove the intermediate float on September 29th by towing it offsite to the Port of Pasco. In order to ensure no items fall in the water, an inspection of the intermediate float will be made prior to beginning the tow.

The intermediate float will be moved utilizing two work boats. No divers or crane barge will be required. The boats will move the float from the floating guide wall into the navigation channel. It should not take more than 2 hours to complete. It is estimated that it will take the rest of the day to move it from the Little Goose Dam to Pasco.

- c. **Removal of the Saddle Support and buoy:** Upon removal, the buoy will be refurbished by Hancock Sandblasting and Coating during the same period as the typical float repair. Sandblasting and coating would take place out of the water

offsite. The contractor would like to start the float repair work on September 29th and end on December 15th. Once refurbished it will be delivered back to the site and placed in the water for final assembly during the in-water work window. NCM plans to remove the saddle support on September 29th by hoisting it from the water. The duration of this activity is 4 hours. In order to ensure no items fall in the water as the buoy and saddle are being removed, continuous inspection will be provided as it is removed. Work will be stopped if a loose item is identified.

The removal of the saddle and buoy will be performed using two work boats. No divers or crane barge will be required. The contractor stated that one of the work boats is equipped with a hoist, but they should not need it unless they are having trouble getting connected. Once connected to the buoy, the boats will move it near the navigational lock, and remove it from the water using a crane.

- d. Demolition of Existing Trash Shear Hardware (located at the end of the trash frame between the powerhouse and spillway): NCM plans to remove this from the current location to help get a leg up on the work that would happen during the in-water work. Only the removal of the trash shear hardware would occur and not the reinstallation of the new item. Care would be taken by providing continuous inspection during the hardware removal. Once free from the trash frame it will be permanently removed from the water for disposal. If a loose item is identified the operation will be halted and the part removed prior to hoisting. NCM would like to remove this on November 14th. The duration of this activity is 1 day.
- e. Installation of boat barrier and trash shear boom and supporting infrastructure (anchors, cables, etc.) would be conducted from December ~~15~~1 through March 1.

2. **Type of outage required:** None, this is a coordination to conduct work in the forebay during the latter part of the adult fish passage season.

Impact on facility operation (FPP deviations): No impact to facility operations

Impact on unit priority: No impact to unit priority

Impact on forebay/tailwater operation: No impact to forebay/tailwater operation

Impact on spill: None anticipated. The proposed work window during the fish passage season (September 29, 2017 through December 31, 2017) is outside of the spill for fish passage season in the Fish Operation Plan (FOP which ends 31 August 2017). The spillway would need to out of service for the demolition of existing trash shear hardware removal on November 14. In the event of involuntary/forced spill the northern most bays would be opened first and proceeding from the northern most bay south since the work area is on the powerhouse side of spillbay 1.

3. **Dates of impacts/repairs:** See Table 1.

Table 1. Dates of impacts/repairs and time required by each activity.

Activity	Description	Dates of impacts/repairs	Time required
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a.	Pre-Assembly of Barrier Floats	Nov. 1 – Dec. 15	2-weeks
b.	Intermediate Float Removal	Sept.-29	2-hours
c.	Saddle Support and Buoy Removal	Sept.-29	4-hours
d.	Demolition of Existing Trash Shear Hardware	Nov.-14	1-day
e.	Installation of boat barrier and trash shear boom and supporting infrastructure	December 15 - March 1	2.5 months

4. **Length of time for repairs:** See Table 1 and description of activities above.

5. Analysis of potential impacts to fish

Impacts to both juvenile and adult fish are expected to be minimal throughout the construction window. The adult fishway and the juvenile bypass/collection system will continue to operate according to the Fish Passage Plan (FPP). In addition, this work is scheduled outside of the spill for juvenile fish passage operations. Since spill for fish passage ends 31 August. Late summer and fall flows typically have low probability of need for involuntary spill and/or operation of more than 2-3 turbine units.

