

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

COORDINATION TITLE - 18 LWG 05 JBS 2018 Shutdown – *15 November 2018*

COORDINATION DATE - June 12, 2018; Updated June 15, 2018; Updated July 2, 2018

PROJECT - Lower Granite Lock and Dam

RESPONSE DATE – June 22, 2018

Description of the problem – The Lower Granite Lock and Dam Juvenile Bypass System (JBS) is currently being upgraded to improve downstream fish passage. Construction of the JBS upgrade began in October 2014 and was returned to service by 1 April 2018 for the 2018 fish passage season with a variety of interim operational and outage periods.

In order to finish remaining construction actions, it is necessary for the JBS to be out of service for 15 November 2018 to 24 March 2019. This outage is necessary to complete multiple actions that must occur largely sequentially, once the JBS is dewatered for winter maintenance, due to limited space and/or type of work being completed and mandatory testing before the JBS can be returned to full service. Activities include collection channel automation, transportation channel seal replacement, emergency bypass hoist changes, and system control changes. Construction activities occurring prior to JBS shutdown will follow previously coordinated restrictions including nighttime work occurring between 6 pm to 6 am.

Type of outage required

Impact on facility operation (FPP deviations) – The JBS will be taken out of service 15 November 2018 through 24 March 2019. This will likely impact the FPAC four year proposed strategy of early start-up that included March 1, 2019 start-up of the Lower Granite JBS. If the contractor and government completes required tasks and commissioning ahead of schedule, the JBS could be operational before March 24, 2019.

Impact on unit priority – None anticipated

Impact on forebay/tailwater operation – No changes to FPP requirements

Impact on spill – None anticipated

Dates of impacts/repairs – 15 November 2018 to 24 March 2019 (Table 1)

Length of time for repairs - It is anticipated that construction activities will take approximately 6-10 weeks once the JBS is dewatered for the winter maintenance period. It is anticipated that Contractor and Government testing and commissioning activities will take an additional 6-8 weeks once construction activities are completed. Additional

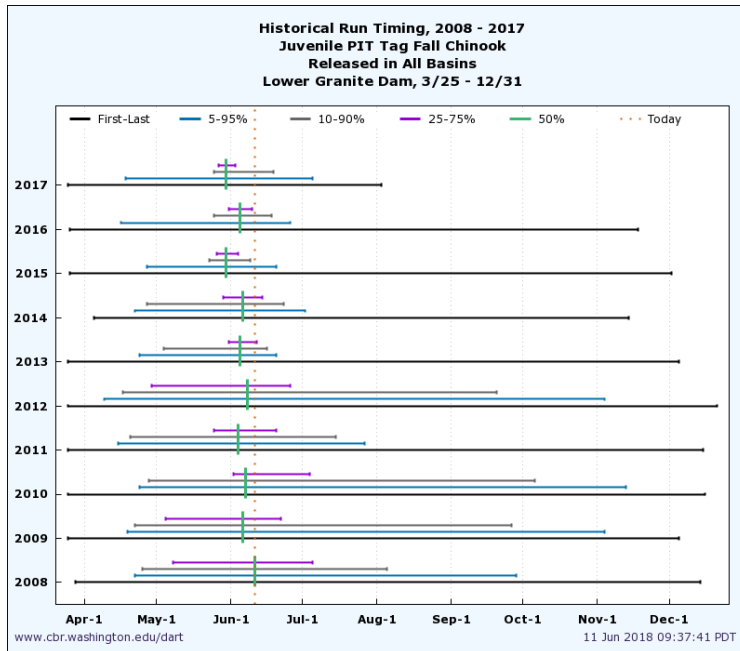
time is necessary for the Government to shut down and then return the JBS to full service once construction activities are completed thus necessitating the 15 Nov to 24 March period. If the Contractor completes their work behind schedule (late), the construction contract contains penalties for this late performance in the form of ‘liquidated damages’ which represent the direct costs to the government for the late completion. The Corps is prohibited from adding additional penalties to the contract for late completion. Adding additional incentives to encourage earlier completion is not a viable option because incentives need to be in the initial solicitation when the procurement is in a competitive environment to comply with Federal Acquisition Regulations. The single most important thing that can be done to help meet the desire to have the system back in operation by early March 2019 is to approve the early JBS shutdown of November 15.

