OFFICIAL COORDINATION REQUEST FOR
NON-ROUTINE OPERATIONS AND MAINTENANCE

COORDINATION TITLE - 18 LWG 07 MOC PDS Leak Repair
COORDINATION DATE - 27 June 18; Updated after action 20 July 18
PROJECT - Lower Granite Dam
RESPONSE DATE - 12 July 2018

Description of the problem- A leak was identified at the expansion joint between the primary dewaterer and the transport flume during the May 22 inspection. Repairs were delayed due to the time needed for the contractor to procure parts. Leakage is raining down the stairway and collecting at the base of the primary dewaterer structural supports. Plastic has been laid on the surface to divert the majority of water away from the supports but there is still concern that water may compromise the structural integrity of the primary dewaterer supports over time. Repairs to the expansion joint will take two days to complete and require the project to switch to primary emergency bypass operation. The contractor will be prepared to complete the repairs July 17 and Lower Granite staff would like the repairs completed as soon as possible.

Type of outage required- Lower Granite will change from collection for transport to emergency bypass mode for two days.

Impact on facility operation (FPP deviations) - Lower Granite will be in emergency bypass operation July 17-18 while repairs are completed. All collected fish will be loaded on the barge for transport the morning of July 17. Once all fish are evacuated from the collection facility, JFF operation will be changed to primary emergency bypass mode, and the collection facility will be dewatered. There will be no juvenile fish collection for transport at Lower Granite July 17 and 18. Collection for transport and condition sampling will resume when repairs are complete.

Impact on unit priority- N/A

Impact on forebay/tailwater operation- N/A

Impact on spill- N/A

Dates of impacts/repairs- July 17-18, 2018.

Length of time for repairs- Repairs are expected to take two days including time required to dewater the juvenile fish facility.

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 10-year average smolt collection at Lower Granite on July 17th was 2,477 fish and 2,838 on July 18th and is 98% to 99% subyearling Chinook salmon.

Juvenile lamprey passage is estimated to be 0 to 22 (10-year average 5 lamprey) to be passing through the JBS during the 2-day outage based on the 10-year average.

Adult fallback through the JBS over the past 10-years has totaled from 1 to 16 fish (averaged 8 fish) on July 17 and 18 combined. Approximately 50% of the fallbacks were Chinook salmon, 38% steelhead, and 13% sockeye salmon.

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

   The smolt passage index for the combined origin subyearling Chinook salmon is 90% (±24%) will have passed Lower Granite Dam through July 18, 2018 (Columbia Dart). Based on PIT-tag detections the wild Snake River subyearling Chinook salmon migration past Lower Granite Dam through June 26, 2018 has been the earliest outmigration of the previous 25 years and > 95% will have passed before the outage.

   Chinook salmon and steelhead returns in 2018 are forecast to be lower than average in the Columbia and Snake rivers.

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

   The 10-year average daily juvenile fish collected for transport at Lower Granite on July 17 and 18 totaled 5,315 smolts. Species composition will primarily be subyearling Chinook salmon (98 to 99%). Based on the 10-year average collection and the 2018 subyearling Chinook salmon collection to date about 0.5% would not be transported from Lower Granite due to this outage.

   An estimate of 1 to 16 (average of 8 fish) adult salmon and steelhead that would normally fall back through the JBS and out the primary bypass would pass through the emergency bypass during the July 17 and 18 outage.

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 are not collected and transported during the outage may be exposed to higher predation rates and longer migration times because they would be returned to the tailrace at Lower Granite Dam rather than transported. Diverting fish directly back to the river via the emergency bypass pipe may increase exposure to predation due to the return to river being closer to the south shore than the primary bypass outfall. Tailrace egress for fish returned to the river via the emergency outfall pipe may have slightly longer tailrace egress times than passage through the primary bypass outfall due to location.

   Adult passage through the emergency bypass has not been evaluated, however, it was designed to minimize impacts to fish. In addition, the emergency bypass was inspected this spring after construction to verify it was safe for fish passage.

Summary statement - expected impacts on:

Downstream migrants: Minimal impacts are expected due to the relatively small numbers of smolts passing at the time of the outage and its short duration.

Upstream migrants (including Bull Trout): Minimal impacts are expected due to the relatively small numbers of adults that would be falling back through the bypass at time of the outage and its short duration.

Lamprey: Minimal impacts are expected due to the relatively small numbers of lamprey passing at the time of the outage and its short duration.

Comments from agencies:

Final coordination results: Approved at July 12, 2018 FPOM meeting.