Juvenile fish passage is comprised almost entirely of subyearling Chinook salmon at Little Goose Dam during the overlap between the proposed work and the juvenile fish passage season (September 29 through December 15). Adult passage during the overlap of the proposed work window and the adult passage season (September 29 through December 31) at Little Goose Dam is comprised of fall Chinook salmon, Coho salmon and steelhead.

- I. 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;

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

Juvenile fish:

Subyearling Chinook salmon: Through 25 August 2017 the passage index at Little Goose Dam is 7% higher than the 10-year average (1,064,355 for 2017 vs. 994,555 for the 10-year average).

Adults fish:

Snake River fall Chinook salmon: The 2017 forecast estimate for adult Snake River fall Chinook salmon is 27,191 fish which is 70% of the 10-year average return of 38,844 fish.

Snake River steelhead: The 2017-2018 forecast estimate for adult Snake River hatchery and wild steelhead is 60,000 fish which is 37% of the 10-year average return of 161,157 fish.

Snake River Coho: The 2017 Snake River Coho forecast was not available at the time of preparing this MOC. The 2017 Columbia Basin Coho forecast is for 386,300 adults which is similar to the 2016 return that represented 73% of the 10-year average.

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

Juvenile fish:

Less than 3% of the subyearling Chinook salmon outmigration would pass Little Goose during the work window from September 29 through December 15 based on the 10-year average (Figure 2).

Adult fish:

The estimated proportion of the adult salmon and steelhead passing Little Goose Dam that would be exposed to impacts of each activity is presented in Table 2. The 10-year average adult salmon and steelhead passage timing at Little Goose Dam is presented in Figures 3-5.

Table 2. Estimated proportion of the adult salmon and steelhead passing Little Goose Dam that would be exposed to impacts of each of the activities

Activity	Description	Dates of impacts/repairs	Proportion of the 10-year average adult passage during activity*		
			Chinook	Steelhead	Coho
a.	Pre-Assembly of Barrier Floats	Nov. 1 – Dec. 15	1.2%	3.7%	1.7%
b. and c.	Intermediate Float Removal and Saddle Support and Buoy Removal	Sept.-29	1.6%	2.2%	4.0%
d.	Demolition of Existing Trash Shear Hardware	Nov.-14	<0.1%	0.1%	<0.1%
e.	Installation of boat barrier and trash shear boom and supporting infrastructure	Dec. 15 - March 1	<0.1%	0.1%	<0.1%

*Adult passage is not monitored from Jan. 1 through Feb. 28.

- III. 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.);

Juvenile fish:

No impacts to juvenile fish passage are anticipated because the work area is outside of the influence of passage routes normally operated during the fall.

Adult fish:

No impacts to adult fish passage is anticipated because the work area is outside of the influence of the adult passage facilities at Little Goose Dam.

6. Summary statement - expected impacts on:

Downstream migrants: No impact expected.

Upstream migrants (including Bull Trout): No impact expected.

Lamprey: No impact expected.

7. Comments from agencies

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

From: Bill Hevlin - NOAA Federal
[mailto:bill.hevlin@noaa.gov]
Sent: Friday, November 03, 2017 10:35 AM
To: Juhnke, Steven D CIV USARMY CENWW (US)
<steve.d.juhnke@usace.army.mil>
Cc: Bill Hevlin <bill.hevlin@noaa.gov>
Subject: [EXTERNAL] Re: Little Goose Trash Shear Boom work

Steve,
Thanks for letting me know, this should not be a problem for any salmon or steelhead in the forebay. Please let FPOM know about the change at the meeting next Wednesday at the meeting.

Bill Hevlin
NOAA fisheries

On Friday, November 3, 2017, Juhnke, Steven D CIV USARMY CENWW (US) <steve.d.juhnke@usace.army.mil
<mailto:steve.d.juhnke@usace.army.mil> > wrote:

Good morning Bill,

Just wanted to let you know that the contractor for the trash shear boom and boat barrier has submitted a request back to the Corps to start placing anchors two weeks earlier than originally scheduled (Dec 1 versus Dec 15). The request has been coordinated through district Ops, environmental compliance, and the LGO project, and has been given the green light. The placement will not require unit outages, except for the final two anchors associated with the trash shear boom, and that will be coordinated through the project when needed.

