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United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

# Washington Basin Outlook Report April 1, 1995



# Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

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*For more water supply and resource management information, contact:*

Local Natural Resources Conservation Service Field Office

or

Scott Pattee

Acting Water Supply Specialist

Natural Resources Conservation Service

W. 316 Boone Ave., Suite 450

Spokane, WA 99201-2348

(509) 353-2341

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## *How forecasts are made*

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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# Washington Water Supply Outlook

APRIL 1995

## General Outlook

On average, March temperatures were near normal with only slight variations across the state. National Weather Service climate stations indicated much above average precipitation for Eastern Washington and near average for Western Washington. SNOTEL showed near normal snow accumulations in March. On average most SNOTEL sites will hit their peak within the next month. Some low elevation sites are showing normal decreases in accumulated snowpack. As of April 10 no sites have completely melted out.

## Snowpack

The April 1 statewide SNOTEL reading showed that the snowpack is 110% of average, down slightly from the March 1 reading of 112%. The Spokane-Pend Oreille River Basins remain below average with only 72% of normal snowpack, 10% less than last month. The east slope of the Cascade Mountains remains strong with 163% of normal along the Entiat River, 140% on the Methow, 125% of average for Chelan Lake Basin, and 115% for the Wenatchee Basin. The Yakima River Basin is near normal at 109% of average. Westside averages vary greatly with a high of 120% of average on the White River Basin to as low as 24% of average in the lower elevations of the Cedar River. Snow measurement points within the Olympic Mountain River Basins stayed about the same with 59% on the Elwha River, 96% for Morse Creek, 69% for the Dungeness and 111% of average for the Quilcene. High reading in the state was at Salmon Meadows SNOTEL near Conconully with 171% normal snowpack. Low reading for established SNOTEL sites was at the Cougar Mountain SNOTEL near Howard Hanson Reservoir, with only 18% of normal.

BASIN	PERCENT OF LAST YEAR	PERCENT OF AVERAGE
Spokane.....	120.....	72
Colville.....	148.....	120
Pend Oreille.....	117.....	79
Okanogan.....	137.....	104
Methow.....	190.....	140
Wenatchee.....	137.....	115
Chelan.....	167.....	125
Yakima.....	130.....	109
Walla Walla.....	120.....	99
Cowlitz.....	116.....	99
Lewis.....	106.....	96
White.....	137.....	120
Green.....	107.....	69
North Puget Sound.....	140.....	100
Olympic Peninsula.....	120.....	92

## Precipitation

Reports from National Weather Service stations showed much of Eastern Washington to be greater than 150% of normal precipitation for March. Western Washington had near normal precipitation. Accumulated precipitation from October 1, 1994 remains above average for most of Eastern Washington with some central locations much above average. Most of the Westside is closer to normal. Year-to-date precipitation ranges from 141% of normal in the Wenatchee-Chelan River Basins, to 103% in the Olympic Peninsula River Basins. March basin reports range from 161% of normal in the Okanogan - Methow River Basin to only 76% of average in the White - Green - Cedar. SNOTEL sites in Washington showed high elevation water year precipitation values to be 122% of average on April 10. Maximum reportable precipitation was again at the June Lake SNOTEL site near Mount St. Helens, with 162.5 inches since October 1. This puts June Lake at 95% of the normal March accumulation and 137% of average for the year.

BASIN	MARCH PERCENT OF AVERAGE	WATER YEAR PERCENT OF AVERAGE
Spokane.....	132.....	113
Colville-Pend Oreille.....	144.....	118
Okanogan-Methow.....	161.....	130
Wenatchee-Chelan.....	112.....	141
Yakima.....	90.....	123
Walla Walla.....	92.....	126
Cowlitz-Lewis.....	109.....	122
White-Green-Cedar.....	76.....	107
North Puget Sound.....	93.....	111
Olympic Peninsula.....	91.....	103

## Reservoir

Overall storage is looking very good across the state. Only a few reservoirs remain below average. Reservoir storage in the Yakima Basin was 680,100 acre feet, 92% of normal and 229% of last year. Storage at other reservoirs included Roosevelt and Banks at 185% of average, and the Okanogan reservoirs at 105% of normal for April 1. The power generation reservoirs include the following: Coeur d'Alene Lake, 201,500 acre feet, or 118% of normal; Chelan Lake, 270,400 acre feet, 127% of average and 40% of capacity, and Ross Lake at 213% of average and 45% of capacity.

BASIN	PERCENT OF CAPACITY	PERCENT OF AVERAGE
Spokane.....	84.....	118
Colville-Pend Oreille.....	67.....	185
Okanogan-Methow.....	67.....	105
Wenatchee-Chelan.....	40.....	127
Yakima.....	64.....	92
North Puget Sound.....	45.....	213

*For more information contact your local Natural Resources Conservation Service office.*

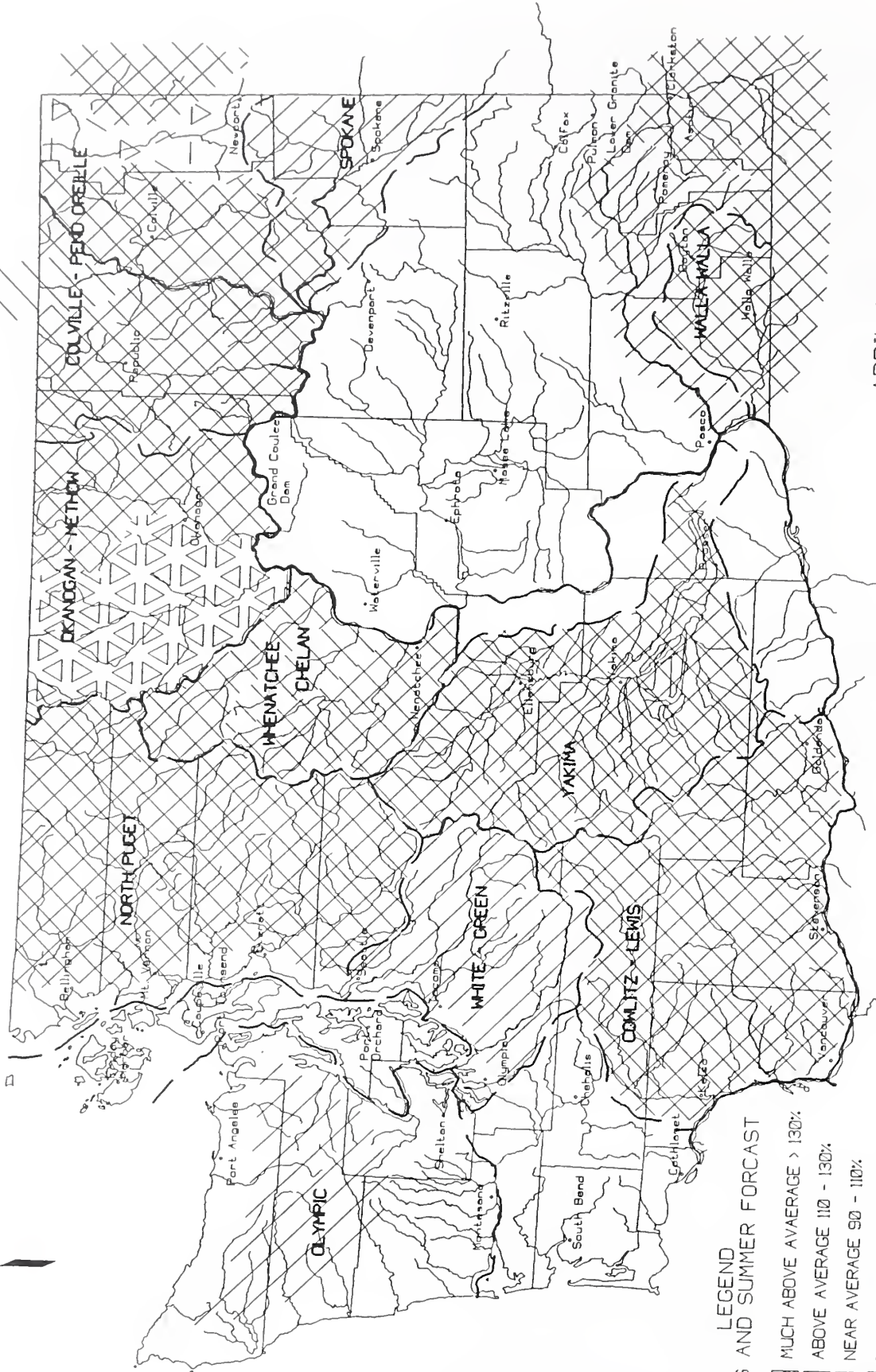
## Streamflow

Forecasted flows for April - September vary greatly across the state. A high of 137% of average for Salmon Creek near Conconully to a low of 66% of normal for the Pend Oreille River can be expected. April forecasts for some Western Washington streams include: Cedar River at Cedar Falls, 83%; Green River, 74%; and the Dungeness River, 87%, all holding close to the same as last month. Some Eastern Washington streams include Mill Creek at Walla Walla, 99%; the Wenatchee River at Peshastin, 100%; and the Colville River, 106%. March streamflows remained high throughout the state. The Kettle River at Laurier had the highest March flows with 226% of average, and the Lewis River at Ariel with 95% of normal was the lowest in the state. Other streamflows were the following percentage of normal: the Cowlitz River, 110%; the Okanogan River, 156%; the Spokane River, 150%; the Columbia at the Canadian border, 134%, the Skagit near Concrete, 124% and the Yakima River at Kiona, 150%. No flooding was reported this month.

