COLUMBIA RIVER WATER MANAGEMENT GROUP
MEETING NO. 493

1. ATTENDANCE

The following met at 9:30 a.m., on Tuesday, July 14, 1998, in the Custom House, Portland, OR

Members or Alternates Present

Ted Day, US Bureau of Reclamation, Chair
Roger Ross, Corps of Engineers
Ed Hubbard, U.S. Geological Survey
Tom Fero, National Weather Service-RFC

Others Present

Dušica Jevremović, Fish Passage Center
Cathy Hlebechuk, Corps of Engineers (NWD-NP)

Members Not Present or Represented

Nancy Stephan, Bonneville Power Administration
Dan Moore, Natural Resources Conservation Svc
Doug McChesney, Washington Dept of Ecology
Walter Boyle, Federal Energy Regulatory Comm
Jack Gakstatter, U.S. Environ'l Protection Agy
Bruce McCammon, U.S. Forest Service
Marvin Yoshinaka, U.S. Fish and Wildlife Service
Bill Brooks, Bureau of Land Management
_____, National Marine Fisheries Svc
B Ondrechen, Idaho Dpt Water Resources & Cons
Barry Norris, Oregon Water Resources Dept
Mike Turnipseed, Nevada State Engineer
Gordon Fassett, Wyoming State Engineer
Jack Stults, Montana Dept of Natural Res & Cons

2. WEATHER SUMMARY

June weather was a continuation of the wet spring, with the Oregon and Washington coast and central Washington, having well below normal rainfall (Enc 1) and most of the remainder of the Northwest having much above normal rainfall. Sub-basin totals ranged from 56% of normal in Southeastern Washington to 205% for the Upper Snake sub-basin; and some individual stations having greater extremes. Mean basin temperatures were 1.5°F below normal with individual stations ranging from +2.8°F to -7.0°F from normal.

Monthly and **seasonal** precipitation amounts, in percent of normal, are given below.

Basin	Jun	Oct-Jun	Basin	Jun	Oct-Jun
Above Grand Coulee	137%	99%	Kootenai	116%	99%
Above Ice Harbor	139%	115%	Clearwater	120%	97%
Above The Dalles	128%	104%	Pend Oreille/Spokane	107%	100%
Willamette	83%	102%	Rogue	112%	125%

(The Water Supply Outlook will be published on *www.nwrfc.noaa.gov* beginning in October 1998.)

3. SNOWPACK/SWSI

Basin snowpacks have been melted with only residual runoff remaining. The Oregon SWSI showed only minor changes(+\-0.1) over most of the state (Enc 2).

4. STREAMFLOW

All index streamflows stations, except the Snake R above Heise, ID, showed decreased flows over last month, according to Ed Hubbard (Enc 3). The greatest average flow for the year-to-date is 125% for the Snake River at Weiser in western Idaho and the lowest flow is 82% on the MF Flathead River near West Glacier, MT.

5. RUNOFF VOLUME FORECASTS

The forecasts showed only minor changes from last month's forecast. The most probable forecasts (Enc 1)

varied from highs of 159% on the Weiser River in southwestern Idaho to lows of 67% on the Coeur d'Alene River in northern Idaho. Selected forecasts for key basins in maf, are:

	January-July		April-July		April-Sept	
Columbia at Grand Coulee	58.3	(92%)			59.1	(91%)
Snake at Lower Granite	29.5	(99%)	21.9	(101%)		
Columbia at The Dalles	99.6	(94%)			92.0	(93%)
Libby	6.02	(94%)			6.32	(93%)
Hungry Horse	1.75	(77%)			1.65	(76%)
Dworshak (NWS)	2.84	(80%)	2.08	(77%)	2.22	(77%)
Brownlee			7.25	(125%)		

6. RESERVOIR OPERATION

The water supply for the irrigation season is above normal, according to Ted Day (Enc 4). **Grand Coulee** is 97% full and flash boards have been installed on the **Hungry Horse** to avoid spilling. The **Boise and Payette systems** are nearly full and beginning their drafting for irrigation and salmon flows, and the **Yakima projects** are at 96% of full capacity.

Active content available at the end of June at 52 irrigation reservoirs (excluding Grand Coulee and Hungry Horse) was 9,663,000 af–94% of capacity, 105,100 af less than last year, and 1,026,00 af more than normal, at **Franklin D Roosevelt Lake (Grand Coulee Dam**) the active content was approximately 5,038,300 af–97% of capacity, 4,707,100 af more than last year, and 196,400 af more than normal, and at **Hungry Horse** the active content was 3,001,400 af–101% of capacity, 167,600 af more than last year, and 185,600 af more than normal.

The operation of Corps' projects (Enc 5) was reported by Cathy Hlebechuk. **Libby** was within 6 feet of full on June 30 with the sturgeon spawning flow period extended 14 days beyond the original ending of June 11 to provide flows for juvenile sturgeon. (Project outflows were reduced to minimum on July 13 to search for drowning victims in the Kootenai River). **Lake Pend Oreille (Albeni Falls)** is at full pool and passing inflow. **Dworshak** in also at full pool and passing inflow. The **Lower Snake Projects, Ice Harbor, Lower Monumental**, **Little Goose, and Lower Granite** were operated at their minimum operating pool (mop) levels (**Ice Harbor** operates one foot higher because of a navigation constraint below Lower Monumental.)

The **Willamette basin projects** are at or near their maximum conservation level and are beginning their flow augmentation period.