Please let us know if you have concerns with this earlier in-water work.

Thank you and have a great weekend,

Steve Juhnke
Fisheries Biologist
Walla Walla District
U.S. Army Corps of Engineers
201 North Third Ave.
Walla Walla, WA 99362
Phone: 509-527-7242

8. Final coordination results

9. After Action update

Work was completed. The contractors removed weights and bird spikes from about 70 ft of the barrier. Use of barrier by birds will be monitored.

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

Steve Juhnke, Fish Biologist
US Army Corps of Engineers
201 North Third Avenue Walla
Walla, WA 99362-1876
Phone: 509-527-7242
Email: steve.d.juhnke@usace.army.mil

Figure 1. Proposed work areas.

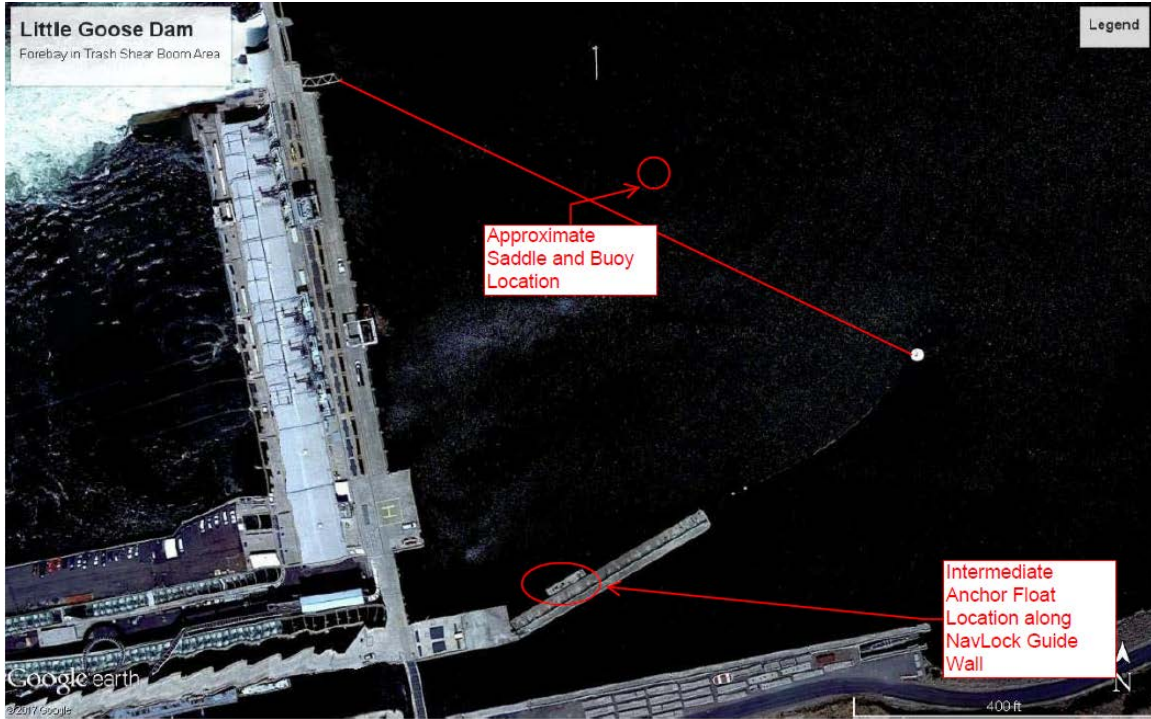


Figure 2. 10-year average subyearling Chinook salmon passage index at Little Goose Dam (2007-2016). Smolt monitoring data not collected November 1 through February 28.