### BASIN

### PERCENT OF AVERAGE MOST PROBABLE FORECAST (50 PERCENT CHANCE OF EXCEEDANCE)

Spokane.....	71-73
Colville-Pend Oreille.....	66-112
Okanogan-Methow.....	102-137
Wenatchee-Chelan.....	92-120
Yakima.....	90-109
Walla Walla.....	92-99
Cowlitz-Lewis.....	92-107
White-Green-Cedar.....	74-92
North Puget Sound.....	98-109
Olympic Peninsula.....	86-87



LEGEND  
SPRING AND SUMMER FORECAST

- MUCH ABOVE AVERAGE > 130%
- ABOVE AVERAGE 110 - 130%
- NEAR AVERAGE 90 - 110%
- BELOW AVERAGE 70 - 90%
- MUCH BELOW AVERAGE < 70%
- NOT FORECAST
- WATERSHED BOUNDARY

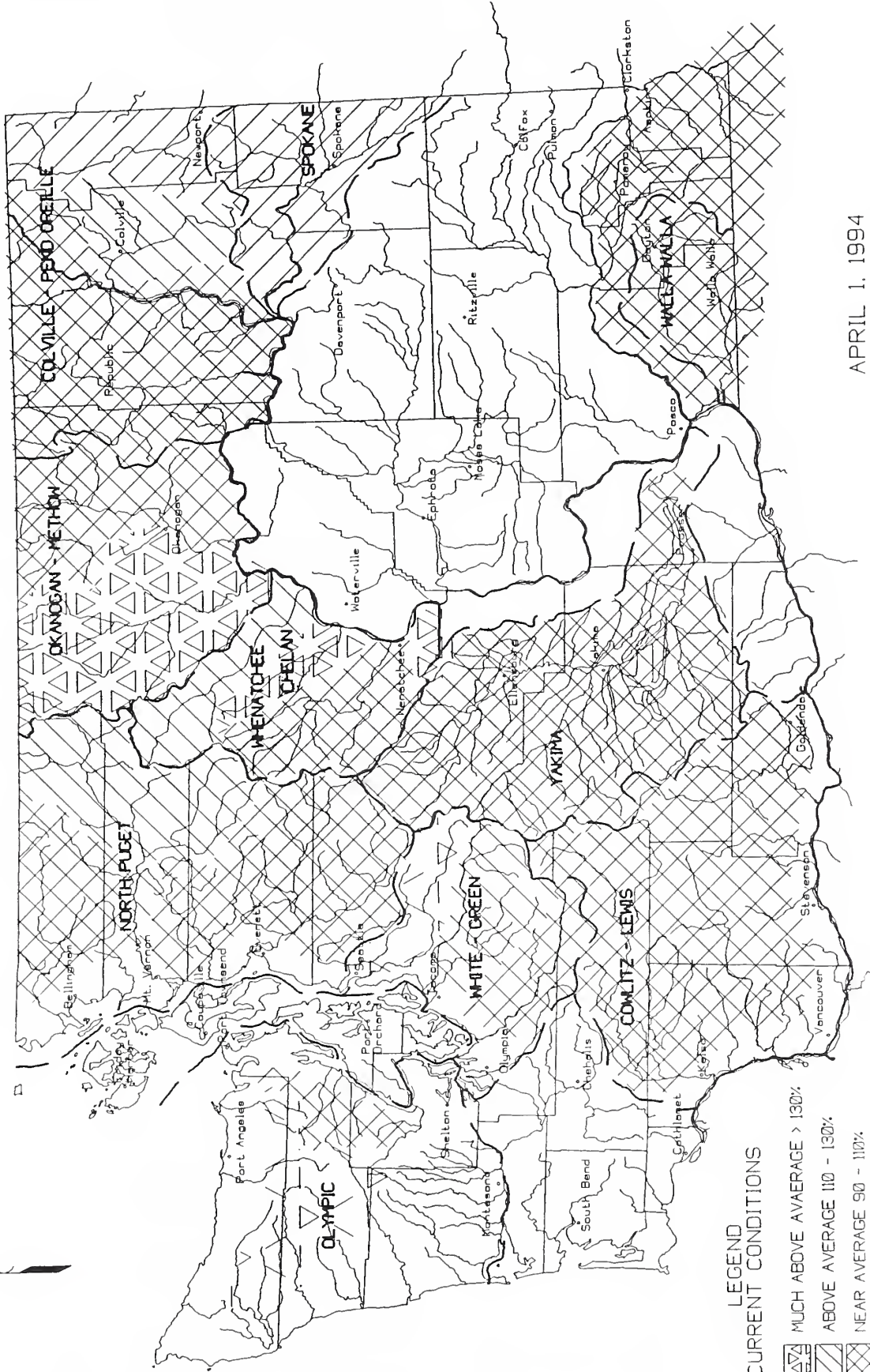
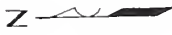
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STREAMFLOW PROSPECTS  
WASHINGTON








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LEGEND  
CURRENT CONDITIONS

-  MUCH ABOVE AVERAGE > 130%
-  ABOVE AVERAGE 110 - 130%
-  NEAR AVERAGE 90 - 110%
-  BELOW AVERAGE 70 - 90%
-  MUCH BELOW AVERAGE < 70%
-  NOT FORECASTED
-  WATERSHED BOUNDARY

APRIL 1, 1994

# MOUNTAIN SNOWPACK WASHINGTON

U.S. DEPARTMENT OF AGRICULTURE  
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# BASIN SUMMARY OF SNOW COURSE DATA