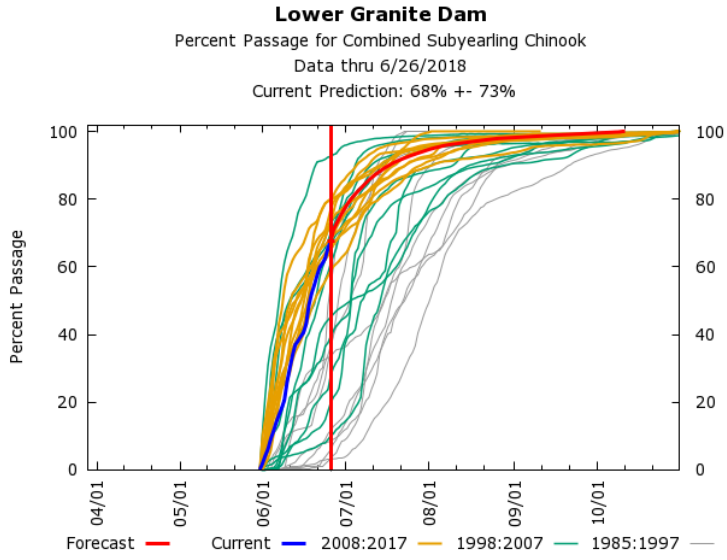
After Action update: July 17 Lower Granite juvenile facility was switched to primary bypass at 0700 hours and then to emergency bypass at 1130 hours. The first attempt at fixing the leak July 17 was unsuccessful due to the gasket material failing. Lower Granite mechanical crew provided additional gasket material that was applied July 18 at about 1400 hours. July 19 the facility was switched from emergency bypass to primary bypass with the procedure beginning at 1220 hours and completed at 1435 hours. With the new gasket installed the expansion joint is no longer leaking. Facility collection resumed at 1545 hours with sampling beginning at 1600 hours July 19. The expansion joint will be monitored.

Please email or call with questions or concerns.

Thank you,
Elizabeth Holdren
Supervisory Fisheries Biologist
Lower Granite Lock and Dam
Ph. 1(509)843-2263
Elizabeth.a.holdren@usace.army.mil

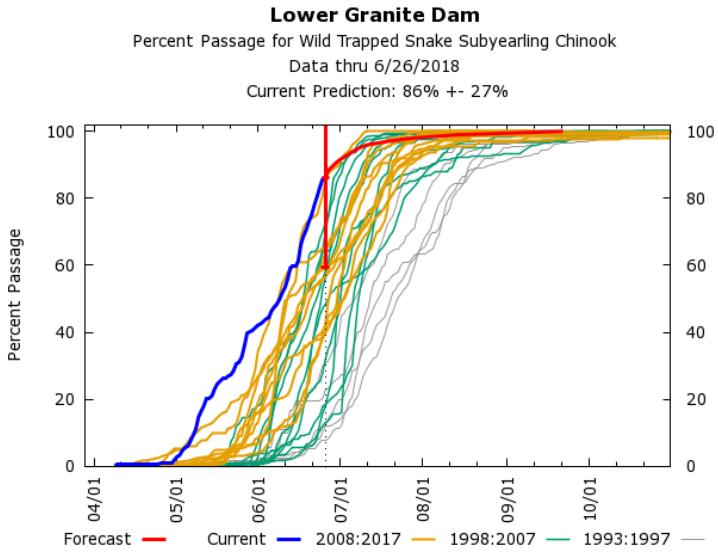
Photo 1. Expansion joint leak between the PDW and the transport flume.

Photo 2. Closer photo of expansion joint leak between the PDW and the transport flume.



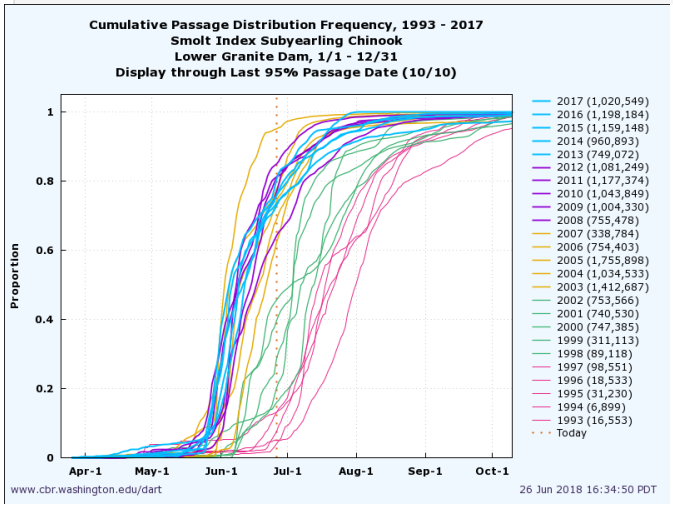
Name of Run	Latest Date	Pred Pct	95 CI (Pct)	Days Error	Day of Run	Passage Index	Passage Expected
Chin0	06/26/18	67.6	73.3	17.3	26	316978	535535