Brownlee is at 2072 ft and is drafting for fish flows at 25 kcfs.

7. FISHERIES

Adult fish counts (Enc 6) have been variable this year according to Dušica Jevremović. The cumulative count of summer chinook through July 9 was at the 10-year average, at Bonneville Dam and McNary, and at 125% of average at Ice Harbor. The steelhead count at Bonneville remains below the 10-year average. The sockeye run, which migrate mainly into the mid-Columbia, is, for some unknown reason only one-fourth their 10-year average.

8. NEXT MEETINGS

The next meeting is scheduled for September 10 at 9:30 a.m., in the Custom House, Room 118.

Roger L. Ross
Secretary

Enclosures

1. Weather Summary
2. Oregon SWSI
3. Streamflow Summary
4. USBR Project Summary
5. Corps Project Summary
6. FPC report

ABRIDGED

WATER SUPPLY OUTLOOK

COLUMBIA RIVER AND PACIFIC COAST BASINS

July 1, 1998

COLLABORATIVE AND SUPPORTIVE AGENCIES:

Northwest River Forecast Center, NWS
USDA/National Resource Conservation Service
US Army Corps of Engineers, North Pacific Division
US Bureau of Reclamation
British Columbia Hydro and Power Authority
Weather Services Directorate/Environment Canada
Local water district managers and utility companies

For more information, or to be included on the mailing list, please contact:

Northwest River Forecast Center
NOAA/National Weather Service
Attn: Tom Fero, Water Supply Coordinator or
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Enc 1

NORTHWEST RIVER FORECAST CENTER - PORTLAND, OREGON
COLUMBIA BASIN PRECIPITATION (MONTHLY SUMMARY)

COLUMBIA BASIN DIVISION AVERAGES OF SEASONAL PRECIPITATION

DIVISION	..MAY TO DAY 31..			....OCT - MAY....		
	OBSD	DEP	PCT AV	OBSD	DEP	PCT AV
COLUMBIA ABOVE COULEE	3.74	1.6	176.	17.15	-1.10	94.
SNAKE RV AB ICE HARBOR	4.02	2.31	235.	15.21	1.66	112.
COLUMBIA AB THE DALLES	3.66	1.84	201.	17.93	.18	101.
COLUMBIA AB CASTLEGAR	1.99	-.18	92.	22.23	-2.04	92.
KOOTENAI	4.40	2.35	215.	17.65	-.66	96.
CLARK FORK	3.40	1.45	174.	11.65	-.75	94.
FLATHEAD	3.88	1.48	161.	14.64	-1.77	89.
PEND OREILLE/ SPOKANE	4.99	2.75	223.	23.79	-.31	99.
NORTHEAST WASHINGTON	5.43	3.57	292.	17.79	3.79	127.
OKANOGAN	2.33	1.03	180.	13.39	2.50	123.
EAST SLOPES WASH CASC.	2.86	1.40	196.	35.13	.78	102.
CENTRAL WASHINGTON	1.25	.56	181.	7.87	.80	111.
UPPER SNAKE	2.84	.67	131.	15.47	.42	103.
SNAKE RIVER PLAIN	3.12	1.80	236.	9.20	.81	110.
OWYHEE/ MALHEUR	3.74	2.56	317.	12.08	3.30	138.
SALMON/ BOISE/ PAYETTE	5.00	3.42	317.	18.08	1.91	112.
BURNT/ GRANDE RONDE	5.08	3.59	341.	15.35	2.88	123.
CLEARWATER	5.01	2.21	179.	22.95	-1.27	95.
SOUTHEAST WASHINGTON	3.50	1.94	225.	15.22	.17	101.
UPPER JOHN DAY	4.49	3.06	314.	13.82	2.16	119.
UMATILLA/ LWR JOHN DAY	2.75	1.42	207.	14.67	1.57	112.
UPR DESCHUTES/ CROOKED	5.41	4.47	575.	16.31	4.18	134.
HOOD/ LOWER DESCHUTES	4.44	3.00	309.	26.06	.86	103.
NW SLOPE WASH CASCADES	4.24	-.25	94.	69.33	-5.86	92.
SW WA CASCADES/COWLITZ	5.07	1.58	145.	60.51	-.91	99.
WILLAMETTE VALLEY	6.79	3.67	217.	53.90	1.25	102.
ROGUE/ UMPQUA	5.51	3.82	326.	40.67	8.16	125.
KLAMATH BASIN	3.83	2.84	387.	20.38	4.81	131.
LAKE COUNTY-GOOSE LAKE	4.43	3.22	367.	13.36	3.33	133.
HARNEY/ MALHEUR BASIN	3.74	2.62	334.	13.62	4.29	146.

DIVISION VALUES ARE COMPUTED BY UTILIZING UN-WEIGHTED PRECIPITATION AMOUNTS FROM KEY STATIONS IN EACH AREA. NORMALS BASED ON 1961-1990.
FOR FURTHER INFORMATION CONTACT: NWRFC (503) 326-7291.

Enc 1

NORTHWEST RIVER FORECAST CENTER - PORTLAND, OREGON
COLUMBIA BASIN PRECIPITATION (MONTHLY SUMMARY)
May 1998 Weather Summary

EXCESSIVE WIDESPREAD PRECIPITATION CHARACTERIZED MAY. THIS MONTH RANKED AS THE WETTEST FOR PORTLAND, SECOND PLACE FOR SALEM AND MEDFORD, THIRD PLACE FOR EUGENE, FIFTH PLACE FOR KALISPELL, AND ELEVENTH PLACE FOR MISSOULA. MANY SITES REPORTED 200 - 780 PERCENT OF NORMAL PRECIPITATION!! FLOODING OCCURRED BY LATE MONTH.