APRIL 1995

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
PEND OREILLE RIVER							MINERS RIDGE PILLOW 6200 4/01/95 --- 55.6S 40.7 52.2						
BENTON MEADOW	2370	3/31/95	0	.0	1.2	3.8	PARK CREEK RIDGE	4600	3/27/95	122	52.9	34.9	43.1
BENTON SPRING	4920	3/31/95	38	15.4	12.6	18.6	PARK CK RIDGE PILLOW	4600	4/01/95	---	40.0S	24.6	41.6
BOYER MOUNTAIN	5250	3/30/95	69	26.2	18.6	25.7	RAINY PASS	4780	3/31/95	107	42.4	31.0	39.3
BUNCHGRASS MEADOWS	5000	3/27/95	80	26.7	25.2	29.5	RAINY PASS PILLOW	4780	4/01/95	---	52.6S	31.1	38.0
BUNCHGRASS MDWPILLOW	5000	4/01/95	---	32.0	24.3	26.6	ENTIAT RIVER						
CHEWALAH	4930	3/30/95	54	20.0	14.4	16.1	BRIEF	1600	3/30/95	12	4.7	.0	2.5
HEART LAKE TRAIL	4800	3/28/95	39	13.1	13.8	21.6	POPE RIDGE PILLOW	3540	4/01/95	---	25.0S	12.2	15.7
HOODOO BASIN	6050	3/28/95	106	39.9	30.4	51.0	WENATCHEE RIVER						
HOODOO CREEK	5900	3/28/95	87	32.2	25.2	46.3	BERNE-MILL CREEK (d)	3170	3/30/95	76	30.1	27.5	27.2
LOOKOUT PILLOW	5140	4/01/95	---	25.2	21.4	33.4	BLEWETT PASS #2	4270	3/27/95	37	13.6	10.3	15.1
NELSON CAN.	3100	3/29/95	43	16.2	16.1	15.5	BLEWETT PASS#2PILLOW	4270	4/01/95	---	18.6S	12.7	17.8
KETTLE RIVER							CHIWAUKUM G.S.	2500	3/30/95	41	13.4	11.2	8.9
BARNES CREEK CAN.	5300	3/28/95	56	19.2	22.1	20.6	FISH LAKE PILLOW	3370	4/01/95	---	35.0S	28.8	31.9
BIG WHITE MTN CAN.	5510	4/01/95	62	23.3	17.6	19.4	LYMAN LAKE	5900	3/27/95	167	69.3	45.9	58.7
BUTTE CREEK	4070	3/28/95	28	8.7	5.7	9.0	LYMAN LAKE PILLOW	5900	4/01/95	---	75.1S	45.8	56.9
CARMI CAN.	4100	4/01/95	16	5.7	4.7	6.4	MERRITT	2140	3/30/95	40	15.3	7.0	12.8
FARRON CAN.	4000	3/27/95	37	13.3	11.2	13.9	MINERS RIDGE	5000	3/31/95	56	20.1	13.9	16.5
GOAT CREEK	3600	3/28/95	13	4.2	.9	4.3	STEVENS PASS PILLOW	4070	4/01/95	---	46.4S	39.6	42.3
GRAYSTOKE LAKE CAN.	5940	4/04/95	41	13.9	13.5	17.6	STEVENS PASS SAND SD	3700	3/30/95	75	32.6	25.6	33.7
MONASHEE PASS CAN.	4500	3/28/95	36	13.3	11.2	14.0	TROUGH #2 PILLOW	5310	4/01/95	---	15.1S	7.0	9.7
SUMMIT G.S.	4600	3/28/95	30	8.9	4.9	8.1	UPPER WHEELER	4400	3/29/95	12	4.8	.9	7.8
TRAPPING CK LOW CAN.	3050	4/01/95	6	1.7	3.9	3.5	UPPER WHEELER PILLOW	4400	4/01/95	---	17.2S	10.0	13.6
TRAPPING CK UP CAN.	4460	4/1/95	16	6.0	7.8	9.8	SQUILCHUCK CREEK						
COLVILLE RIVER							STEMILT CREEK						
BAIRD #2	3220	3/27/95	24	8.5	6.9	--	STEMILT SLIDE	5000	3/29/95	37	13.8	9.0	12.8
STRANGER MOUNTAIN	4230	3/28/95	40	14.1	9.9	12.2	UPPER WHEELER	4400	3/29/95	12	4.8	.9	7.8
TOGO	3370	4/01/95	---	12.9E	7.5	10.8	UPPER WHEELER PILLOW	4400	4/01/95	---	17.2S	10.0	13.6
OMAK LAKE, TWIN LAKES							COLOCKUM CREEK						
MOSES MOUNTAIN (1)	4800	3/29/95	51	18.0	12.0	13.5	TROUGH #2 PILLOW	5310	4/01/95	---	15.1S	7.0	9.7
MOSES MTN PILLOW	4800	4/01/95	---	26.6S	7.9	15.5	YAKIMA RIVER						
MOSES MEADOWS (3)	3800	3/29/95	0	.0	.0	--	BIG BOULDER CREEK	3200	4/01/95	---	19.2E	16.6	17.8
MOSES PEAK (2)	6650	3/29/95	89	15.6	12.0	5.7	BLEWETT PASS #2	4270	3/27/95	37	13.6	10.3	15.1
MOUNT TOLMAN	2000	3/28/95	0	.0	.0	--	BLEWETT PASS#2PILLOW	4270	4/01/95	---	18.6S	12.7	17.8
TWIN LAKES	2700	3/28/95	15	3.7	.0	5.2	BUMPING LAKE	3450	3/29/95	42	16.0	11.2	14.2
SPOKANE RIVER							BUMPING LAKE (NEW)						
FOURTH OF JULY SUM	3200	3/27/95	0	.0	.0	6.8	BUMPING RIDGE PILLOW	4600	4/01/95	---	25.4S	23.5	21.2
LOST LAKE (d)	6110	4/01/95	---	46.0E	31.5	57.0	CAYUSE PASS	5300	4/01/95	---	89.0E	75.8	82.4
MOSQUITO RDG PILLOW	5200	4/01/95	---	32.5	24.0	37.3	COLOCKUM PASS	5370	3/27/95	57	21.0	12.6	16.5
SUNSET	5540	3/30/95	42	15.3	15.9	31.8	CORRAL PASS PILLOW	6000	4/01/95	---	34.6S	26.6	32.6
SUNSET PILLOW	5540	4/01/95	---	20.8	20.5	37.6	FISH LAKE	3370	3/29/95	78	33.7	28.3	31.4
LOOKOUT PILLOW	5140	4/01/95	---	25.2	21.4	33.4	FISH LAKE PILLOW	3370	4/01/95	---	35.0S	28.8	31.9
NEWMAN LAKE							GREEN LAKE						
QUARTZ PEAK PILLOW	4700	4/01/95	---	23.9	16.2	21.9	GREEN LAKE PILLOW	6000	4/01/95	---	26.6S	18.3	20.7
RAGGED RIDGE	3330	3/27/95	0	.0	.0	3.5	GROUSE CAMP PILLOW	5380	4/01/95	---	24.3S	15.5	19.8
OKANOGAN RIVER							DOMMERIE FLATS						
ABERDEEN LAKE CAN.	4300	3/31/95	13	4.6	4.3	6.1	2200	3/30/95	1	.5	--	4.3	
BLACKWALL PEAK CAN.	6370	4/01/95	---	33.7	--	33.8	LOST HORSE PILLOW	5000	4/01/95	---	20.4S	16.0	26.4
BRENDA MINE CAN.	4800	3/28/95	42	12.9	8.4	13.0	MORSE LAKE PILLOW	5400	4/01/95	---	71.5S	39.9	47.2
BROOKMERE CAN.	3200	3/29/95	24	7.3	3.6	8.6	OLALLIE MDWS PILLOW	3960	4/01/95	---	43.0S	39.7	53.5
ENDERBY CAN.	6200	3/31/95	95	35.8	37.8	38.6	OLALLIE MEADOWS	3630	3/29/95	45	24.2	28.7	44.8
ESPERON CK. UP CAN.	5410	3/31/95	56	18.8	15.2	18.7	SASSE RIDGE PILLOW	4200	4/01/95	---	40.0S	30.0	32.1
ESPERON CK. MID CAN.	4690	3/31/95	48	16.3	13.1	15.5	STAMPEDE PASS PILLOW	3860	4/01/95	---	49.9S	36.5	44.4
FREEZEOUT CK. TRAIL	3500	3/30/95	27	9.3	6.8	11.5	TUNNEL AVENUE	2450	3/28/95	50	21.3	16.4	20.8
GREYBACK RES CAN.	5120	3/29/95	33	10.1	8.0	9.1	WHITE PASS ES PILLOW	4500	4/01/95	---	25.5S	20.7	22.9
HAMILTON HILL CAN.	4890	4/01/95	32	11.4	9.3	15.1	AHTANUM CREEK						
HARTS PASS	6500	3/31/95	119	46.9	30.7	42.6	GREEN LAKE	6000	4/01/95	---	43.6E	30.0	33.9
HARTS PASS PILLOW	6500	4/01/95	---	53.2S	30.3	41.3	GREEN LAKE PILLOW	6000	4/01/95	---	26.6S	18.3	20.7
ISINTOK LAKE CAN.	5500	3/30/95	27	7.7	3.7	7.6	LOST HORSE PILLOW	5000	4/01/95	---	20.4S	16.0	26.4
LIGHTNING LAKE CAN.	4000	4/01/95	33	11.2	6.1	12.7	MILL CREEK						
LOST HORSE MTN CAN.	6300	3/30/95	37	9.9	--	9.5	HIGH RIDGE PILLOW	4980	4/01/95	---	23.6S	20.8	24.4
MCCULLOCH CAN.	4200	3/30/95	17	2.8	4.7	6.7	TOUCHET #2 PILLOW	5530	4/01/95	---	32.3	25.9	31.9
MISSEZULA MTN CAN.	5090	3/31/95	31	10.0	5.7	9.4	LEWIS - COWLITZ RIVERS						
MISSION CREEK CAN.	5800	4/01/95	---	18.1	18.9	20.4	CAYUSE PASS	5300	4/01/95	---	89.0E	75.8	82.4
MONASHEE PASS CAN.	4500	3/28/95	36	13.3	11.2	14.0	JUNE LAKE PILLOW	3200	4/01/95	---	31.0S	28.7	36.3
MT. KOBAU CAN.	5900	3/30/95	59	17.7	9.6	12.9	LONE PINE PILLOW	3800	4/01/95	---	31.5S	28.9	32.1
MUTTON CREEK #1	5700	3/30/95	60	21.5	11.2	13.2	PARADISE PARK PILLOW	5500	4/01/95	---	72.5S	57.7	62.1
OYAMA LAKE CAN.	4400	3/30/95	23	6.9	6.4	7.0	PIGTAILED PEAK PILLOW	5900	4/01/95	---	47.5S	37.6	49.3
POSTILL LAKE CAN.	4500	3/31/95	28	9.3	8.0	9.0	POTATO HILL PILLOW	4500	4/01/95	---	23.2S	22.0	25.3
RUSTY CREEK	4000	3/30/95	22	6.9	2.4	5.9	SHEEP CANYON PILLOW	4050	4/01/95	---	22.3S	30.1	39.8
SALMON MDWS PILLOW	4500	4/01/95	---	16.1S	7.5	9.4	SPENCER MDW PILLOW	3400	4/01/95	---	28.1S	29.5	29.6
SILVER STAR MTN CAN.	6000	3/31/95	78	30.7	29.1	29.2	SPIRIT LAKE PILLOW	3100	4/01/95	---	3.8S	.8	3.6
SUMMERLAND RES CAN.	4200	3/29/95	30	9.6	4.3	9.5	SURPRISE LKS PILLOW	4250	4/01/95	---	45.3S	41.5	44.2
SUNDAY SUMMIT CAN.	4300	4/01/95	5	1.5	.7	4.7	WHITE PASS ES PILLOW	4500	4/01/95	---	25.5S	20.7	22.9
TROUT CREEK CAN.	4690	3/30/95	21	7.0	2.9	7.2	WHITE RIVER						
VASEUX CREEK CAN.	4600	3/28/95	20	6.1	6.1	6.6	CAYUSE PASS	5300	4/01/95	---	89.0E	75.8	82.4
WHITE ROCKS MTN CAN.	6000	3/31/95	70	25.6	17.0	23.9	CORRAL PASS	6000	3/30/95	85	35.7	29.2	40.1
METHOW RIVER							CORRAL PASS PILLOW						
HARTS PASS	6500	3/31/95	119	46.9	30.7	42.6	6000	4/01/95	---	34.6S	26.6	32.6	
HARTS PASS PILLOW	6500	4/01/95	---	53.2S	30.3	41.3	MORSE LAKE PILLOW	5400	4/01/95	---	71.5S	39.9	47.2
MUTTON CREEK #1	5700	3/30/95	60	21.5	11.2	13.2	GREEN RIVER						
RUSTY CREEK	4000	3/30/95	22	6.9	2.4	5.9	COUGAR MTN. PILLOW	3200	4/01/95	---	5.0S	8.7	18.8
SALMON MDWS PILLOW	4500	4/01/95	---	16.1S	7.5	9.4	GRASS MOUNTAIN #2	2900	3/29/95	0	.0	.0	15.9
CHELAN LAKE BASIN							LESTER CREEK						
CLOUDY PASS AM	6500	3/27/95	155	64.3	30.2	42.1	3100	3/29/95	50	17.5	18.2	23.3	
LYMAN LAKE	5900	3/27/95	167	69.3	45.9	58.7	LYNN LAKE	4000	3/29/95	18	7.4	11.2	22.0
LYMAN LAKE PILLOW	5900	4/01/95	---	75.1S	45.8	56.9	SAMMILL RIDGE	4700	3/29/95	76	31.7	21.5	36.3
LITTLE MDWS AM	5280	3/27/95	142	58.9	38.7	44.0	STAMPEDE PASS PILLOW	3860	4/01/95	---	49.9S	36.5	44.4
							TWIN CAMP	4100	3/29/95	40	16.9	24.0	25.1
							CEDAR RIVER						
							CITY CABIN	2390	4/01/95	---	3.4E	.0	13.6



SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MT. GARDNER	3300	4/01/95	---	3.3E	7.0	14.1
MT. GARDNER PILLOW	2860	4/01/95	---	3.3S	9.1	14.0
TINKHAM CREEK PILLOW	3000	4/01/95	---	22.6S	22.5	19.9
MEADOWS PASS PILLOW	3240	4/01/95	---	67.0S	11.0	24.9
SNOQUALMIE RIVER						
ALPINE MEADOWS	3500	4/01/95	---	39.3E	31.0	43.7
OLALLIE MDWS PILLOW	3960	4/01/95	---	43.0S	39.7	53.5
OLALLIE MEADOWS	3630	3/29/95	45	24.2	28.7	44.8
SKYKOMISH RIVER						
STAMPEDE PASS PILLOW	3860	4/01/95	---	49.9S	36.5	44.4
STEVENS PASS PILLOW	4070	4/01/95	---	46.4S	39.6	42.3
STEVENS PASS SAND SD	3700	3/30/95	75	32.6	25.6	33.7
SKAGIT RIVER						
BEAVER CREEK TRAIL	2200	3/31/95	25	10.4	6.8	11.6
BEAVER PASS	3680	3/31/95	79	32.4	23.4	29.7
BROWN TOP AM	6000	3/30/95	164	66.2	50.4	59.6
CLOUDY PASS AM	6500	3/27/95	155	64.3	30.2	42.1
DEVILS PARK	5900	3/30/95	117	48.4	5.7	42.9
FREEZEOUT CK. TRAIL	3500	3/30/95	27	9.3	6.8	11.5
HARTS PASS	6500	3/31/95	119	46.9	30.7	42.6
HARTS PASS PILLOW	6500	4/01/95	---	53.2S	30.3	41.3
KLESILKWA CAN.	3710	3/28/95	11	4.8	2.9	12.4
LIGHTNING LAKE CAN.	4000	4/01/95	33	11.2	6.1	12.7
LYMAN LAKE	5900	3/27/95	167	69.3	45.9	58.7
LYMAN LAKE PILLOW	5900	4/01/95	---	75.1S	45.8	56.9