Table 1. Tentative JBS construction schedule by task for summer 2018 through spring 2019.

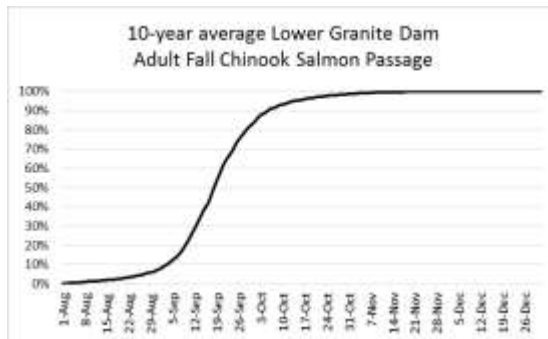
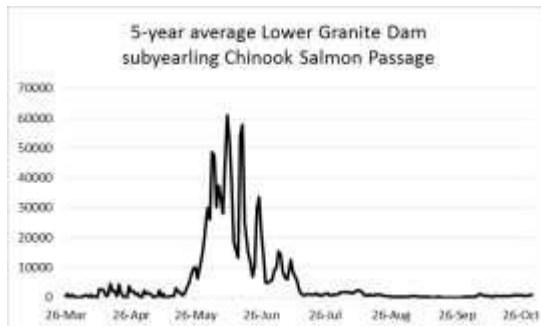
	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April
Design Efforts											
Contracting / Mod Process											
Contractor Mobilization											
Primary Dewaterer Civil Work (On-the-Ground)				w/nighttime ground work							
System Control Modifications ("in-the-dry")											
JBS Dewatering											
System Control Modifications (w/JBS shutdown)											
Primary Dewaterer Modifications											
Flume Expansion Joint Mods											
Transport Channel Gasket Replacement											
E-bypass Hoist Modifications											
Contractor Commissioning								dry	wet		
Government Commissioning											
Return JBS to service for 2019											
Facility Operational											

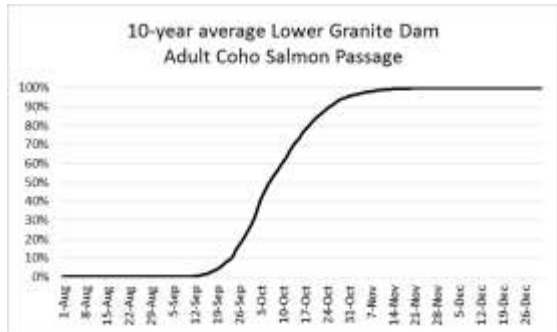
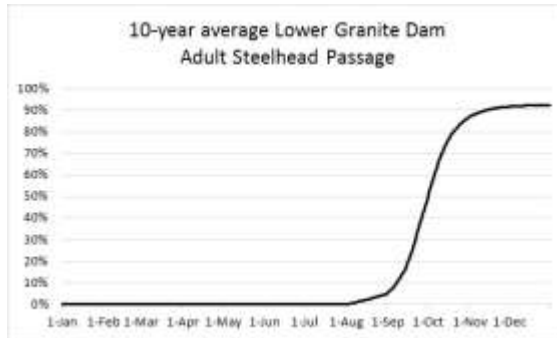
Analysis of potential impacts to fish

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;

