SYSTEM OPERATIONAL REQUEST: #2005-14

The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, Nez Perce Tribe, Shoshone-Bannock Tribes, and the Columbia River Inter-Tribal Fish Commission.

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FROM: **David A. Wills, Chairperson, Salmon Managers**

DATE: **May 24, 2005**

SUBJECT: Spring Spill Operations at John Day Dam

SPECIFICATIONS: Provide at least 120 Kcfs hourly spill at John Day Dam (and higher if possible to achieve the 60% nighttime and 40% daytime spill percentage) for fish passage through spill, and operate at flat flows if necessary to achieve this objective. This request is in response to The Dalles Dam not achieving the required Biological Opinion 40% spill.

JUSTIFICATION:

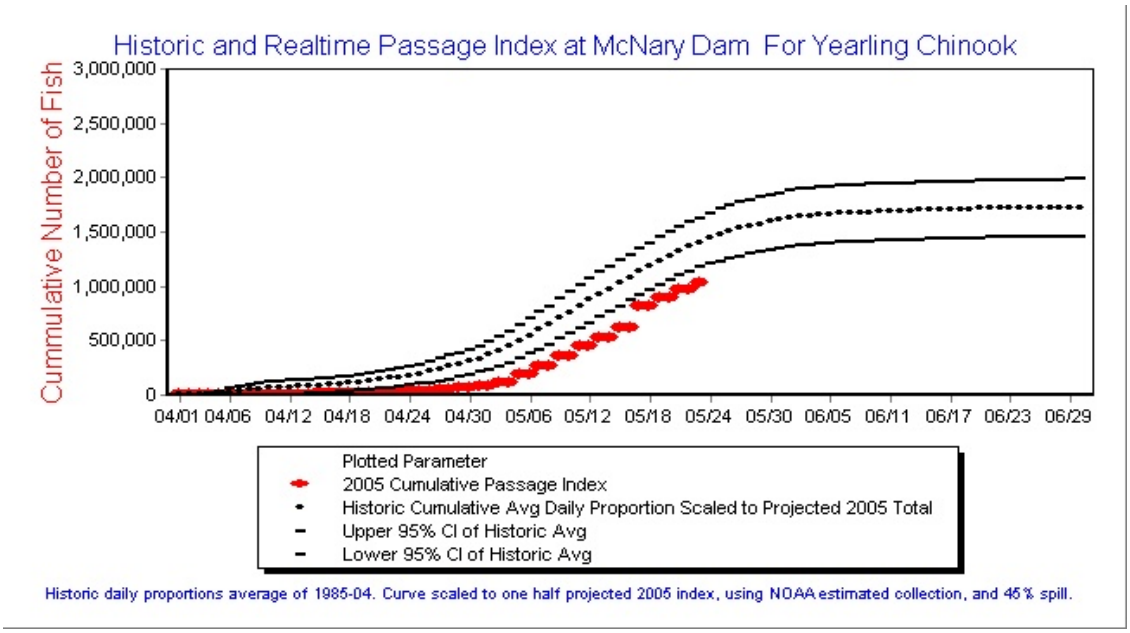
We understand that there is great difficulty managing hydro projects to achieve multiple objectives and goals, and wanted to clarify the intended objectives of SOR #2005-12. In SOR #2005-12 the Fishery Managers requested that spill be increased at John Day Dam during daytime hours to provide benefits to fish survival in response to the project constraints that limit the volume of spill that can be provided at The Dalles Dam, and try to recover some of the additional fish "take" associated with that limited operation. The request for daytime spill at John Day Dam was intended to provide the best fish operation given current fish passage numbers and present configuration of the hydrosystem.