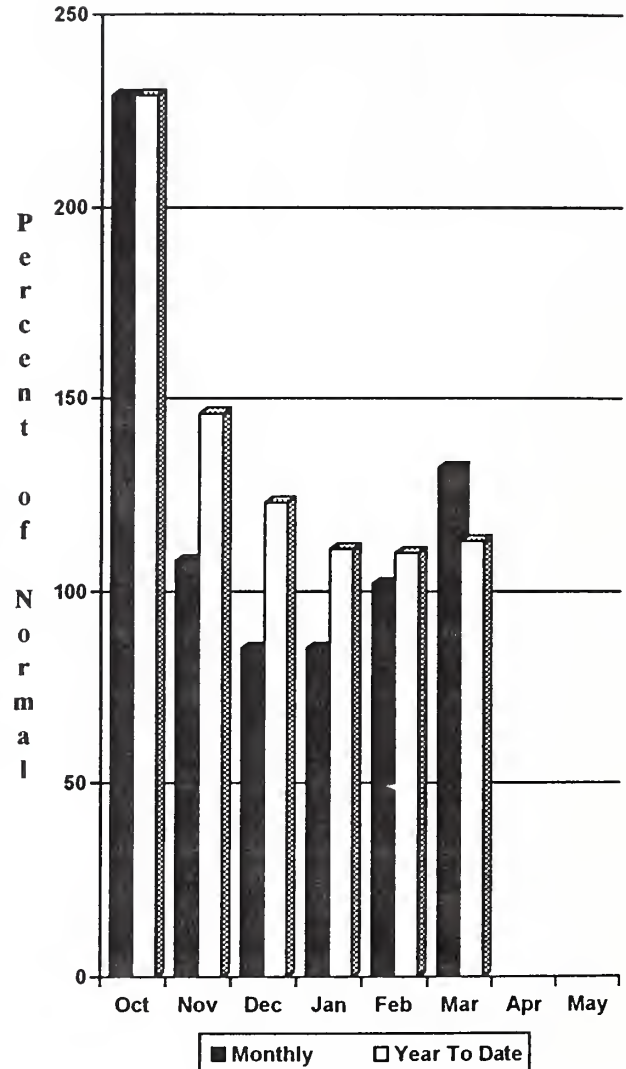
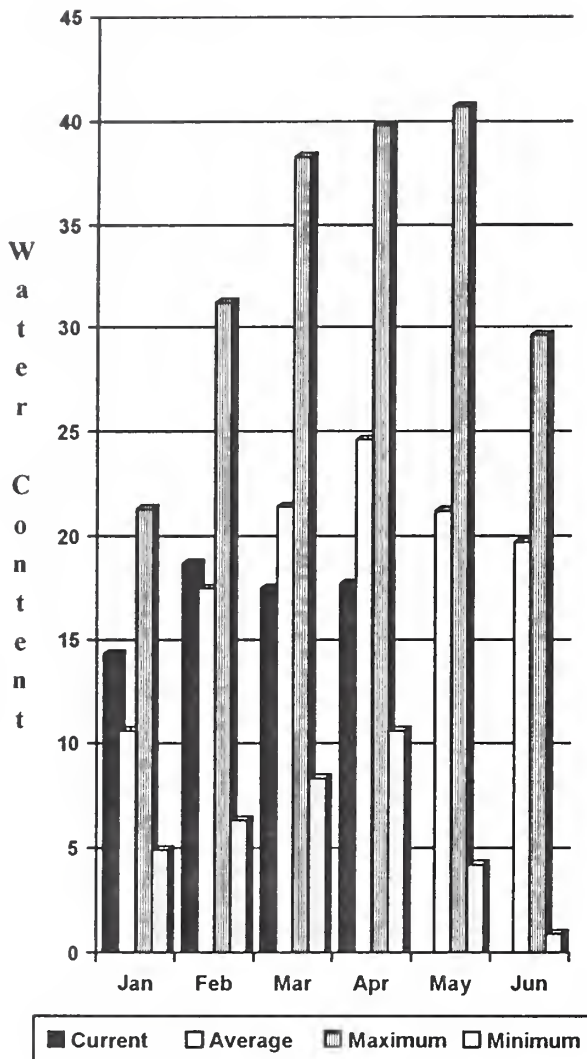
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
MEADOWS CABIN	1900	4/01/95	0	.0	.8	4.8
NEW HOZOMEEN LAKE	2800	3/30/95	14	6.2	20.0	10.4
RAINY PASS	4780	3/31/95	107	42.4	31.0	39.3
RAINY PASS PILLOW	4780	4/01/95	---	52.6S	31.1	38.0
THUNDER BASIN	4200	4/01/95	57	22.4	20.0	34.7
THUNDER BASIN PILLOW	4200	4/01/95	---	32.9S	27.0	--
BAKER RIVER						
DOCK BUTTE AM	3800	3/27/95	128	59.0	41.0	65.4
EASY PASS AM	5200	3/27/95	206	97.0	68.0	82.9
JASPER PASS AM	5400	3/27/95	210	94.0	61.6	86.0
MARTEN LAKE AM	3600	3/27/95	142	70.0	54.0	73.4
MT. BLUM AM	5800	3/27/95	158	71.0	50.4	63.1
ROCKY CREEK AM	2100	3/27/95	58	31.0	14.4	27.8
SCHREIBERS MDW AM	3400	3/27/95	100	49.0	39.4	58.8
SF THUNDER CK AM	2200	3/27/95	---	.00	.0	4.9
WATSON LAKES AM	4500	3/27/95	116	56.0	48.0	64.9
ELWHA RIVER						
HURRICANE	4500	3/30/95	35	13.0	14.8	22.1
MORSE CREEK						
COX VALLEY	4500	3/31/95	91	37.9	32.0	39.5
DUNGENESS RIVER						
DEER PARK	5200	3/29/95	36	14.4	13.0	20.9
QUILCENE RIVER						
MOUNT CRAG PILLOW	4050	4/01/95	---	35.0S	27.0	31.5
WYNOOCHEE RIVER						

(d) Denotes discontinued site.

# Spokane River Basin

Mountain Snowpack\* (inches)

Precipitation\* (% of normal)



\*Based on selected stations

The April 1 forecasts for summer runoff on the Spokane River at Long Lake are 73% of normal, down 10% from last month at this time. The forecast is based on a basin snowpack that is 72% of average and precipitation that is 113% of normal for the water year. Precipitation for March was 132% of average. Streamflow on the Spokane River was 150% of average for March. April 1 storage in Coeur d'Alene Lake was 201,500 acre feet, 118% of normal, and 84% of capacity. Temperatures in the basin were 1 degree above normal during March.

*For more information contact your local Natural Resources Conservation Service office.*

## SPOKANE RIVER BASIN

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	
SPOKANE near Post Falls (2)	APR-SEP	1310	1750	1930	71	2110	2570	2730
	APR-JUL	1410	1670	1850	70	2030	2290	2633
SPOKANE at Long Lake	APR-JUL	1640	1930	2122	72	2320	2610	2936
	APR-SEP	1810	2110	2315	73	2520	2820	3159

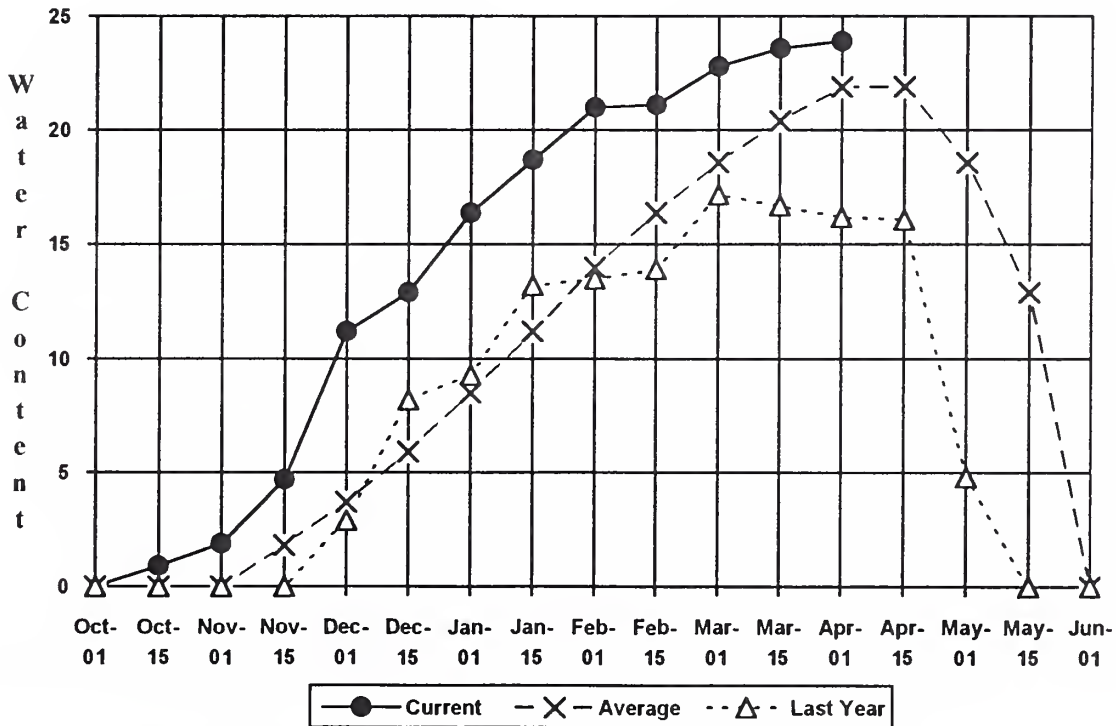
SPOKANE RIVER BASIN Reservoir Storage (1000 AF) - End of March					SPOKANE RIVER BASIN Watershed Snowpack Analysis - April 1, 1995			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
COEUR D'ALENE	238.5	201.5	105.5	170.1	Spokane River	20	120	72