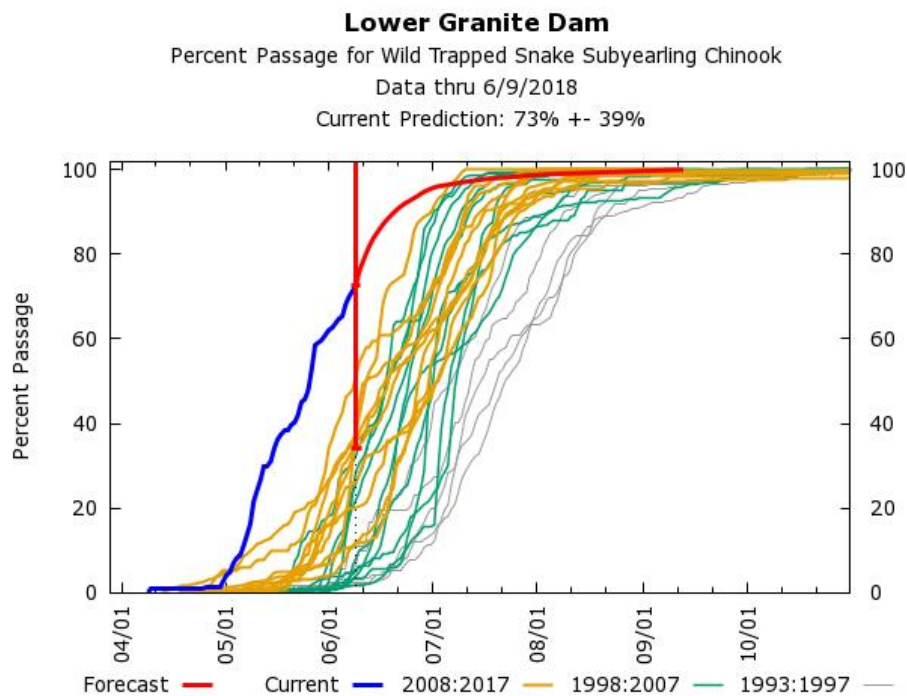


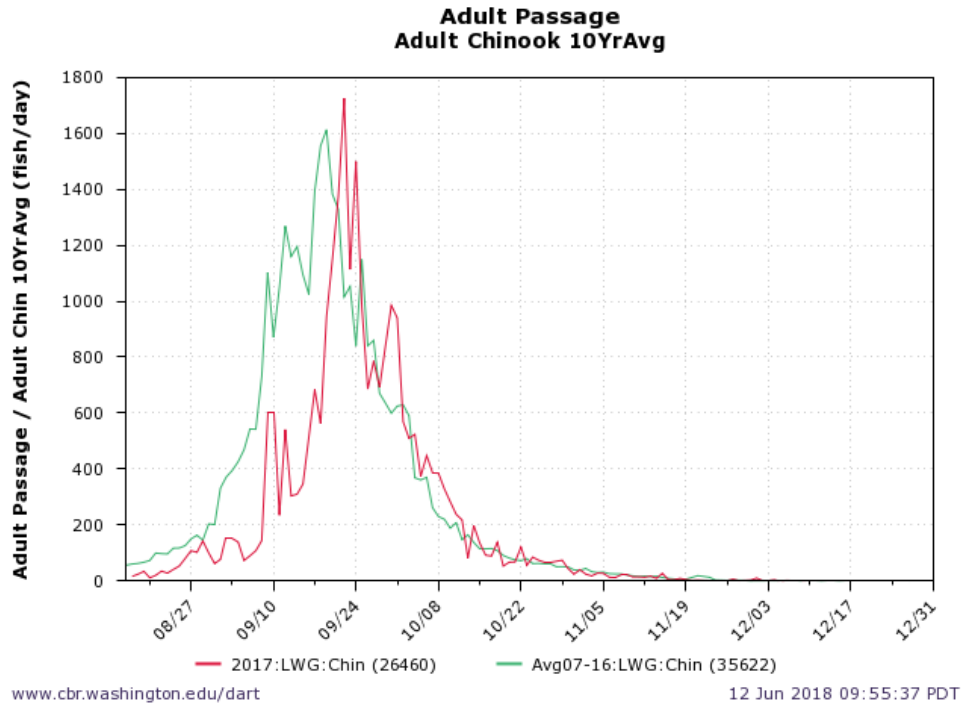
The JBS operational period passage timing graphic is constrained by JBS operational period (generally March 24 to December 15) which was shut down early in 2017 (early August) and in 2016 (November 15) for JBS upgrades.