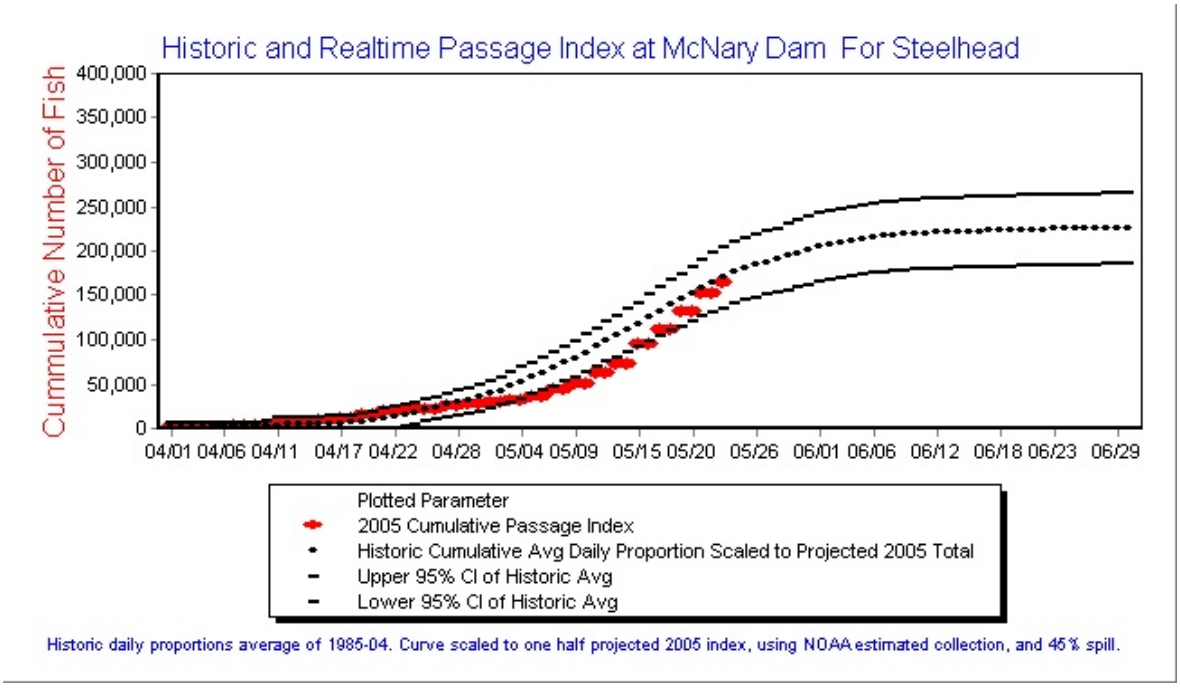
We recognize that the John Day Dam project is unique in that gas often exceeds the 120% level when spill volumes are between 86 and 120 Kcfs. In reviewing the record of hourly flow, spill and total dissolved gas levels over the past several days, it is apparent that spill flows in excess of 140 Kcfs often yield lower total dissolved gas levels than spill flows of 85 Kcfs. Fish passage and survival at the project is a function of the percentage of the total flow that passes through spill. Increasing the proportion spilled increases the number of fish passing through spill, increasing overall survival. It was noted that on May 22, 2205 from midnight to

0700 hours that spill volumes were 140 Kcfs and TDG was between 118 and 119%. However, in spite of the TDG being below the 120% waiver, spill was decreased to less than or equal to 90 Kcfs for the next 37 hours. This operational decision did not best meet our biological objectives. The biological objectives of the Fishery Managers are better met when spill is provided in excess of the 120 Kcfs. If necessary, the daily flows could be flattened to better achieve this objective of balancing flow, spill passage and TDG levels of 120%.

While we recognize that the COE views this as an experimental spill operation, it should be noted that thus far (as of 0900 hours on 5/24/05) spill volume at The Dalles has been approximately 810 KAF less than it would have been at 40% of daily average, while the operation at John Day Dam (since 5/20/05) has resulted in only an additional 31.4 KAF spill above the 60% nighttime spill.

Spring migrating fish will continue to pass through the Lower Columbia River through June. We recognize that the Action Agencies regard this operation as a seven-day event, based on discussions at the last TMT meeting; however, the Fishery Managers view it as their responsibility to recommend the implementation of the operation that provides the most benefit to the migrating salmonids. An operation that continues through the first few weeks of June will provide this protection to the remainder of the migration (up to 90% passage) that has been affected by the reduced spill at The Dalles Dam resulting in additional "take" of listed species.


Historic and Realtime Passage Index at McNary Dam For Yearling Chinook
Cummulative Number of Fish
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
04/01 04/06 04/12 04/18 04/24 04/30 05/06 05/12 05/18 05/24 05/30 06/05 06/11 06/17 06/23 06/29
Plotted Parameter
2005 Cumulative Passage Index
Historic Cumulative Avg Daily Proportion Scaled to Projected 2005 Total
Upper 95% CI of Historic Avg
Lower 95% CI of Historic Avg
Historic daily proportions average of 1985-04. Curve scaled to one half projected 2005 index, using NOAA estimated collection, and 45% spill.


Historic and Realtime Passage Index at McNary Dam For Steelhead
Cummulative Number of Fish
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
04/01 04/06 04/11 04/17 04/22 04/28 05/04 05/09 05/15 05/20 05/26 06/01 06/06 06/12 06/18 06/23 06/29
Plotted Parameter
2005 Cumulative Passage Index
Historic Cumulative Avg Daily Proportion Scaled to Projected 2005 Total
Upper 95% CI of Historic Avg
Lower 95% CI of Historic Avg
Historic daily proportions average of 1985-04. Curve scaled to one half projected 2005 index, using NOAA estimated collection, and 45% spill.

