

SYSTEM OPERATIONAL REQUEST: #2000-28

- *The following State and Federal Salmon Managers have participated in the preparation and support this SOR: Oregon Department of Fish & Wildlife, U.S. Fish & Wildlife Service, Washington Department of Fish and Wildlife, National Marine Fisheries Service, and the Idaho Department of Fish & Game.*

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FROM: Marv Yoshinaka, Chairperson, Salmon Managers

DATE: Aug. ³~~1~~, 2000

SUBJECT: Grand Coulee Reservoir Elevation

GOAL: To provide flow augmentation to improve conditions for migrating juvenile fall chinook in the Lower Columbia River

SPECIFICATIONS:

Utilize water from Grand Coulee Reservoir for flow augmentation, reaching elevation 1282 feet on August 13. Given the present COE spreadsheet (8/01/00) this action is expected to produce flows in excess of a minimum 160 Kcfs. This 160 Kcfs flow is expected to be a minimum and no maximum flow is specified.

JUSTIFICATION:

Flows at McNary Dam for the week ending August 13 are projected to be significantly below the Biological Opinion flow target of 200 Kcfs. Fish mitigation and water quality have been constrained by available water throughout the year 2000 subyearling fish migration. Significant numbers of subyearling fall chinook from the Mid Columbia and Snake Rivers have entered the Lower Columbia to-date (see attached passage indices). Past years' data suggest that low flows protract the passage distribution by increasing fish travel time and extending the tails of the distribution.

This year conditions are expected to deteriorate substantially during the latter part of August with regard to temperature and flow. The gradual release of water from Grand Coulee would only exacerbate present conditions by forcing the fish that are presently in the Lower River to migrate later in August by increasing their travel time. It is recommended that flows be increased now when fish condition is relatively good and temperatures have not reached their maximum. The objective of this fishery recommendation is to augment flows as much as possible to help move fish out of the system before environmental conditions degrade even further.

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Two-Week Summary of Passage Indices

COMBINED YEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)
07/18/00	---	---	---	---	130	31	66	4	100	
07/19/00	---	---	---	---	150	31	18	0	90	
07/20/00	---	---	---	---	10	12	24	3	150	
07/21/00	---	---	---	---	80	12	24	9	225	
07/22/00	---	---	---	---	96	12	30	0	0	
07/23/00	---	---	---	---	54	0	66	3	105	
07/24/00	---	---	---	---	18	25	30	0	0	
07/25/00	---	---	---	---	12	16	24	0	100	
07/26/00	---	---	---	---	40	12	12	1	0	
07/27/00	---	---	---	---	70	18	4	3	0	
07/28/00	---	---	---	---	56	12	4	0	0	
07/29/00	---	---	---	---	32	12	12	0	100	1
07/30/00	---	---	---	---	10	0	8	0	0	
07/31/00	---	---	---	---	5	0	0	1	0	
Total:	0	0	0	0	763	193	322	24	870	3
# Days:	0	0	0	0	14	14	14	14	14	
Average:	0	0	0	0	55	14	23	2	62	

COMBINED SUBYEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)
07/18/00	---	---	---	---	5,020	2,058	1,122	157	57,900	20,8
07/19/00	---	---	---	---	3,960	2,908	702	274	61,845	7,8
07/20/00	---	---	---	---	3,570	3,282	930	327	51,600	4,9
07/21/00	---	---	---	---	2,900	2,523	420	251	73,225	4,9
07/22/00	---	---	---	---	4,800	5,876	996	333	86,525	14,7
07/23/00	---	---	---	---	2,970	4,045	1,572	321	57,749	4,9
07/24/00	---	---	---	---	1,884	2,253	594	285	33,600	2,3
07/25/00	---	---	---	---	1,920	1,576	384	275	49,800	11,2
07/26/00	---	---	---	---	1,935	2,499	390	206	69,600	7,0
07/27/00	---	---	---	---	1,420	2,246	568	163	108,900	5,6
07/28/00	---	---	---	---	2,204	5,262	228	184	84,000	6,1
07/29/00	---	---	---	---	3,292	1,717	296	199	75,200	5,2
07/30/00	---	---	---	---	2,470	1,240	152	212	77,400	6,8
07/31/00	---	---	---	---	2,055	892	368	192	42,600	5,9
Total:	0	0	0	0	40,400	38,377	8,722	3,379	929,944	108,9
# Days:	0	0	0	0	14	14	14	14	14	
Average:	0	0	0	0	2,886	2,741	623	241	66,425	7,7

COMBINED COHO

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)
07/18/00	---	---	---	---	60	378	132	0	150	
07/19/00	---	---	---	---	80	240	36	0	150	
07/20/00	---	---	---	---	30	78	36	1	75	
07/21/00	---	---	---	---	50	228	48	3	75	
07/22/00	---	---	---	---	30	144	42	0	156	
07/23/00	---	---	---	---						