MEAN TEMPERATURES DEPARTED +0.9°F (31 STATIONS) FROM NORMAL FOR THE PACIFIC NORTHWEST RELATIVE TO 1961-1990 NORMALS. MEAN TEMPERATURE DEPARTURES RANGED BETWEEN 7.5 AND -3.5°F. RECORD HIGHS WARMED PORTLAND ON THE 1ST (85°F) AND KALISPELL ON THE 2ND (80 DEGREES). RECORD PRECIPITATION SOAKED PORTLAND ON THE 20TH (0.68") AND 24TH (0.87 INCH); SALEM ON THE 29TH (0.59"); MISSOULA ON THE 26TH (0.99"); HELENA ON THE 27TH (0.56"); KALISPELL ON THE 26TH (0.90") AND 27TH (0.68"); AND GREAT FALLS ON THE 30TH (1.88"). BY THE 31ST, THE REGIONAL SNOW DEPTHS (IN INCHES) WERE:
CRATER LAKE NP, OR, 92 AND MT.
RAINIER-PARADISE RS, WA, 112.

THE THERMAL LOW OF LATE APRIL WAS SLOWLY PUSHED EASTWARD AND REPLACED BY COOLER ALEUTIAN AIR WITH NORTHWESTLY FLOW BY THE 3RD. A BLOCKING RIDGE RETURNED FOR A WEEK. BY THE 12TH, AN EXTENDED TROUGH FROM ALASKA ANCHORED ITSELF OFF OREGON AND HELP GUIDE FRONT AFTER FRONT FOR THE REST OF THE MONTH. FREEZING LINES DROPPED TO 3500 FEET IN SOUTHWEST OREGON BY THE MEMORIAL DAY WEEKEND, WITH NEW SNOW REPORTED IN THE OREGON COASTAL RANGE. TWO STRONG "WRAP-AROUND" LOWS SET UP BY LATE MONTH, CENTERED OVER IDAHO, AND TAPPED INTO ABUNDANT GULF OF MEXICO AIR FROM THE PLAINS TO DELIVER TORRENTIAL RAINS OVER THE MIDDLE SNAKE AND KOOTENAI DRAINAGES. FLOODING OCCURRED ON THE PAYETTE, WEISER, BOISE, IMNAHA, AND PORTNEUF DRAINAGES. THE SNAKE AT WEISER SAW MAJOR FLOODING. FUNNEL CLOUDS WERE NOTED NEAR BOISE ON THE 27TH AND NEAR CLATSKANIE ON THE 25TH.

FOR MAY...PRECIPITATION WAS 176 PERCENT OF NORMAL (1961-1990) AT COLUMBIA ABOVE COULEE; 235 PERCENT OF NORMAL AT THE SNAKE RIVER ABOVE ICE HARBOR; AND 201 PERCENT AT COLUMBIA ABOVE THE DALLES.

end/nwrfc/kmartin

SEASONAL
WATER SUPPLY FORECASTS
ISSUED BY
NATIONAL WEATHER SERVICE
NORTHWEST RIVER FORECAST CENTER
PORTLAND OREGON

JUL-98FINAL 1 W A T E R S U P P L Y F O R E C A S T S

STREAM AND STATION	PERIOD	FORECAST	%	AVERAGE
COLUMBIA RIVER				
MICA RESERVOIR INFLOW, BC	FEB-SEP	12000.0	91	13170.
	APR-SEP	11500.0	90	12730.
ARROW LAKES INFLOW	FEB-SEP	24100.0	90	26800.
	APR-SEP	22700.0	89	25540.
BIRCHBANK, BC (1)	APR-SEP	40200.0	92	43800.
GRAND COULEE, WA (1)	JAN-JUL	58300.0	92	63280.
	APR-SEP	59100.0	91	64850.
ROCK ISLAND DAM BLO, WA (1)	APR-SEP	65400.0	93	70480.
THE DALLES NR, OR (1)	APR-SEP	92000.0	93	98980.
	JAN-JUL	99600.0	94	105900.
KOOTENAI RIVER				
LIBBY RES INFLOW, MT (1)	APR-SEP	6320.0	93	6772.
KOOTENAY RIVER				
KOOTENAY LAKE INFLOW, BC	APR-SEP	15700.0	94	16650.
DUNCAN RIVER				
DUNCAN RESERVOIR INFLOW, BC	FEB-SEP	2220.0	96	2319.
	APR-SEP	2130.0	95	2238.
CLARK FORK				
ST. REGIS, MT (1)	APR-SEP	3210.0	78	4095.
PEND OREILLE RIVER				
PEND OREILLE LAKE IN, ID (1)	APR-SEP	11700.0	81	14370.
S.F. FLATHEAD RIVER				
HUNGRY HORSE RES IN, MT (1)	APR-SEP	1650.0	76	2184.
FLATHEAD RIVER				
FLATHEAD LAKE INFLOW, MT (1)	APR-SEP	5620.0	81	6926.
COEUR D'ALENE RIVER				
COEUR D'ALENE LAKE IN, ID	APR-SEP	1930.0	71	2720.
SIMILKAMEEN RIVER				
NIGHTHAWK NR, WA (1)	APR-JUL	1100.0	84	1304.
OKANAGAN RIVER				
TONASKET NR, WA (1)	APR-SEP	1570.0	97	1623.
CHELAN RIVER				
LAKE CHELAN INFLOW, WA (1)	APR-SEP	1170.0	101	1160.
YAKIMA RIVER				
PARKER NR, WA	APR-SEP	1950.0	98	1994.
SKAGIT RIVER				
CONCRETE NR, WA	APR-SEP	5260.0	81	6525.
COWLITZ RIVER				
MAYFIELD RES INFLOW, WA	APR-SEP	1560.0	79	1971.
	APR-JUL	1370.0	79	1731.
CASTLE ROCK, WA	APR-SEP	2110.0	79	2668.
SNAKE RIVER				
JACKSON LAKE INFLOW, WY (1)	APR-JUL	810.0	104	781.
PALISADES RES INFLOW, ID (1)	APR-JUL	3240.0	100	3226.
HEISE NR, ID	APR-JUL	3460.0	100	3451.
WEISER, ID (1)	APR-JUL	7160.0	131	5465.
BROWNLEE RES INFLOW	APR-JUL	8420.0	145	5794.
LOWER GRANITE RES IN, WA (1)	JAN-JUL	29500.0	99	29740.
	APR-JUL	21900.0	101	21650.
TETON RIVER				
ST. ANTHONY NR, ID	APR-JUL	425.0	112	380.
HENRYS FORK				
REXBURG NR, ID	APR-JUL	1370.0	112	1219.
PORTNEUF RIVER				
TOPAZ, ID	APR-SEP	119.0	128	93.
BIG LOST RIVER				