2. Statement about the current year's run (e.g., higher or lower than 10-year average)
 - The 2018 adult fall Chinook run is likely to be lower than the 10-year average run (BON: 518,413 vs 395,000)
 - The 2018 juvenile subyearling run has been an early outmigration. Based on adult Snake River fall Chinook 2017 returns, the wild subyearling outmigration is anticipated to be roughly 25% lower than the 10-year average. Hatchery production of subyearling Chinook is anticipated to be similar to previous years.





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

Available data on downstream passage of juvenile salmonids from November 15 through December 15 is typically not collected after October 31 through the smolt monitoring program, however PIT-tag monitoring has continued in recent years until the JBS is dewatered (typically December 15). Based on PIT-tag detection the downstream passage of juveniles would be limited to less than 5% of the subyearling fall Chinook outmigration during this time period (Table 2). While a relatively small portion of the total juvenile abundance pass through the JBS from November 15 through December 15, these winter migrants are an important part of diversity and have exhibited higher smolt to adult return rates.

Table 2. Annual and 10-year average juvenile fall Chinook salmon JBS PIT-tag detections at Lower Granite Dam compared to numbers detected from November 15 through December 15 for, 2006-2015. JBS shut down November 12 in 2014.

Year	Nov 15 - Dec 15	Annual Total	% of the run
2006	801	51,919	1.5%
2007	0	5,481	0.0%
2008	1,086	65,639	1.7%
2009	1,569	65,227	2.4%
2010	2,719	57,441	4.7%
2011	262	82,160	0.3%
2012	2,298	77,978	2.9%

2013	47	1,627	2.9%
2014	N/A	7,142	N/A
2015	12	8,065	0.1%
10-year Average	1,099	51,257	2.1%

Data on downstream passage of adults through the JBS is limited during the 15 November to 15 December timeframe and has only been quantified in certain years when the JBS is not shut down due to cold temperatures or construction activities. From 2011-2016, a total of 44 to 164 (5-year average 116) adult Chinook and a total of 17 to 276 (5-year average 98) adult steelhead passed over the JBS separator from November 15 to December 15 (see adult fallbacks across the Lower Granite separator from November through December, 2011-2016 by year and timing below). This represents less than 0.4% of the average annual fall Chinook run (116/35,500) and less than 0.06% of the average annual steelhead run (98/165,000 adult steelhead) passing Lower Granite Dam.

Table 3. Annual adult Chinook and Steelhead fallbacks through the JBS and across the separator at Lower Granite Dam from November 1-14, November 15-December 15, and when the JBS was shutdown, 2011-2016

Year	Nov 1-14	Nov 15 - Dec 15	JBS shutdown
Adult Chinook			
2016	536	44	Nov 17
2015	438	164	Dec 02
2014	No Data Available		Nov 12
2013	471	97	Dec 05
2012	378	115	Dec 20
2011	440	159	Dec 16
Annual Average	453	116	
Adult Steelhead			
2016	126	17	Nov 17
2015	180	59	Dec 02
2014	No Data Available		Nov 12
2013	83	48	Dec 05
2012	264	276	Dec 20
2011	164	91	Dec 16
Annual Average	163	98	

From November 15 to December 15 for the years 2011-2016, a total of 32 PIT-tagged adult fall Chinook salmon fellback through the JBS at Lower Granite Dam. Their origins included 24 fish from Lyons Ferry Hatchery, 1 fish each from Captain John, Pittsburg Landing, and Big Canyon acclimation sites, 2 fish from the Grande Ronde, 1 fish from the Little White Salmon Hatchery, and 2 fish from the surrogate release study in the Snake River near Couse Creek.