					48	176	108	0	0	
07/24/00	---	---	---	---	18	88	24	0	0	
07/25/00	---	---	---	---	0	80	42	0	400	
07/26/00	---	---	---	---	20	84	48	0	550	
07/27/00	---	---	---	---	0	18	40	0	400	
07/28/00	---	---	---	---	4	210	32	0	100	
07/29/00	---	---	---	---	56	66	12	0	300	
07/30/00	---	---	---	---	20	42	52	0	0	
07/31/00	---	---	---	---	25	55	20	0	100	
Total:	0	0	0	0	441	1,887	672	4	2,456	3
# Days:	0	0	0	0	14	14	14	14	14	
Average:	0	0	0	0	32	135	48	0	175	

COMBINED STEELHEAD

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)
07/18/00	---	---	---	---	520	263	276	1	0	
07/19/00	---	---	---	---	290	139	114	0	45	
07/20/00	---	---	---	---	230	84	90	0	0	
07/21/00	---	---	---	---	190	72	84	0	0	
07/22/00	---	---	---	---	774	320	192	1	0	
07/23/00	---	---	---	---	720	617	402	3	210	
07/24/00	---	---	---	---	162	161	102	0	100	
07/25/00	---	---	---	---	84	48	96	1	100	
07/26/00	---	---	---	---	115	72	24	4	50	
07/27/00	---	---	---	---	30	72	52	1	0	
07/28/00	---	---	---	---	144	146	4	0	0	
07/29/00	---	---	---	---	244	18	32	1	0	
07/30/00	---	---	---	---	245	42	16	0	0	
07/31/00	---	---	---	---	125	30	48	1		
Total:	0	0	0	0	3,873	2,084	1,532	13	505	1
# Days:	0	0	0	0	14	14	14	14	13	
Average:	0	0	0	0	277	149	109	1	39	

COMBINED SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)
07/18/00	---	---	---	---	0	13	6	3	900	
07/19/00	---	---	---	---	0	18	0	12	1,050	
07/20/00	---	---	---	---	0	0	0	10	750	
07/21/00	---	---	---	---	0	0	0	9	1,050	
07/22/00	---	---	---	---	0	7	0	9	937	
07/23/00	---	---	---	---	0	0	6	3	421	
07/24/00	---	---	---	---	0	0	0	4	500	
07/25/00	---	---	---	---	0	0	0	7	1,100	1
07/26/00	---	---	---	---	0	12	0	9	1,400	
07/27/00	---	---	---	---	0	0	0	1	500	
07/28/00	---	---	---	---	4	0	0	10	900	
07/29/00	---	---	---	---	4	0	0	9	1,800	
07/30/00	---	---	---	---	0	0	0	9	1,400	1
07/31/00	---	---	---	---	19	0	0	4	1,000	
Total:	0	0	0	0	27	50	12	99	13,708	3

# Days:	0	0	0	0	14	14	14	14	14
Average:	0	0	0	0	2	4	1	7	979

These data are preliminary and have been derived from various sources. For verification and/or origin of these data, contact the operators of the Fish Passage Data System at (503) 230-4099.

Smolt indices, clipped & unclipped or combined, are presented in the following order: yearling chinook (chinook 1's,) subyearling chinook (chinook 0's), steelhead, coho, and sockeye. Two classes of fish counts are shown in these tables: collection counts, which account for sample rates but are not adjusted for flow; and passage indices, which are collection counts divided by the proportion of water passing through the sampled powerhouse. Passage indices are not population estimates, but are used to adjust collection counts for daily fluctuations in the site's or project's operations. The classes of counts presented in the report are defined below for each site. Most samples occur over a 24-hr period that spans two calendar days. In this report, the date shown corresponds with the sample end date.

Definitions for Smolt Index

Counts

WTB (Collection) = Salmon River Trap at Whitebird : Collection Counts

IMN (Collection) = Imnaha River Trap : Collection Counts

GRN (Collection) = Grande Ronde River Trap : Collection Counts

LEW (Collection) = Snake River Trap at Lewiston : Collection Counts

LGR (Index) = Lower Granite Dam Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$$

LGS (Index) = Little Goose Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$$

LMN (Index) = Lower Monumental Dam Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$$

RIS (Index) = Rock Island Dam Second Powerhouse Bypass Trap : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill})\}$$

MCN (Index) = McNary Dam Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$$

JDA (Index) = John Day Dam Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse Flow} / (\text{Powerhouse Flow} + \text{Spill})\}$$

BO2 (Index) = Bonneville Dam Second Powerhouse Bypass Collection System : Passage Index

Counts

$$\text{Passage Index} = \text{Collection Counts} / \{\text{Powerhouse 2 Flow} / (\text{Powerhouse 1 \& 2 Flow} + \text{Spill})\}$$

LEW and WTB data collected for the FPC by Idaho Dept. of Fish and Game. JDA and BO2 data collected for the FPC by Pacific States Marine Fisheries Commission. RIS data collected for the FPC by Chelan Co. PUD/Washington Dept. of Fish and Wildlife. LGR, LMN, and MCN data collected for the FPC by Washington Dept. of Fish and Wildlife. LGS and GRN data collected for the FPC by Oregon Dept. of Fish and Wildlife. IMN data collected for the FPC by the Nez Perce Tribe.