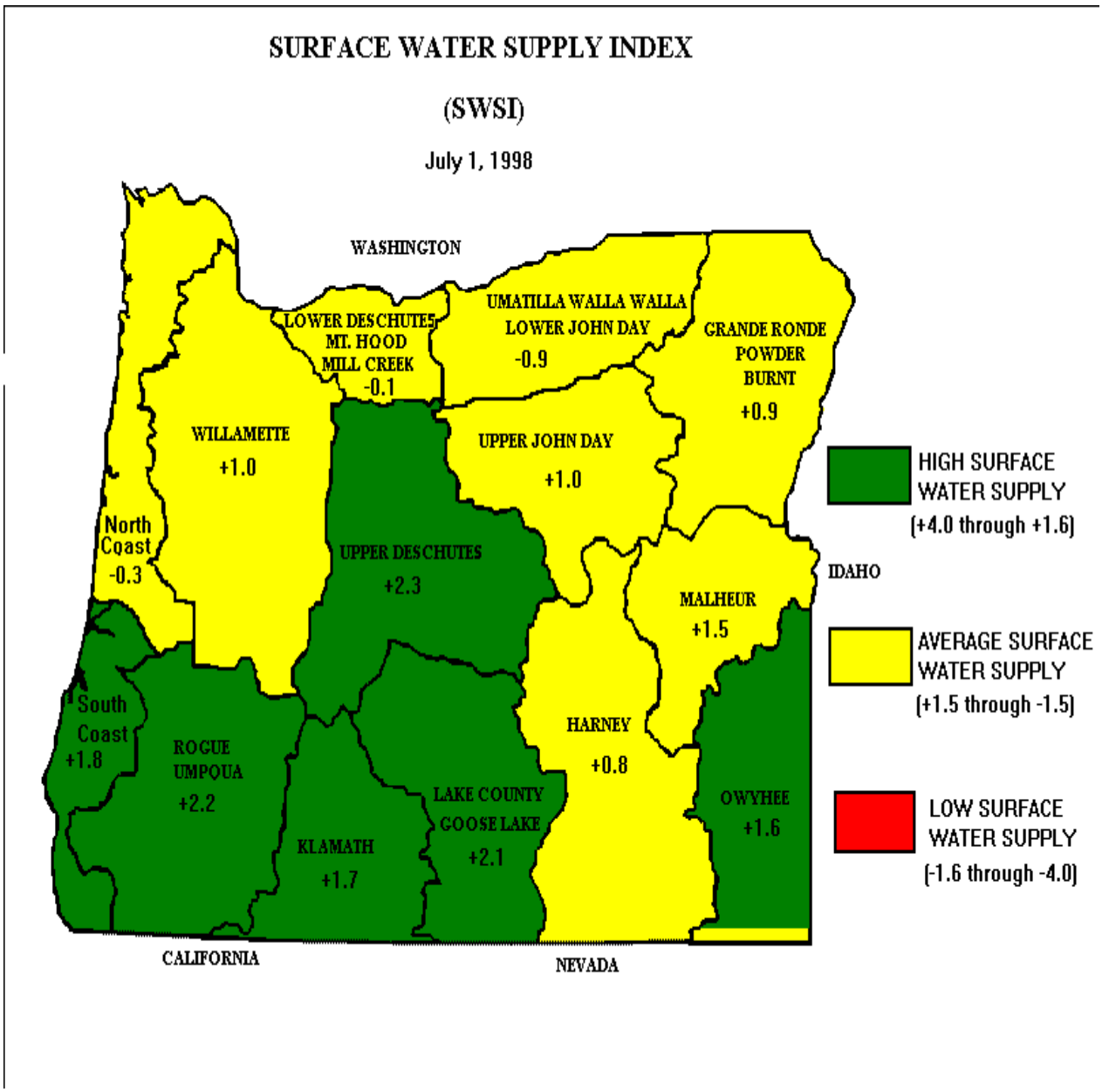
MACKAY RESERVOIR INFLOW, ID	APR-JUL	128.0	85	150.
BIG WOOD RIVER				
HAILEY, ID (1)	APR-JUL	285.0	112	254.
MAGIC RESERVOIR INFLOW, ID	APR-JUL	305.0	103	295.
LITTLE WOOD RIVER				
CAREY NR, ID	APR-JUL	115.0	125	92.
OWYHEE RIVER				
OWYHEE RES INFLOW, OR	MAR-JUL	805.0	142	567.
BOISE RIVER				
BOISE NR, ID (1)	APR-JUL	1490.0	105	1421.
MALHEUR RIVER				
DREWSEY NR, OR	MAR-JUL	134.0	130	103.
N.F. MALHEUR RIVER				
BEULAH RES INFLOW, OR (1)	MAR-JUL	97.0	128	76.
PAYETTE RIVER				
HORSESHOE BEND NR, ID (1)	APR-JUL	1750.0	108	1618.
WEISER RIVER				
WEISER NR, ID (1)	APR-JUL	615.0	159	386.
POWDER RIVER				
SUMPTER NR, OR	MAR-JUL	70.0	104	67.
SALMON RIVER				
WHITEBIRD, ID (1)	APR-JUL	5630.0	95	5956.
GRANDE RONDE RIVER				
LA GRANDE, OR	MAR-JUL	220.0	101	218.
TROY, OR (1)	MAR-JUL	1560.0	106	1471.
CLEARWATER RIVER				
OROFINO, ID (1)	APR-JUL	3950.0	84	4718.
N.F. CLEARWATER RIVER				
DWORSHAK RES INFLOW, ID (1)	APR-JUL	2080.0	77	2700.
	APR-SEP	2220.0	77	2874.
CLEARWATER RIVER				
SPALDING, ID (1)	APR-JUL	6260.0	82	7618.
	APR-SEP	6620.0	82	8052.
UMATILLA RIVER				
GIBBON NR, OR	APR-JUL	71.0	101	70.
PENDLETON, OR	APR-JUL	117.0	83	141.
S.F. WALLA WALLA RIVER				
MILTON NR, OR	APR-JUL	60.0	113	53.
M.F. JOHN DAY RIVER				
RITTER, OR (1)	APR-JUL	145.0	125	116.
N.F. JOHN DAY RIVER				
MONUMENT NR, OR	APR-JUL	700.0	123	567.
JOHN DAY RIVER				
SERVICE CREEK, OR (1)	APR-SEP	1000.0	122	821.
DESCHUTES RIVER				
BENHAM FALLS, OR	APR-SEP	615.0	116	529.
CROOKED RIVER				
PRINEVILLE RES INFLOW, OR	MAR-JUL	255.0	149	171.
OCHOCO CREEK				
OCHOCO RES INFLOW, OR	MAR-JUL	32.0	97	33.
S. SANTIAM RIVER				
WATERLOO, OR	APR-SEP	500.0	87	576.
N. SANTIAM RIVER				
MEHAMA, OR	APR-SEP	640.0	77	832.
WILLAMETTE RIVER				
SALEM, OR	APR-SEP	4780.0	102	4670.
CLACKAMAS RIVER				
ESTACADA, OR	APR-SEP	760.0	102	742.
MCKENZIE RIVER				
VIDA NR, OR	APR-SEP	1080.0	91	1184.
ROGUE RIVER				
RAYGOLD, OR	APR-SEP	1190.0	137	868.
SILVIES RIVER				
BURNS NR, OR	APR-SEP	136.0	151	90.