From November 15 to December 15 for the years 2011-2016, a total of 28 PIT-tagged adult steelhead fallback through the JBS at Lower Granite Dam. Their origins included 19 fish from the Lower Granite adult trap, 2 fish from the Walla Walla River, 1 fish from Dworshak Hatchery, 2 fish from the Priest Rapids Dam adult trap, 1 fish tagged in the lower Columbia as an adult, and 3 fish from the Tucannon River. Final detections of these PIT-tagged steelhead was 18 fish last detected in the mainstem Snake River, (64%); 1 fish at Dworshak (4%); 1 fish in the Walla Walla River (4%); and 8 fish (29%) in the Tucannon River. While it appears that a significant proportion of the steelhead that fell back through the JBS from November 15 to December 15 subsequently ascended the Tucannon River it is worth noting that this was represented in only two of six years (2012 and 2013) examined.

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.):
Fish that would normally pass through the JBS will be exposed to turbine passage. Due to construction activities in the tailrace below the spillway associated with installation of spillbay PIT-tag detection, mitigation spill for the November 15 to December 15 early JBS shutdown will not be available from September 2018 through March 2019.

Summary statement - expected impacts on:

Downstream migrants – A small portion of the juvenile salmonids that would have passed through the JBS from November 15 to December 15 may pass through the turbines where survival may be lower.

Upstream migrants (including Bull Trout) - A small portion of adult Chinook and adult steelhead that would normally fallback through the JBS from November 15 to December 15 may fallback through the turbines where survival may be lower.

Lamprey – No impacts to adult lamprey anticipated. Limited impacts to downstream migrants.

Comments from agencies

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

From: Trevor Conder - NOAA Federal
[mailto:trevor.conder@noaa.gov]
Sent: Friday, June 22, 2018 3:07 PM
To: Hockersmith, Eric E CIV USARMY CENWW (US)
<Eric.E.Hockersmith@usace.army.mil>
Subject: [Non-DoD Source] Re: 18 LWG 05 MOC JBS 2018
Shutdown (UNCLASSIFIED)

Eric,

Thanks for the additional evaluation. We can support this MOC providing the expansion seals in the collection channel will be replaced this winter. It is a priority to us give our concern over the long term longevity of the rubber joints potentially causing problems in the future.

Trevor Conder
NOAA Fisheries

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

Phone message June 22, 2018 from Russ Keiffer, IDFG, to David Trachtenbarg:

IDFG not real happy, won't object. - Russ

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

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

From: Erick VanDyke [mailto:Erick.S.VanDyke@state.or.us]
Sent: Friday, June 22, 2018 3:29 PM
Subject: [Non-DoD Source] RE: 18 LWG 05 MOC JBS 2018 Shutdown (UNCLASSIFIED)

I too concur with Jay's comments below. Given the earlier comments provided on this topic I was curious if an update had been completed and sent out to the broader group for additional review?

Erick S. Van Dyke
Oregon Dept of Fish & Wildlife
Fish Passage/Mitigation Technical Analyst
17330 SE Evelyn Street
Clackamas, OR 97015
971-673-6068 Office

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

From: Morrill, Charles (DFW)
mailto:Charles.Morrill@dfw.wa.gov]
Sent: Friday, June 22, 2018 3:24 PM
Subject: RE: 18 LWG 05 MOC JBS 2018 Shutdown (UNCLASSIFIED)

Eric, and others

I fully concur with Jay's points !

Thank you Jay.

Charlie

Charles Morrill
Columbia River Management Unit
WA Dept Fish & Wildlife
1111 A SW Washington St
Olympia, WA 98502

From: Jay Hesse [jayh@nezperce.org]
Sent: Friday, June 22, 2018 3:10 PM
Subject: RE: 18 LWG 05 MOC JBS 2018 Shutdown (UNCLASSIFIED)

Eric - Finalizing the construction and testing of the new LWG JBS is important. That being said, early shut down and delayed start up the JBS will have negative impacts to juvenile fish (fall chinook salmon) passage, adult steelhead fallback, and monitoring of juvenile emigration timing; we request that language be added to the MOC and associated contracting that 1) promotes accelerated project completion, increasing likelihood of March 1 JBS start of operations and 2) accurately describes impacts to fish. I will trust the Corps has and will continue to schedule and implement the required construction and testing with urgency and fish impacts in mind.