TOTAL DISSOLVED GAS REPORT FOR JOHN DAY T.
starting at 0011 21 may 2005

DATE	TIME	GAS %	Spill Q	Total Q
21-May	100	119.6	80	252.2
21-May	200	119.4	80.1	229
21-May	300	119.4	79.9	223.1
21-May	400	119.4	79.9	202.4
21-May	500	119.5	79.9	219.2
21-May	600	119.5	79.9	241.1
21-May	700	112.1	33.7	293.3
21-May	800	109	0	286
21-May	900	108.9	0	283.3
21-May	1000	109.2	0	283.5
21-May	1100	109.2	0	284.9
21-May	1200	109.3	0	286.5
21-May	1300	109.5	0	273.5
21-May	1400	109.5	0	269.5
21-May	1500	109.5	0	278
21-May	1600	109.5	0	279.2
21-May	1700	109.7	0	282.4
21-May	1800	109.6	0	282.7
21-May	1900	109.6	1.3	280.9
21-May	2000	119.2	129.5	323.1
21-May	2100	119.5	139.7	330.8
21-May	2200	112.5	69.7	265.4
21-May	2300	118.7	139.9	299.7
22-May	0	118.4	139.9	264.5
22-May	100	118.8	139.9	257.6
22-May	200	118.6	139.9	261.6
22-May	300	118.7	139.9	264
22-May	400	118.6	139.9	264.8
22-May	500	118.6	139.9	269.1
22-May	600	118.9	139.4	270.7
22-May	700	119.4	80.8	253.2
22-May	800	119.7	80	266.9
22-May	900	119.7	80	274.1
22-May	1000	119.8	80	276.4
22-May	1100	120.2	88.1	283.7
22-May	1200	120.2	90	276.5
22-May	1300	120.2	90	262.4
22-May	1400	120.2	90	259.3
22-May	1500	120	90.1	256.1
22-May	1600	120.1	90.1	257.4
22-May	1700	120	90.1	255.9
22-May	1800	120.1	90.1	261.9
22-May	1900	120	90.1	257.9
22-May	2000	115.6	69.2	247.5
22-May	2100	119.6	80.3	285.4
22-May	2200	119.7	80.7	275.4
22-May	2300	119	68.9	233.3
23-May	0	118.9	68.9	224.4
23-May	100	118.9	68.9	224.2
23-May	200	118.9	68.9	229.1
23-May	300	119	68.9	227.6
23-May	400	119	68.9	226.9
23-May	500	119	68.9	230.2
23-May	600	119	68.9	228.3
23-May	700	119.4	79	275
23-May	800	119.8	79.7	283.4
23-May	900	119.9	79.7	275.3
23-May	1000	119.9	79.7	276.9
23-May	1100	119.8	79.7	277.5
23-May	1200	119.9	79.8	293
23-May	1300	120.6	88.7	306
23-May	1400	120.2	79.7	287
23-May	1500	120	80	272.9
23-May	1600	120.4	85.1	271.9
23-May	1700	120.4	85.1	292.5
23-May	1800	120.3	85.1	291.9
23-May	1900	120.4	85.6	289.2
23-May	2000	120	153	296.1
23-May	2100	120.1	153.9	294.6
23-May	2200		153.6	280.7
23-May	2300		144.1	244.7
23-May	0		124.6	207.5
23-May	1200	119.9	79.8	293
23-May	1300	120.6	88.7	306
23-May	1400	120.2	79.7	287
23-May	1500	120	80	272.9
23-May	1600	120.4	85.1	271.9
23-May	1700	120.4	85.1	292.5
23-May	1800	120.3	85.1	291.9
23-May	1900	120.4	85.6	289.2
23-May	2000	120	153	296.1
23-May	2100	120.1	153.9	294.6
23-May	2200	120	153.6	280.7
23-May	2300	119.4	144.1	244.7
24-May	0	118.4	124.6	207.5
24-May	100	119	86.6	176.9
24-May	200	119.4	85.7	176.1
24-May	300	119.6	85.7	180.1
24-May	400	119.4	85.7	173.4
24-May	500	119.1	85.7	166.4
24-May	600	119.4	85.6	192.3
24-May	700	119.6	85.7	246.3
24-May	800	119.8	85.7	252.8
24-May	900	119.8	85.7	240.7