THESE FORECASTS ARE SELECTED FROM THOSE PREPARED BY: NATIONAL WEATHER SERVICE, NATURAL RESOURCE CONSERVATION SERVICER, AND B.C. HYDRO AND POWER AUTHORITY. FOR VARIOUS PROJECT INFLOWS, THE FORECASTS HAVE BEEN COORDINATED WITH THE COLUMBIA RIVER FORECAST SERVICE AND THE U.S. BUREAU OF RECLAMATION.

ALL FORECASTS ARE IN THOUSANDS OF ACRE-FEET

ALL AVERAGES ARE FOR THE PERIOD 1961 THROUGH 1990

END.....NOAA/NWS/NORTHWEST RFC.....


SURFACE WATER SUPPLY INDEX
(SWSI)
July 1, 1998
WASHINGTON
LOWER DESCHUTES
MT. HOOD
MILL CREEK
-0.1
UMATILLA WALLA WALLA
LOWER JOHN DAY
-0.9
GRANDE RONDE
POWDER
BURNT
+0.9
WILLAMETTE
+1.0
UPPER JOHN DAY
+1.0
North
Coast
-0.3
UPPER DESCHUTES
+2.3
IDAHO
MALHEUR
+1.5
South
Coast
+1.8
ROGUE
UMPQUA
+2.2
HARNEY
+0.8
LAKE COUNTY
GOOSE LAKE
+2.1
KLAMATH
+1.7
OWYHEE
+1.6
CALIFORNIA
NEVADA
HIGH SURFACE
WATER SUPPLY
(+4.0 through +1.6)
AVERAGE SURFACE
WATER SUPPLY
(+1.5 through -1.5)
LOW SURFACE
WATER SUPPLY
(-1.6 through -4.0)