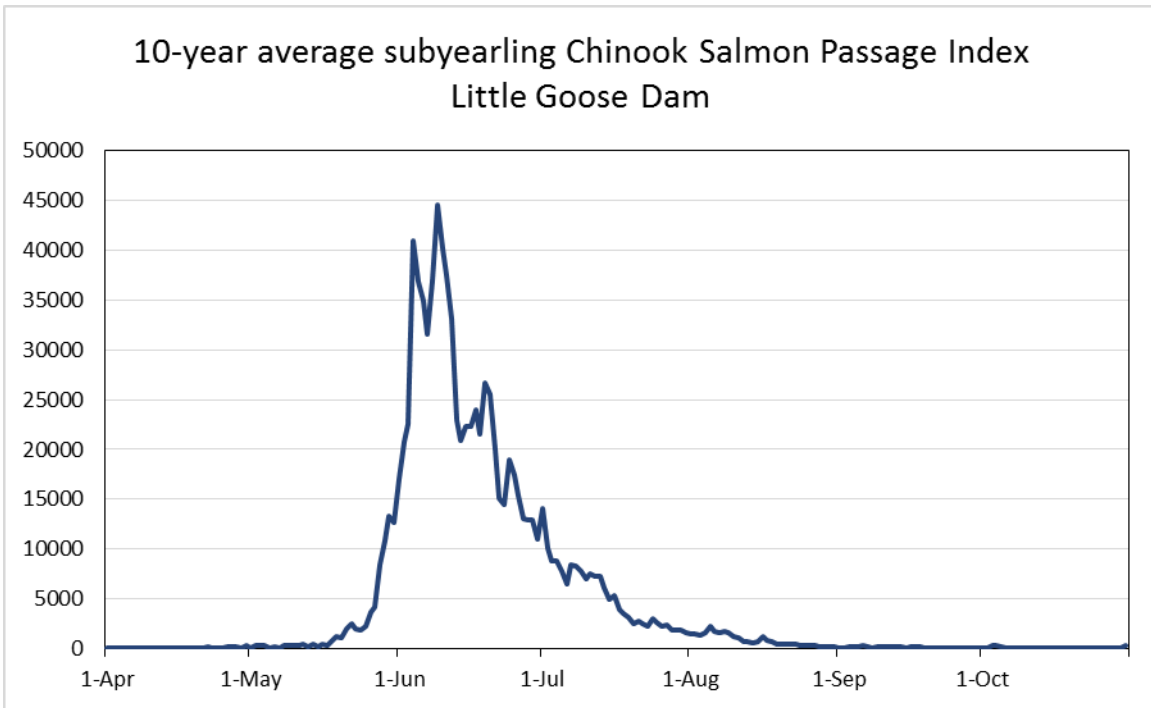


Figure 3. 10-year average adult Snake River fall Chinook salmon passage timing at Little Goose Dam.