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

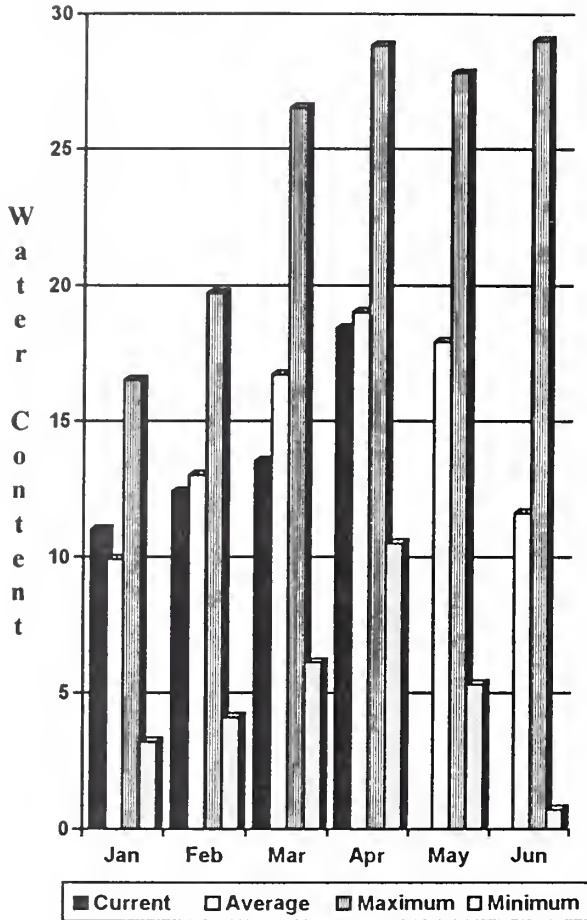
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

### Quartz Peak SNOTEL Elevation 4700 ft.

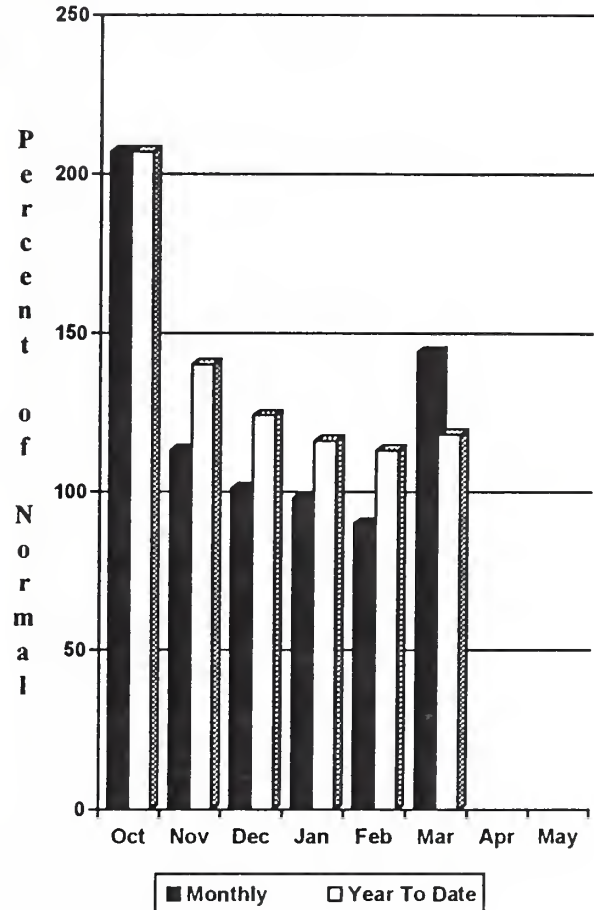


# Colville - Pend Oreille River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

The forecast for the Kettle River streamflow is for 112% of normal, the Pend Oreille below Box Canyon, 66%. The forecast for the Priest River near the town of Priest River is 91% of normal for the summer runoff period. Forecasts for points on the Columbia River, at Birchbank, are 97% and at Grand Coulee Dam, 89% of average. March streamflow was 143% of normal on the Pend Oreille River, 134% on the Columbia at the International Boundary, and 226% on the Kettle River. April 1 snow cover was 79% of normal for the Pend Oreille Basin, 120% of normal for the Colville River Basin and 93% of normal on the Kettle River. Snowpack at Bunchgrass Meadows SNOTEL site contained 32 inches of water, compared to the average April 1 reading of 27 inches. Precipitation during March was 144% of average, bringing the water year-to-date to 118% of normal. Temperatures were near normal for March.

*For more information contact your local Natural Resources Conservation Service office.*

# COLVILLE - PEND OREILLE RIVER BASINS

## Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)		
		90% (1000AF)		70% (1000AF)		Chance Of Exceeding * 50% (Most Probable) (% AVG.)			30% (1000AF) 10% (1000AF)	
PEND OREILLE Lake Inflow (1,2)	APR-JUL	6030	7850	8680	66	9510	11300	13150		
	APR-SEP	6580	8570	9480	66	10400	12400	14370		
	APR-JUN	5020	6740	7520	66	8300	10000	11390		
PRIEST nr Priest River (1,2)	APR-JUL	535	675	740	91	805	945	814		
	APR-SEP	570	720	790	91	860	1010	868		
PEND OREILLE b1 Box Canyon (1,2)	APR-JUL	6380	8050	8810	66	9570	11200	13380		
	APR-SEP	6960	8780	9610	66	10400	12300	14590		
	APR-JUN	5550	6990	7640	66	8290	9730	11570		
CHAMOKANE CK nr Long Lake	MAY-AUG	4.9	7.9	9.9	105	11.9	14.9	9.4		
COLVILLE at Kettle Falls	APR-SEP	91	119	139	106	158	186	131		
	APR-JUL	87	111	127	106	143	167	120		
	APR-JUN	84	105	120	108	135	156	111		
KETTLE near Laurier	APR-SEP	1630	1960	2080	112	2200	2480	1854		
	APR-JUL	1340	1490	1590	90	1690	1840	1761		
	APR-JUN	1520	1650	1742	110	1830	1960	1585		
COLUMBIA at Birchbank (1,2)	APR-JUL	29900	32800	34100	97	35400	38300	35140		
	APR-SEP	37200	40900	42500	97	44100	47800	43810		
	APR-JUN	21900	24000	24900	97	25800	27900	25670		
COLUMBIA at Grand Coulee Dm (1,2)	APR-SEP	49500	55300	58000	89	60700	66500	64850		
	APR-JUL	41100	46100	48300	89	50500	55500	54543		
	APR-JUN	32400	36300	38000	89	39700	43600	42756		

### COLVILLE - PEND OREILLE RIVER BASINS Reservoir Storage (1000 AF) - End of March

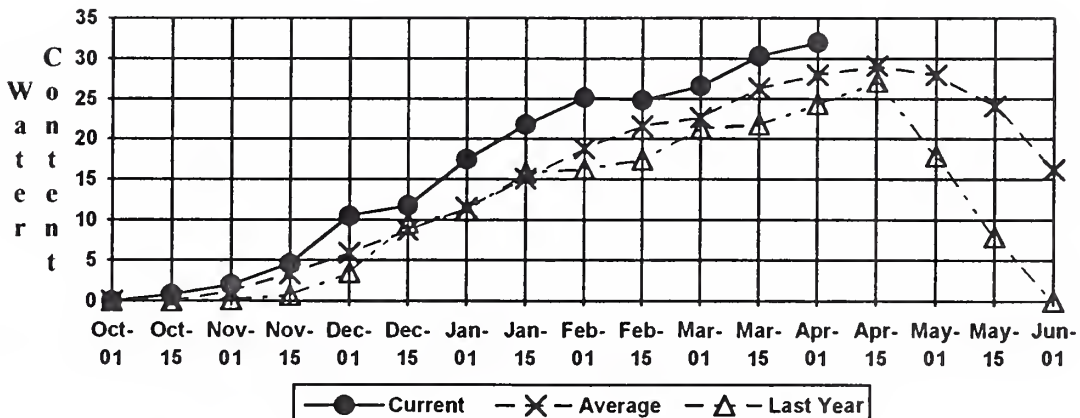
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROOSEVELT	5232.0	3313.7	3644.2	1586.0	Colville River	3	148	120
BANKS	715.0	688.2	665.5	583.0	Pend Oreille River	111	117	79
					Kettle River	11	114	93

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

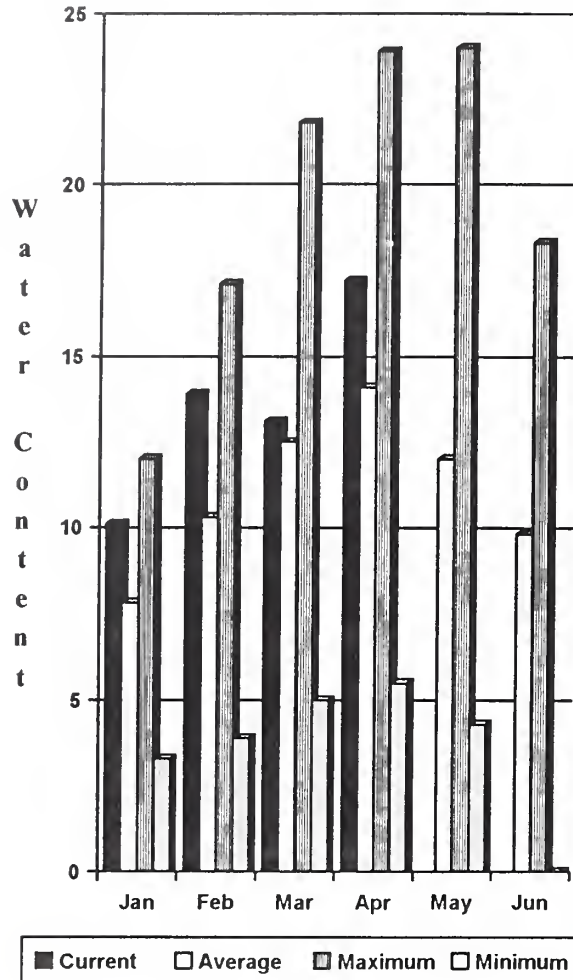
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