Enc 2

US GEOLOGICAL SURVEY, WATER RESOURCES DIVISION

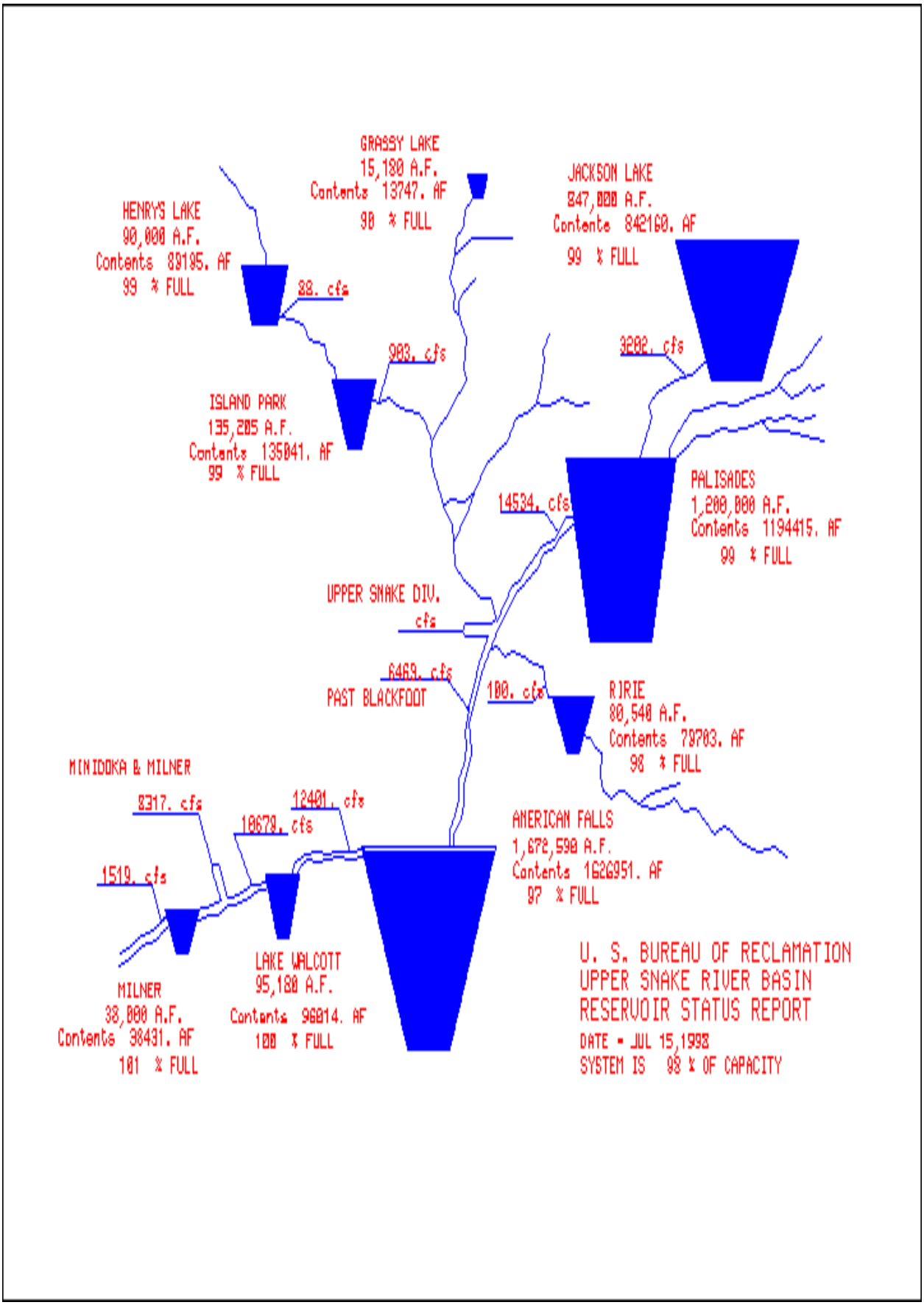
Oregon District

COMPARATIVE FLOW TABLE FOR JUNE, 1998

Station	Monthly mean discharge: Cubic feet per second	Monthly mean discharge: Percent of average	Change in discharge from previous month (percent)	Discharge near end of month: Cubic feet per second	Date	Accumulated Runoff: Oct-May Percent of Average
John Day River at Service Creek, OR	3,779	146	-48	1,610	30	107
Wilson River nr Tillamook, OR	258	76	-40	190	30	110
Umpqua River nr Elkton, OR	6,543	200	-48	4,620	30	101
Columbia River at The Dalles, OR	396,200(a)	81	-28	249,000	30	107
Willamette River at Salem, OR	18,320(a)	137	-26	11,300	30	96
Chehalis River nr Grand Mound, WA	934	115	-23	828	30	113
Skykomish River nr Gold Bar, WA	5,403	77	-23	3,930	30	102
Spokane River at Spokane, WA	6,647(a)	67	-50	3,886	30	84
Snake River at Heise, ID	21,732(a)	97	+7	20,400	30	111
Snake River at Weiser, ID	39,214	166	-17	26,600	30	125
Salmon River at White Bird, ID	33,830	81	-7	28,400	30	99
Clearwater River at Spalding, ID	25,788	64	-45	20,800	30	87
Clark Fork at St. Regis, MT	18,040	77	-2	18,900	30	85
MF Flathead River nr West Glacier, MT	6,580	62	-24	5,660	30	82

