

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. 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)	BO2 (INDEX)
07/18/00	---	---	---	---	130	31	66	4	100	0	0
07/19/00	---	---	---	---	150	31	18	0	90	0	0
07/20/00	---	---	---	---	10	12	24	3	150	0	0
07/21/00	---	---	---	---	80	12	24	9	225	21	0
07/22/00	---	---	---	---	96	12	30	0	0	0	0
07/23/00	---	---	---	---	54	0	66	3	105	0	0
07/24/00	---	---	---	---	18	25	30	0	0	16	0
07/25/00	---	---	---	---	12	16	24	0	100	50	0
07/26/00	---	---	---	---	40	12	12	1	0	0	0
07/27/00	---	---	---	---	70	18	4	3	0	0	0
07/28/00	---	---	---	---	56	12	4	0	0	0	0
07/29/00	---	---	---	---	32	12	12	0	100	167	0
07/30/00	---	---	---	---	10	0	8	0	0	62	0
07/31/00	---	---	---	---	5	0	0	1	0	19	0
Total:	0	0	0	0	763	193	322	24	870	335	0
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	55	14	23	2	62	24	0

COMBINED SUBYEARLING CHINOOK

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/18/00	---	---	---	---	5,020	2,058	1,122	157	57,900	20,875	1,457
07/19/00	---	---	---	---	3,960	2,908	702	274	61,845	7,855	1,615
07/20/00	---	---	---	---	3,570	3,282	930	327	51,600	4,969	3,395
07/21/00	---	---	---	---	2,900	2,523	420	251	73,225	4,982	3,437
07/22/00	---	---	---	---	4,800	5,876	996	333	86,525	14,728	3,882
07/23/00	---	---	---	---	2,970	4,045	1,572	321	57,749	4,921	518
07/24/00	---	---	---	---	1,884	2,253	594	285	33,600	2,382	244
07/25/00	---	---	---	---	1,920	1,576	384	275	49,800	11,220	643
07/26/00	---	---	---	---	1,935	2,499	390	206	69,600	7,080	284
07/27/00	---	---	---	---	1,420	2,246	568	163	108,900	5,623	300
07/28/00	---	---	---	---	2,204	5,262	228	184	84,000	6,178	4,163
07/29/00	---	---	---	---	3,292	1,717	296	199	75,200	5,276	547
07/30/00	---	---	---	---	2,470	1,240	152	212	77,400	6,871	346
07/31/00	---	---	---	---	2,055	892	368	192	42,600	5,998	0
Total:	0	0	0	0	40,400	38,377	8,722	3,379	929,944	108,958	20,831
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	2,886	2,741	623	241	66,425	7,783	1,488

COMBINED COHO

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/18/00	---	---	---	---	60	378	132	0	150	54	0
07/19/00	---	---	---	---	80	240	36	0	150	0	0
07/20/00	---	---	---	---	30	78	36	1	75	21	162
07/21/00	---	---	---	---	50	228	48	3	75	0	0
07/22/00	---	---	---	---	30	144	42	0	156	83	0
07/23/00	---	---	---	---	48	176	108	0	0	0	0
07/24/00	---	---	---	---	18	88	24	0	0	16	0
07/25/00	---	---	---	---	0	80	42	0	400	66	0
07/26/00	---	---	---	---	20	84	48	0	550	0	0
07/27/00	---	---	---	---	0	18	40	0	400	0	0
07/28/00	---	---	---	---	4	210	32	0	100	0	0
07/29/00	---	---	---	---	56	66	12	0	300	21	0
07/30/00	---	---	---	---	20	42	52	0	0	0	0
07/31/00	---	---	---	---	25	55	20	0	100	57	0
Total:	0	0	0	0	441	1,887	672	4	2,456	318	162
# Days:	0	0	0	0	14	14	14	14	14	14	14
Average:	0	0	0	0	32	135	48	0	175	23	12

COMBINED STEELHEAD

	WTB	IMN	GRN	LEW	LGR	LGS	LMN	RIS	MCN	JDA	BO2
Date	(Coll)	(Coll)	(Coll)	(Coll)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)	(INDEX)
07/18/00	---	---	---	---	520	263	276	1	0	0	0
07/19/00	---	---	---	---	290	139	114	0	45	0	0
07/20/00	---	---	---	---	230	84	90	0	0	43	162
07/21/00	---	---	---	---	190	72	84	0	0	21	0
07/22/00	---	---	---	---	774	320	192	1	0	21	0
07/23/00	---	---	---	---	720	617	402	3	210	0	0
07/24/00	---	---	---	---	162	161	102	0	100	16	0
07/25/00	---	---	---	---	84	48	96	1	100	0	0
07/26/00	---	---	---	---	115	72	24	4	50	0	0
07/27/00	---	---	---	---	30	72	52	1	0	0	0
07/28/00	---	---	---	---	144	146	4	0	0	0	0
07/29/00	---	---	---	---	244	18	32	1	0	0	0
07/30/00	---	---	---	---	245	42	16	0	0	0	0
07/31/00	---	---	---	---	125	30	48	1		19	0
Total:	0	0	0	0	3,873	2,084	1,532	13	505	120	162
# Days:	0	0	0	0	14	14	14	14	13	14	14
Average:	0	0	0	0	277	149	109	1	39	9	12

COMBINED SOCKEYE

Date	WTB (Coll)	IMN (Coll)	GRN (Coll)	LEW (Coll)	LGR (INDEX)	LGS (INDEX)	LMN (INDEX)	RIS (INDEX)	MCN (INDEX)	JDA (INDEX)	BO2 (INDEX)
07/18/00	---	---	---	---	0	13	6	3	900	0	0
07/19/00	---	---	---	---	0	18	0	12	1,050	0	231
07/20/00	---	---	---	---	0	0	0	10	750	0	0
07/21/00	---	---	---	---	0	0	0	9	1,050	63	0
07/22/00	---	---	---	---	0	7	0	9	937	0	0
07/23/00	---	---	---	---	0	0	6	3	421	0	0
07/24/00	---	---	---	---	0	0	0	4	500		0
07/25/00	---	---	---	---	0	0	0	7	1,100	100	0
07/26/00	---	---	---	---	0	12	0	9	1,400	0	0
07/27/00	---	---	---	---	0	0	0	1	500	0	0
07/28/00	---	---	---	---	4	0	0	10	900	0	0
07/29/00	---	---	---	---	4	0	0	9	1,800	42	0
07/30/00	---	---	---	---	0	0	0	9	1,400	103	0
07/31/00	---	---	---	---	19	0	0	4	1,000	19	0
Total:	0	0	0	0	27	50	12	99	13,708	327	231
# Days:	0	0	0	0	14	14	14	14	14	13	14
Average:	0	0	0	0	2	4	1	7	979	25	17

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.