* The June 15th MOC analysis of potential impacts to fish misrepresents juvenile fall chinook passage timing by failing to acknowledge the passage timing graphic is constrained by JBS operational period (for example 2017 passage timing is shown as ending in early August with no mention of JBS shut down for JBS rebuild). Furthermore, when JBS operations were extended into early December in several years significant pulses of fall chinook emigration were observed. While a relatively small portion of the total juvenile abundance, these winter migrants are an important part of diversity and have exhibited high survival.

* The June 15th MOC analysis of potential impact to fish fails to describe that adult fallback behavior is population specific, with data showing Tucannon steelhead having a higher fallback rate than other Snake Basin

populations. Describing steelhead fallback rate as 0.06% of the total steelhead above Lower Granite underrepresents the potential impact to the Tucannon population.

* Assessing the emigration timing of juvenile fish was a focal point of the 2018 injunctive operations. Fisheries managers coordinated a four year strategy with the Corps via FPAC and FPOM that included early operation of the Lower Granite JBS in 2019 (see attached memo). At the very least the MOC should acknowledge impacts to this plan and at best help target a March 1 JBS operation.

jay

"Knowledge is a tool, and like all tools, its impact is in the hands of the user(s)" -- Dan Brown, The Lost Symbol

Jay Hesse
Research Division Director
(208) 843-7145

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

From: David Swank [mailto:david_swank@fws.gov]
Sent: Friday, June 22, 2018 12:44 PM
To: Trachtenbarg, David A CIV USARMY CENWW (US) <David.A.Trachtenbarg@usace.army.mil>; Kovalchuk, Erin H CIV USARMY CENWP (US) <Erin.H.Kovalchuk@usace.army.mil>
Subject: [Non-DoD Source] LGR JFF MOC

Hi David,

Just got your voicemail. As for the LGR JFF early shutdown MOC, it seems to be one of those situations where we don't have any good options. I'll support it, only because this project needs to get done and we need a fully functioning JFF. I don't like the early shutdown, but I don't want to risk not having it operational by March 24th. It's also going to impact the plan for next year's early sampling, as we had planned to use LGR as an early sampling location. Looks like that's going to fall to Little Goose again, which may cause issues for their maintenance schedule.

I would ask that the Corps continue to explore ways to mitigate the impact to steelhead dropbacks. I'm becoming more concerned about the cumulative impact to steelhead from deviations from the FPP, as they tend take the brunt of the impacts simply due to their migration timing.

Dave

Dave Swank
Fish Biologist
U.S. Fish and Wildlife Service
Columbia River Fish and Wildlife Conservation Office

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Vancouver, WA 98683
Phone (360) 604-2520

Per request from ODFW early start-up for 2019 was discussed at the June 14, 2018 FPOM meeting.

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

From: Erick VanDyke [mailto:Erick.S.VanDyke@state.or.us]

Sent: Tuesday, June 12, 2018 2:39 PM

This appears to impact the early PIT start up schedule coordinated last fall. It seems that a trend of walking back these coordinated operations is being repeated. This is a concern. Perhaps we should include a re-re-re-visit on the topic. Add the Joint Technical Staff Memorandum found here to the FPOM notes related to this and the McNary and John Day walk-backs

Blockedhttp://www.fpc.org/documents/joint_technical/47-17.pdf. Thanks.

Erick S. Van Dyke
Oregon Dept of Fish & Wildlife
Fish Passage/Mitigation Technical Analyst
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Clackamas, OR 97015
971-673-6068 Office

Final coordination results

MOC was tentatively approved at 14 June 2018 FPOM meeting upon providing additional adult fallbacks through the JBS information. The MOC was updated and resent 15 June 2018. Additional comments received 22 June 2018 from Nez Perce and these have also been addressed in this final version of the MOC.

After Action update - Lower Granite Dam JBS was shut down and dewatered at 1155 hours November 15 for the winter maintenance period.

Please email or call with questions or concerns.

Thank you,

Elizabeth Holdren
Lower Granite Project
USACE Supervisory Fisheries Biologist
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David Trachtenberg
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