### Bunchgrass Meadow SNOTEL Elevation 5000 ft.

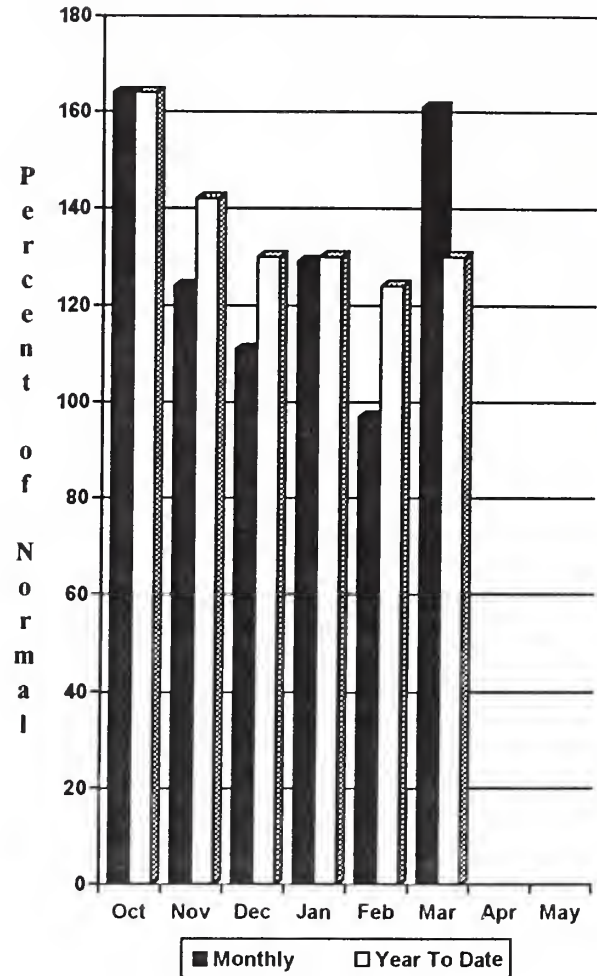


# Okanogon - Methow River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

Summer runoff forecast for the Okanogon River is 103% of normal; the Similkameen River, 102%, the Methow River, 131%; and Salmon Creek, 137% of normal. April 1 snow cover on the Okanogon was 104% of normal, and the Methow, 140%. March precipitation in the Okanogon-Methow was 161% of normal, with water year-to-date at 130% of average. March streamflow on the Methow River was 129% of normal, 156% on the Okanogon River, and 121% on the Similkameen. Snow water content at the Harts Pass SNOTEL, elevation 6500 feet, was 54 inches; normal for this site is 42.2 inches. Temperatures were near normal for March. Storage in the Salmon Creek Reservoirs near Conconully was 15,700 acre feet, which is 67% of capacity and 105% of the April 1 average.

For more information contact your local Natural Resources Conservation Service office.

## OKANOGAN - METHOW RIVER BASINS

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (% AVG.)		
SIMILKAMEEN nr Nighthawk (1)	APR-SEP	1060	1340	1430	102	1520	1800	1399
	APR-JUL	1050	1240	1330	102	1420	1610	1304
	APR-JUN	865	1050	1135	102	1220	1400	1113
OKANOGAN RIVER nr Tonasket (1)	APR-SEP	1100	1490	1670	103	1850	2220	1624
	APR-JUL	1010	1360	1525	104	1690	2040	1467
	APR-JUN	885	1160	1280	104	1400	1680	1234
SALMON CREEK near Conconully	APR-JUL	14.7	22	26	138	31	38	19.1
	APR-SEP	15.1	22	27	137	32	40	20
METHOW RIVER near Pateros	APR-SEP	1040	1180	1230	131	1280	1410	942
	APR-JUL	1080	1140	1180	135	1220	1280	873
	APR-JUN	910	970	1010	135	1050	1110	746

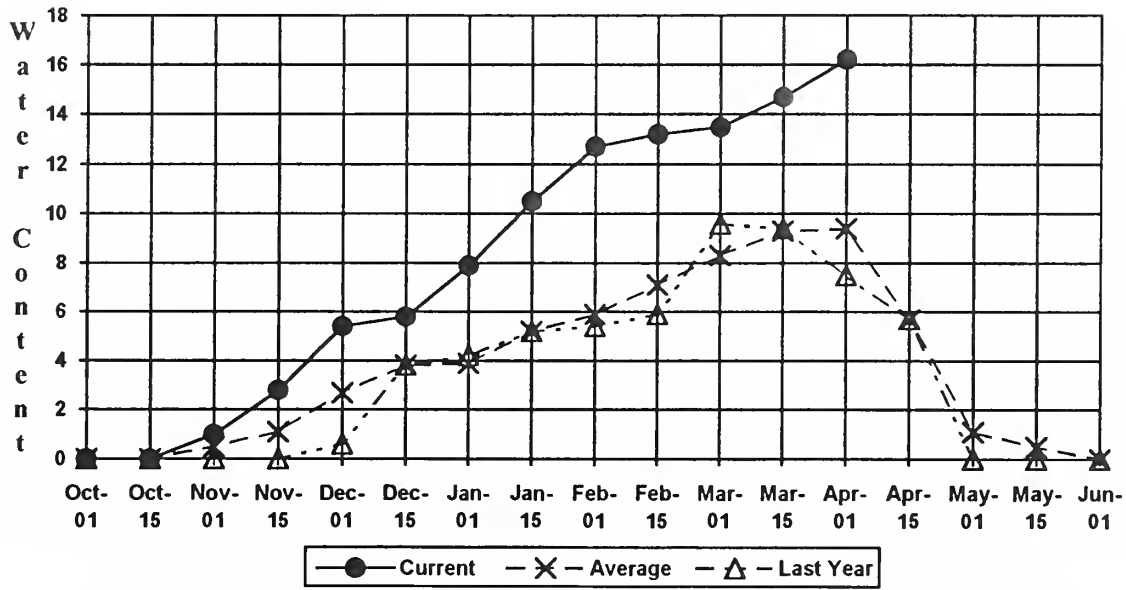
OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of March					OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - April 1, 1995			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SALMON LAKE	10.5	8.1	9.0	8.0	Okanogan River	28	137	104
CONCONULLY RESERVOIR	13.0	7.6	9.6	7.0	Methow River	4	190	140

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

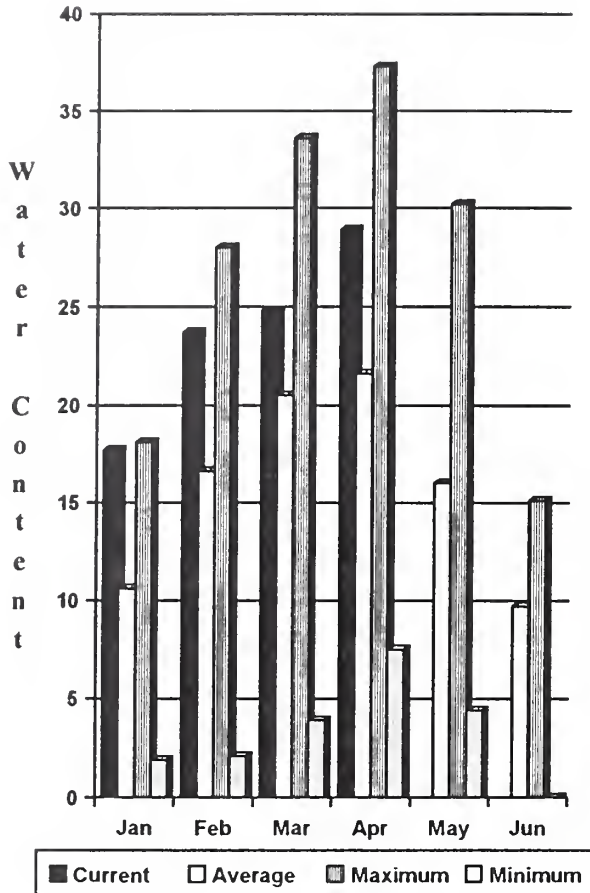
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

### Salmon Meadows SNOTEL Elevation 4500 ft.

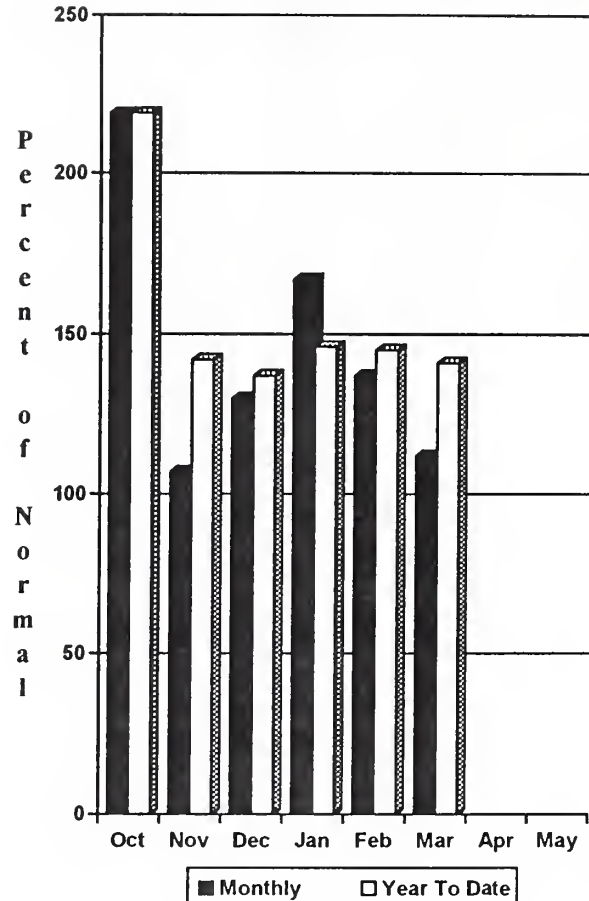


# Wenatchee - Chelan River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

Precipitation during March was 112% of normal in the basin and 141% for the year to date. Runoff for the Entiat River is forecast to be 120% of normal for the summer. The April-September forecast for the Chelan River is for 104%, near normal for the Wenatchee River, and 105% on the Stehekin. Icicle Creek is forecast to be 109% of normal this summer. Streamflow for March on the Chelan River was 148% of average, and on the Wenatchee River it was 156% of normal. April 1 snowpack in the Wenatchee Basin was 115% of average, which is 137% of last year. The Chelan Basin was 125% of average, and Stemilt Creek at 117% of normal. Snowpack on the Entiat River was at 163% of average. Reservoir storage in Lake Chelan was 270,400 acre feet or 127% of April 1 average and 40% of capacity. Lyman Lake SNOTEL had the most snow water in the basin with 75.1 inches of water. This site would normally have 56.9 inches.