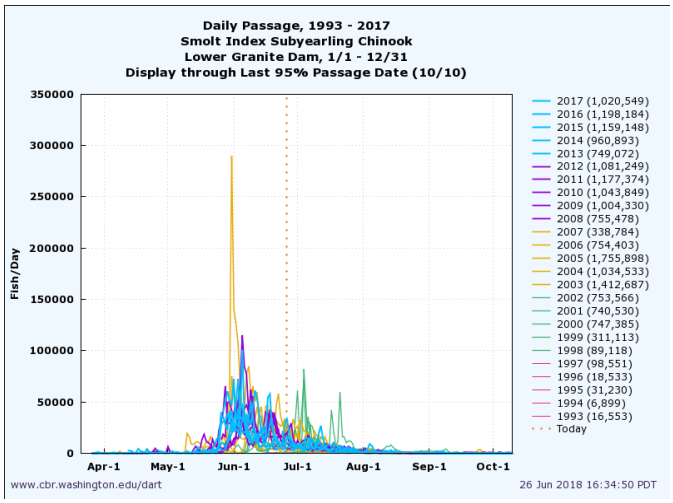
Percent:	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%
Date:	06/03	06/05	06/09	06/12	06/16	06/19	06/23	06/27	07/04	07/18	08/03
SD (Days):	4.8	8.9	12.7	13.8	13.8	15.1	16.1	17.7	19.0	24.2	28.5

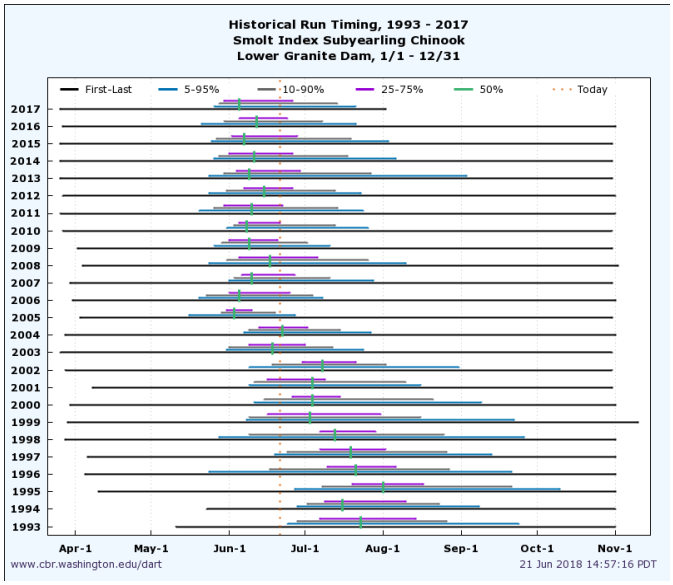


Name of Run	Latest Date	Pred Pct	95 CI (Pct)	Days Error	Day of Run	Num Fish Detected	Adj Fish Detected	Num Fish Released
SNAKER	06/26/18	86.2	26.9	1.0	78	191	456.3	1

Percent:	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%
Date:	05/05	05/09	05/14	05/24	05/29	06/10	06/15	06/19	06/23	06/30	07/09
SD (Days):	0.1	0.1	0.3	0.2	0.6	0.5	1.2	0.5	0.5	3.1	9.2




Daily Passage, 1993 - 2017
Smolt Index Subyearling Chinook
Lower Granite Dam, 1/1 - 12/31
Display through Last 95% Passage Date (10/10)
Fish/Day
350000
300000
250000
200000
150000
100000
50000
0
Apr-1
May-1
Jun-1
Jul-1
Aug-1
Sep-1
Oct-1
2017 (1,020,549)
2016 (1,198,184)
2015 (1,159,148)
2014 (960,893)
2013 (749,072)
2012 (1,081,249)
2011 (1,177,374)
2010 (1,043,849)
2009 (1,004,330)
2008 (755,478)
2007 (338,784)
2006 (754,403)
2005 (1,755,898)
2004 (1,034,533)
2003 (1,412,687)
2002 (753,566)
2001 (740,530)
2000 (747,385)
1999 (311,113)
1998 (89,118)
1997 (98,551)
1996 (18,533)
1995 (31,230)
1994 (6,899)
1993 (16,553)
Today
www.cbr.washington.edu/dart
26 Jun 2018 16:34:50 PDT


Historical Run Timing, 1993 - 2017
Smolt Index Subyearling Chinook
Lower Granite Dam, 1/1 - 12/31
First-Last
5-95%
10-90%
25-75%
50%
Today
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006
2005
2004
2003
2002
2001
2000
1999
1998
1997
1996
1995
1994
1993
Apr-1
May-1
Jun-1
Jul-1
Aug-1
Sep-1
Oct-1
Nov-1
www.cbr.washington.edu/dart
21 Jun 2018 14:57:16 PDT