Percent of Average computed using 30-year base period, Water Years 1961-90

(a) adjusted for upstream storage 07/07/98 Rev 7/13/98



Boise/Payette Teacup drawing will not convert to this format. See:

http://140.218.6.36/hydromet/boipaytea.html

Enc 4

13-JUL-98 09:15:20 U.S.BUREAU OF RECLAMATION

YAKIMA PROJECT

SYSTEM STATUS AT 08:00

RESERVOIR	RESERVOIR CONTENT	TOTAL CAPACITY	PERCENT CAPACITY	RESERVOIR INFLOW	RELEASES
	AF	AF	%	CFS	CFS
Keechelus	113492.	157800.	72.	99.	981.
Kachess	232660.	239000.	97.	70.	361.
Cle Elum	404566.	436900.	93.	551.	1985.
Bumping	28874.	33700.	86.	158.	381.
Rimrock	173133.	198000.	87.	595.	1660.
TOTALS	952725.	1065400.	89.	1473.	5368.

IRRIGATION DIVERSIONS	CFS	RIVER FLOWS	CFS
Kittitas	1042.	Yakima River near Easton	351.
Roza	1058.	Yakima River at Cle Elum	2268.
Yakima-Tieton	328.	Teanaway River bl. Forks	52.
Wapato	1732.	Yakima River at E'Burg	2245.
Sunnyside	1253.	Yakima River at Umtanum	2748.
		Naches River nr. Clf'Del	774.
MAJOR USERS TOTAL	5412.	Tieton R. bl. Can. Hdwks	1320.
		Naches River nr. Naches	

1590.

Westside 96. Yakima River at Parker
504.

Naches-Selah 121. Yakima River at Prosser
724.

OTHERS ABOVE PARKER 1254.

TOTAL ABOVE PARKER 6666.

Kennewick 288.

OTHER CANAL DIVERSIONS

Wapatox 467.

Roza 2044.

Chandler 1113.

UNREGULATED TRIBUTARY & RETURN FLOW ABOVE PARKER - -
1802. CFS

OPERATIONAL COMMENTS:

RIMROCK -- CUT BACK 180 CFS.,

CLE ELUM -- MOVE OUTFLOW FROM SPILLWAY TO MAIN GATES, AND
THEN ADD 200 CFS., @ NOON; AND 200 CFS., @ 1600
HRS.

JULY'S PRECIP. TO-DATE IS 11% OF MONTH'S AVERAGE.

CORPS OF ENGINEERS, NORTH PACIFIC DIVISION

REPORT FOR JULY 1998 CRWMG MEETING

Libby.

The reservoir began June at elevation 2440.2 feet. The average outflows for the month of June were 19.5 kcfs. The elevation at the end of June was 2454.2 feet. The USFWS requested sturgeon incubation flows of 25 kcfs at Bonners Ferry through 11 June (21 days after the sturgeon pulse). This date was extended through 25 June when rain created a natural pulse and sturgeon egg laying/fertilization activity increased. The theory behind the 21 day period is that it takes the eggs about 10 days to hatch after they are fertilized and it takes the baby sturgeon about 11 more days until it can start swimming so it is less susceptible to predators. Inflows in the month of June averaged 29.7 kcfs, 75 percent of normal

Albeni Falls.

The project is currently full and and passing inflow. It's operating range is between 2062' and 2062.5'. The project filled on May 29 and will remain at full through the rest of the summer. The average outflows in June were 50.4 kcfs. The unregulated inflow to Lake Pend Oreille in June was 54.9 kcfs, 70 % of normal.

Dworshak.

The project reached elevation 1599.5' on May 30 and has remained full and passing inflow since then. It's operating range is between 1599.5' and 1600'. The project will remain full until the TMT starts drafting the project to augment Lower Granite flows. The project will draft to 1520' by the end of August. Average outflows in June averaged 7.4 kcfs. Inflow in June was 7.3 kcfs, 56 % of normal.

Lower Snake Projects.

Lower Granite June unregulated inflows were 113.6 kcfs, 96% of normal. Lower Granite, Little Goose and Lower Monumental and Ice Harbor were drafted to Minimum Operating Pool (MOP) between 6 and 9 April, and are operating between MOP and MOP + 1' (733' – 734', 633' – 634', and 537' – 538'). Ice Harbor was drafted at that same time and is operating between MOP + 1' and MOP + 2' (438' – 439') because there is a high spot in the navigation channel below LMN that prevents a 14' channel when the project is at MOP. Voluntary spill started on all Lower Snake projects the evening of 6 April and ended at midnight on 20 June with the exception of Ice Harbor. Ice Harbor is required to continue to spill 24 hours/day until August 31. Ice Harbor is continuing to spill because it does not have fish transport facilities while all the other Lower Snake projects do.

Willamette Basin Projects.

Summer low flow augmentation season started July 1 with Lookout Point increasing releases to 2500 cfs. Flows at Albany and Salem have been well above minimum flow targets through June and the beginning of July. All other projects are at minimum outflows and near their maximum conservation pools. Fern Ridge, Detroit, Hills Creek and Foster should remain near full for the majority of the summer. Lookout Point will continue to release 2500 cfs through the summer and draft as per the augmentation plan. Cougar will be drafted when Albany and Salem flows drop off. Fall Creek stilling basin repair contract is still pending and if the contract is awarded, the reservoir will be drawn down by August 1. Fall Creek contract work is scheduled for August and September. Cottage Grove, Dorena, and Green Peter may drawdown slightly due to minimum flow restrictions. June precipitation was 80% of normal. Precipitation since October 1 is 102% of normal in the Valley.