*For more information contact your local Natural Resources Conservation Service office.*



## WENATCHEE - CHELAN RIVER BASINS

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	30% (1000AF)	10% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	
CHELAN RIVER near Chelan	APR-SEP	1070	1150	1210	104	1270	1350	1160
	APR-JUL	975	1050	1094	107	1140	1210	1024
	APR-JUN	745	815	861	106	910	980	812
STEHEKIN near STEHEKIN	APR-SEP	775	830	870	105	910	965	827
	APR-JUL	665	710	741	106	775	820	701
	APR-JUN	480	525	558	104	590	635	538
ENTIAT RIVER near Ardenvoir	APR-SEP	245	260	272	120	280	295	227
	APR-JUL	225	240	250	121	260	275	206
	APR-JUN	182	196	205	122	215	230	169
WENATCHEE at Plain	APR-SEP	1130	1220	1277	107	1330	1420	1190
	APR-JUL	1030	1100	1143	107	1190	1260	1072
	APR-JUN	845	900	939	109	975	1030	864
WENATCHEE R. at Peshastin	APR-SEP	1120	1430	1640	100	1850	2180	1636
	APR-JUL	1000	1280	1470	99	1660	1940	1485
	APR-JUN	830	1050	1205	100	1360	1580	1204
STEMILT nr Wenatchee (miners in)	MAY-SEP	106	132	150	109	168	194	138
	APR-SEP	290	360	405	109	455	525	370
	APR-JUL	270	335	377	111	420	485	340
COLUMBIA R. bl Rock Island Dam (2)	APR-SEP	55400	60900	64700	92	68500	74000	70485
	APR-JUL	46400	51100	54300	91	57500	62200	59736
	APR-JUN	36600	40300	42800	91	45300	49000	47007

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of March					WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - April 1, 1995			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CHELAN LAKE	676.1	270.4	109.4	212.1	Chelan Lake Basin	5	167	125
					Entiat River	2	243	163
					Wenatchee River	13	137	115
					Squilchuck Creek	0	0	0
					Stemilt Creek	2	163	117
					Colockum Creek	1	216	156

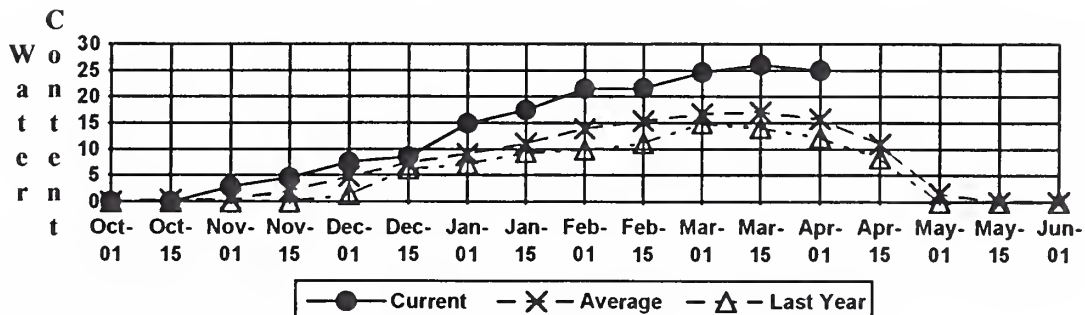
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

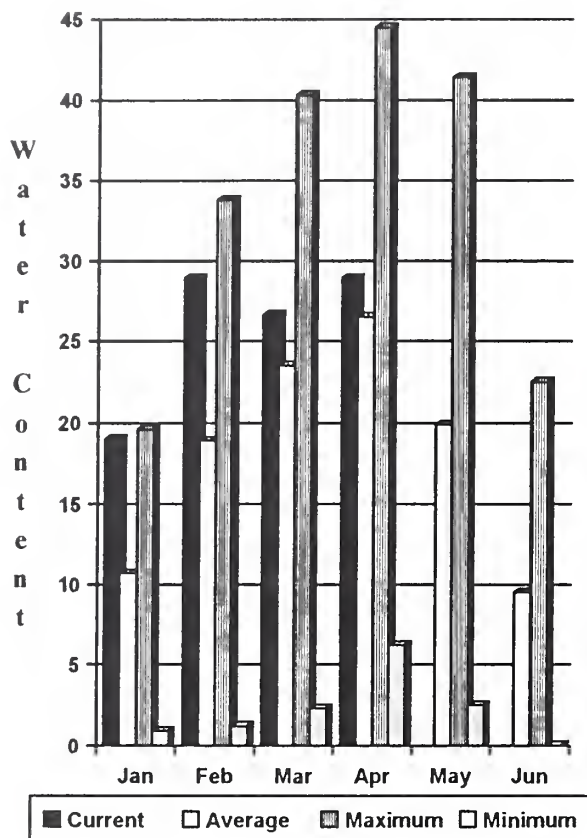
(2) - The value is natural flow - actual flow may be affected by upstream water management.

### Pope Ridge SNOTEL Elevation 3540 ft.

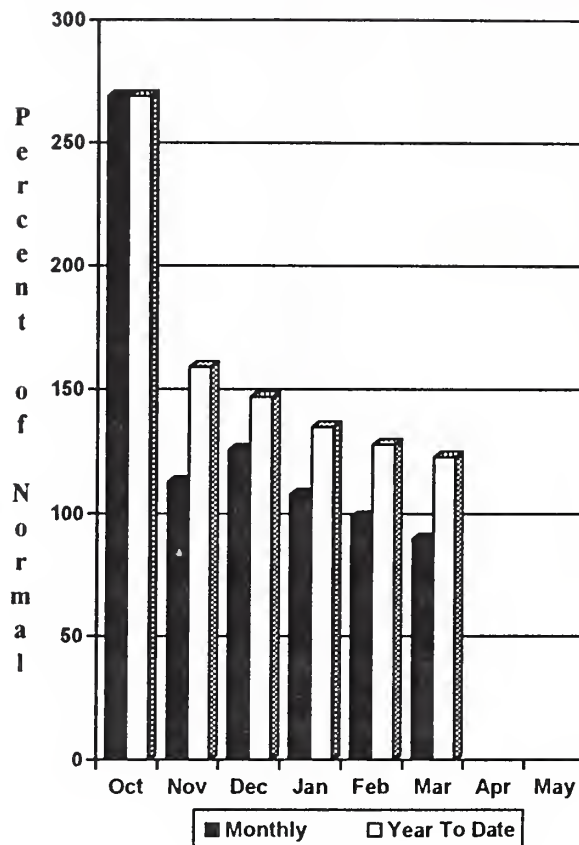


# Yakima River Basin

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

April 1 reservoir storage for the five major reservoirs was 680,100 acre feet, 92% of average and 64% of capacity. April 1 summer streamflow forecasts are for near normal in the Yakima Basin. Forecasts for the Yakima River at Cle Elum are for 90% of normal. Naches River, 107%; the Yakima River at Parker, 95%; Ahtanum Creek, 96%, and the Tieton River, 107%. The Klickitat River near Glenwood is forecast for 107% of normal flow this summer. March streamflows remained above normal with the Yakima River at Parker 152% of normal, 130% for the Yakima near Cle Elum, and 153% for the Naches River. April 1 snowpack was 109% based upon 21 snow course and SNOTEL readings within the Yakima Basin. Snow surveys also reported 129% of average snowpack for Ahtanum Creek. March precipitation was 90% of normal and 123% for the water year-to-date. Temperatures were average for March. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U.S. Bureau of Reclamation's forecast for the total water supply available, which includes irrigation return flow.

*For more information contact your local Natural Resources Conservation Service office.*

## YAKIMA RIVER BASIN

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions				Wetter		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
KEECHELUS LAKE INFLOW	APR-JUL	98	108	115	93	122	132	124
	APR-SEP	111	117	125	93	133	139	135
	APR-JUN	83	94	101	93	108	119	109
KACHESS LAKE INFLOW	APR-JUL	89	97	102	92	108	116	111
	APR-SEP	93	102	108	92	114	122	118
	APR-JUN	77	86	92	93	99	108	99
CLE ELUM LAKE INFLOW	APR-JUL	350	370	386	94	400	425	409
	APR-SEP	385	420	435	97	450	485	448
	APR-JUN	290	310	327	95	345	365	345
YAKIMA at Cle Elum	APR-JUN	575	620	651	90	685	730	721
	APR-JUL	680	720	750	90	780	820	832
	APR-SEP	725	790	820	90	850	905	915
BUMPING LAKE INFLOW	APR-SEP	120	141	146	108	152	171	136
	APR-JUL	121	129	134	108	139	146	124
	APR-JUN	94	103	109	105	116	125	104
AMERICAN RIVER near Nile	APR-SEP	117	124	129	109	134	142	118
	APR-JUL	107	114	119	109	123	130	109
	APR-JUN	84	93	98	107	104	113	92
RIMROCK LAKE INFLOW	APR-SEP	210	245	255	107	265	300	238
	APR-JUL	200	210	218	109	225	235	200
	APR-JUN	153	166	175	108	183	196	162
NACHES near Naches	APR-SEP	775	860	890	107	920	1020	832
	APR-JUL	745	790	818	108	845	890	755
	APR-JUN	630	680	709	109	740	785	651
AHTANUM CREEK nr Tampico (2)	APR-SEP	27	37	44	96	51	61	46
	APR-JUL	25	35	41	97	47	56	42
	APR-JUN	22	30	35	97	40	48	36
YAKIMA near Parker	APR-SEP	1600	1830	1900	95	1970	2190	1994
	APR-JUL	1600	1690	1750	97	1810	1900	1805
	APR-JUN	1410	1500	1565	98	1630	1720	1597
KLICKITAT near Glenwood	APR-JUN	109	118	124	113	130	139	110
	APR-SEP	128	141	150	107	159	172	140