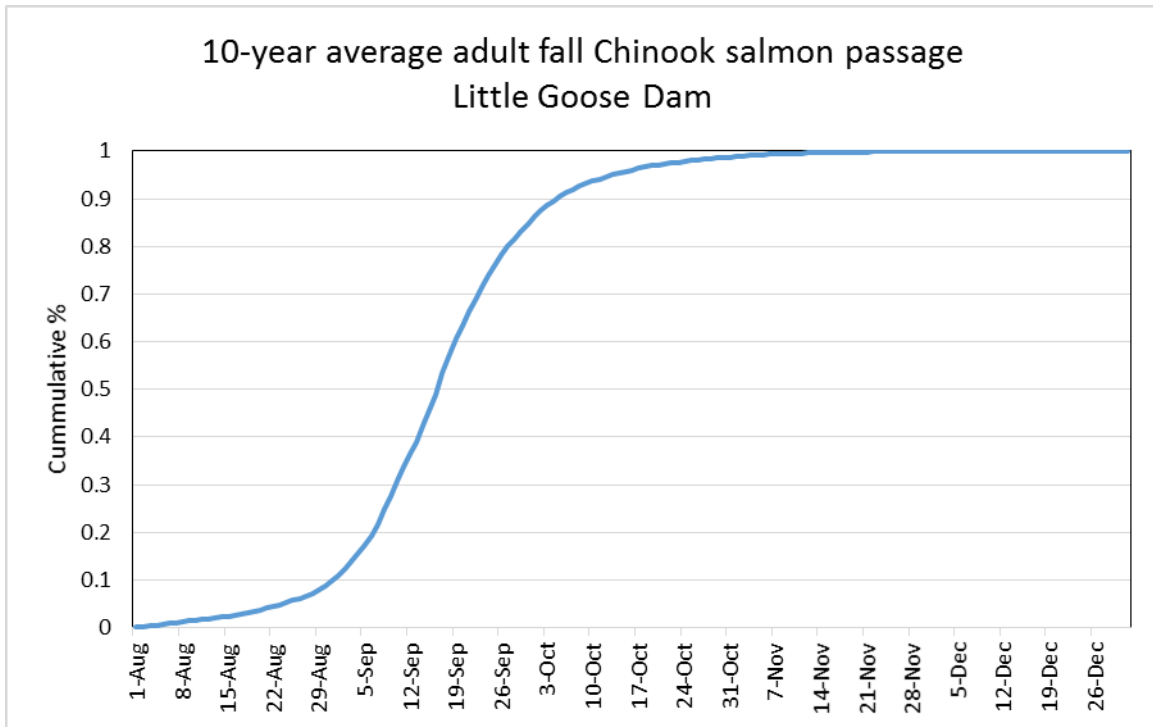


Figure 4. 10-year average adult steelhead passage timing at Little Goose Dam.

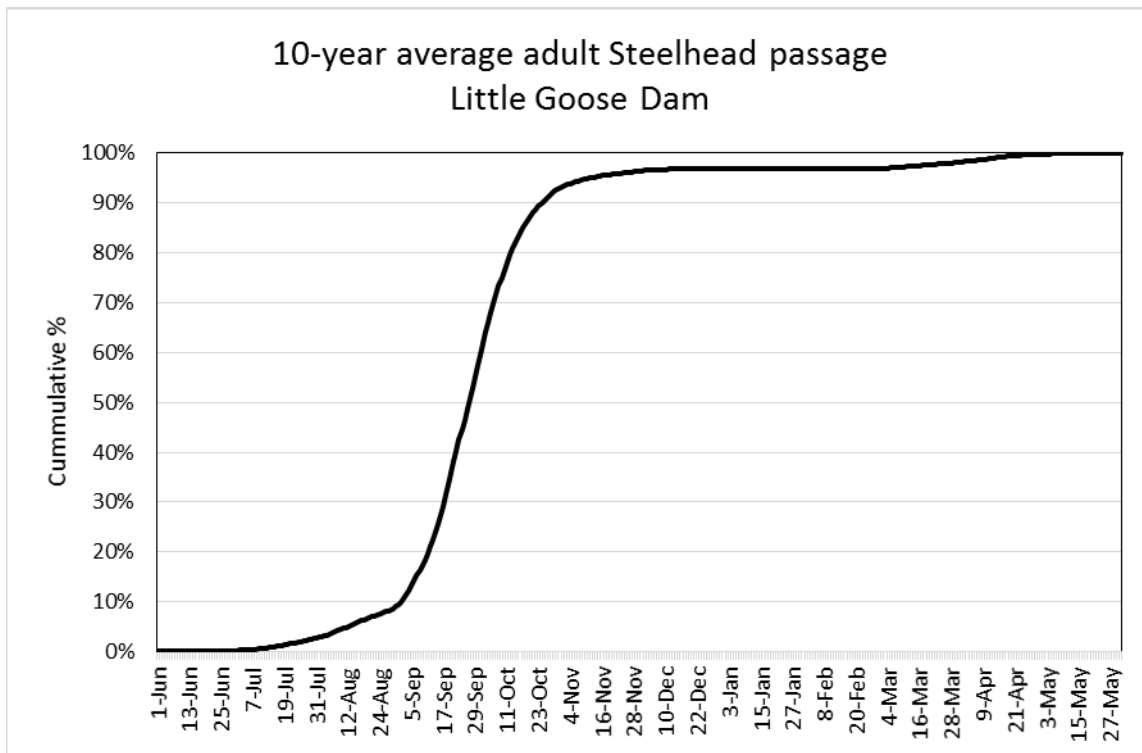


Figure 5. 10-year average adult Coho salmon passage timing at Little Goose Dam.