FISH PASSAGE CENTER REPORT

Meeting on July 14, 1998

Flows: During past four weeks the weekly average flows were in recession. Currently the flows at McNary are slightly above BiOp required summer minimum flow target of 200 kcfs. The summary of the weekly average flows for run of the river projects is given in the following Table :

Project	June 12-18	June 19-25	June 26-July 2	July 3-9
Priest Rapids	115.2 kcfs	152.9 kcfs	156.4 kcfs	136.7 kcfs
McNary	269.2 kcfs	248.0 kcfs	252.6 kcfs	211.8 kcfs
Lower Granite	118.5 kcfs	89.7 kcfs	88.4 kcfs	74.8 kcfs
Bonneville	276.9 kcfs	256.8 kcfs	262.2 kcfs	219.6 kcfs

Spill: Snake River Basin-BiOp spill ended for the spring season at Lower Granite, Little Goose, Lower Monumental on June 20. Spill on those projects was in the range of 18-64.4 kcfs during the third week of June.

Mid Columbia Basin-Summer spill began on June 21 at Ice Harbor Dam, and averaged between 58-60 kcfs.

Lower Columbia Basin-Summary of the average spill at projects during June-July period is shown in the following Table:

Project	June 15-21	June 22-28	June 29-July 5	July 6-12
Bonneville	94.2 kcfs	93.0 kcfs	92.4 kcfs	92.3 kcfs
The Dalles	121.3 kcfs	109.2 kcfs	118.3 kcfs*	86.2 kcfs
John Day	65.4 kcfs	58.4 kcfs	58.6 kcfs	51.5 kcfs
McNary	96.5 kcfs	90.5 kcfs	62.5 kcfs	36.9 kcfs

*as of June 29-July 4

Total Dissolved Gas Super-saturation and Gas Bubble Trauma Monitoring: TDGS levels are generally at, or below, the gas waivers at all sites. Gas bubble trauma monitoring has shown for juvenile fish with signs throughout the system. The percentage of fish affected remains well below the action criteria.

Smolt Monitoring: The weekly average Passage Indices are shown in the following Tables:

Project	June 125-21	June 22-28	June 29-July 5	July 6-12
Yearling Chinook-Hatchery				
LGR	153	344	282	364
LGS	79	88	68	87
LMN	50	19	10	2
Yearling Chinook-Hatchery/Wild Combined				
RIS	12	7	12	15
MCN	1232	1792	7434	269
JDA	726	238	326	0
BO1	116	18	9	15

Project	June 15-21	June 22-28	June 29-July 5	July 6-12
Wild Yearling Chinook				
LGR	242	333	372	452
LGS	134	132	138	322
LMN	100	24	9	4
Wild Subyearling Chinook				
LGR	233	592	780	3866
LGS	79	222	381	785
LMN	199	174	214	361
Hatchery Subyearling Chinook				
LGR	9	3	0	0
LGS	2	28	15	2
LMN	23	15	6	4
Combined Subyearling Chinook				
RIS	192	351	296	261
MCN	176,688	240,337	371,185	361,743
JDA	33,269	62,110	58,920	15,278
BO1	28,582	10,384	6,000	8,548
All Coho				
LGR	221	108	174	582
LGS	102	52	53	113
LMN	124	26	18	7
RIS	102	27	6	4
MCN	480	226	162	30
JDA	386	29	0	0
BO1	590	100	46	255
Hatchery Steelhead				
LGR	2,888	1,544	1,262	682
LGS	1,057	388	372	404
LMN	508	250	176	79
RIS	2	1	0	0
MCN	112	44	0	0
JDA	288	98	28	0
BO1	81	3	2	0
Wild Steelhead				
LGR	273	70	58	18
LGS	104	36	21	11
LMN	82	36	17	12
RIS	12	5	3	1
MCN	69	0	19	0
JDA	114	14	0	0
BO1	135	12	0	0
Hatchery Sockeye				
LGR	105	64	27	17
LGS	159	51	29	29
LMN	117	34	9	8
RIS	5	2	0	0
MCN	227	44	42	33

JDA	62	0	0	0
BO1	5	5	18	223
Wild Sockeye				
LGR	0	0	0	0
LGS	5	0	1	0
LMN	6	1	0	0
RIS	0	3	0	1
MCN	412	202	80	0
JDA	117	61	0	0
BO1	20	9	20	18

Adult Fish Passage: The cumulative count at Bonneville Dam through July 9 was 15,954 about 69% of the 1997 and 99.9% of the 10- year average. The count of summer chinook at McNary Dam was 11,642, about 75% and 103% of the respective 1997 and 10-year average. The turnoff into the Snake River totaled 5,093, 60% and 125% of the 1997 and 10-year average at the project. The cumulative count of summer chinook at Priest Rapids Dam was 7,374, greater than the 1997 and 10-year average.

The steelhead run at Bonneville Dam was 15,964 and remains below either the 1997 or the 10-year average to date.

The sockeye cumulative run is 10,695, 28% and 25% of the 1997 and 10-year average count, respectively through July 9. Most of these are migrating to mid Columbia. To date, one sockeye migrating to Red Fish Lake was detected at Lower Granite Dam.

Hatchery Releases: Columbia Basin hatcheries completed release of subyearling summer and fall chinook for the year. The number of approximate number of hatchery fish released by River Reach is in Table below:

SNAKE RIVER	MID COLUMBIA	LOWER COLUMBIA
83,000	13,773,000	24,496,948