YAKIMA RIVER BASIN					YAKIMA RIVER BASIN			
Reservoir Storage (1000 AF) - End of March					Watershed Snowpack Analysis - April 1, 1995			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
KEECHELUS	157.8	130.7	65.4	110.0	Yakima River	21	130	109
KACHESS	239.0	130.9	69.8	187.0	Ahtanum Creek	2	145	129
CLE ELUM	436.9	246.0	87.0	290.0				
BUMPING LAKE	33.7	8.1	13.8	11.0				
RIMROCK	198.0	164.4	61.2	142.0				

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

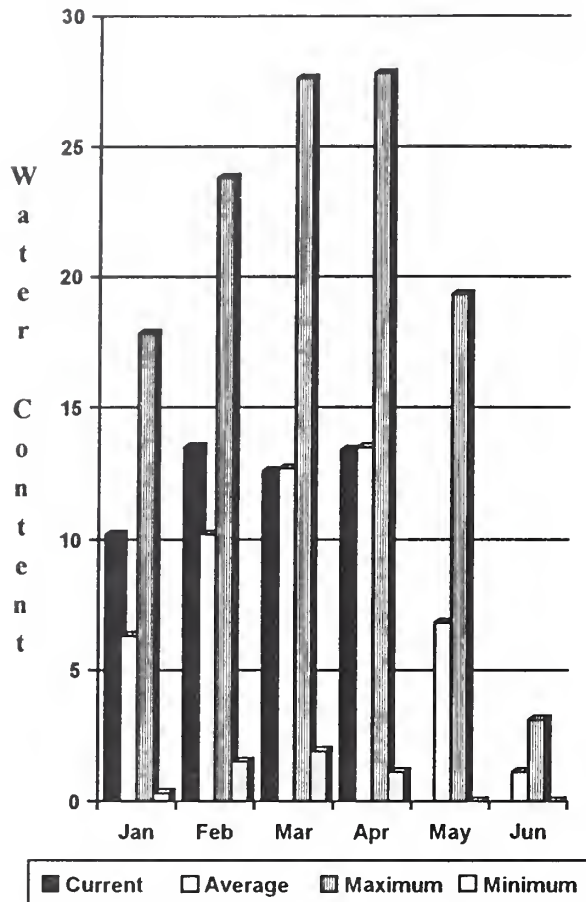
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

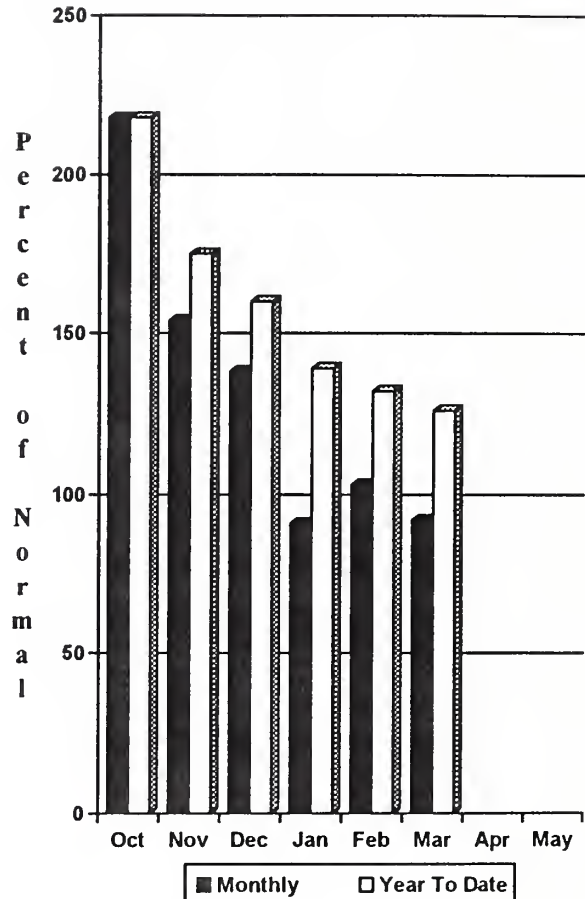
(2) - The value is natural flow - actual flow may be affected by upstream water management.

# Walla Walla River Basin

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

March precipitation was 92% of average, bringing the year-to-date precipitation to 126% of normal. April 1 snowpack was at 99% of normal. The forecast is for 92% of average streamflow in the Walla Walla River for the coming summer, 95% for the Grande Ronde at Troy, and 99% for Mill Creek. March streamflow was 174% of normal for the Walla Walla River, 104% for the Snake River, and 149% on the Grande Ronde River near Troy. The Touchet SNOTEL site had 32.3 inches of water equivalent, compared to the normal April 1 reading of 31.9 inches. Temperatures were average for March.

For more information contact your local Natural Resources Conservation Service office.

## WALLA WALLA RIVER BASIN

### Streamflow Forecasts - April 1, 1995

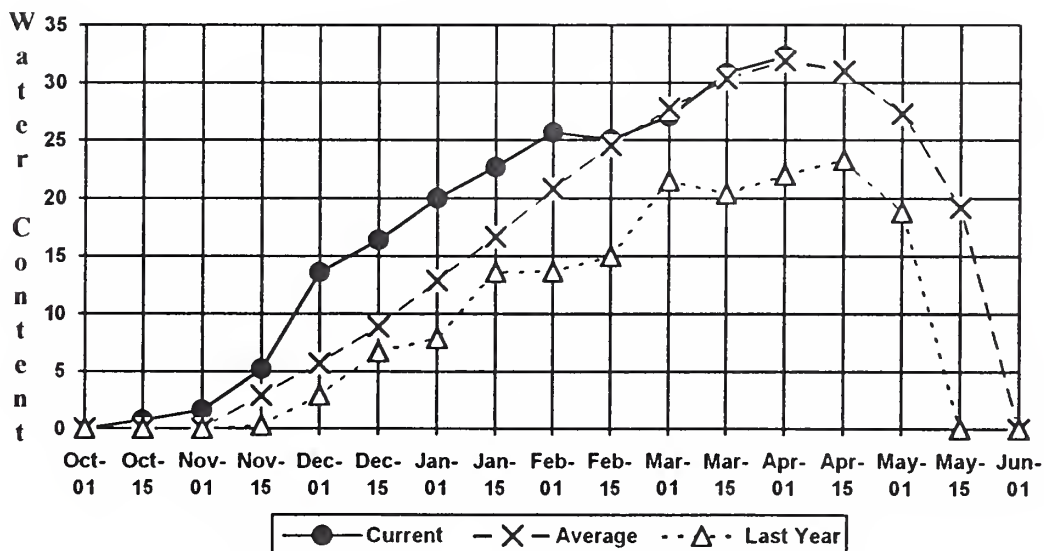
Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier			Wetter			
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
GRANDE RONDE at Troy (1)	APR-JUL	780	1010	1120	92	1230	1460	1214
	APR-SEP	870	1130	1240	95	1360	1610	1312
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	14100	17500	19000	88	20500	23900	21650
	APR-SEP	15900	19700	21400	88	23100	26900	24360
MILL CREEK at Walla Walla	APR-SEP	11.0	14.6	17.0	99	19.4	23	17.1
	APR-JUL	10.8	14.4	16.8	99	19.2	23	16.9
	APR-JUN	10.7	14.2	16.6	99	19.0	23	16.7
SF WALLA WALLA nr Milton Freewater	APR-JUL	41	46	49	92	52	57	53
COLUMBIA R. at The Dalles (2)	APR-SEP	74200	82000	87300	88	92600	100000	98982
	APR-JUL	62700	69400	73900	87	78400	85100	84760
	APR-JUN	50900	56300	60000	87	63700	69100	68925

WALLA WALLA RIVER BASIN				WALLA WALLA RIVER BASIN				
Reservoir Storage (1000 AF) - End of March				Watershed Snowpack Analysis - April 1, 1995				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Mill Creek	2	120	99

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.  
 The average is computed for the 1961-1990 base period.

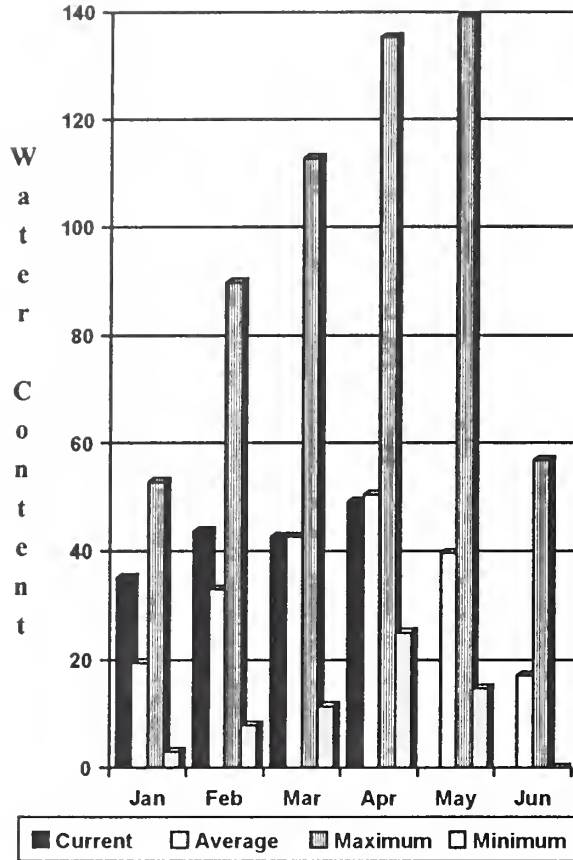
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

### Touchet #2 SNOTEL Elevation 5530 ft.

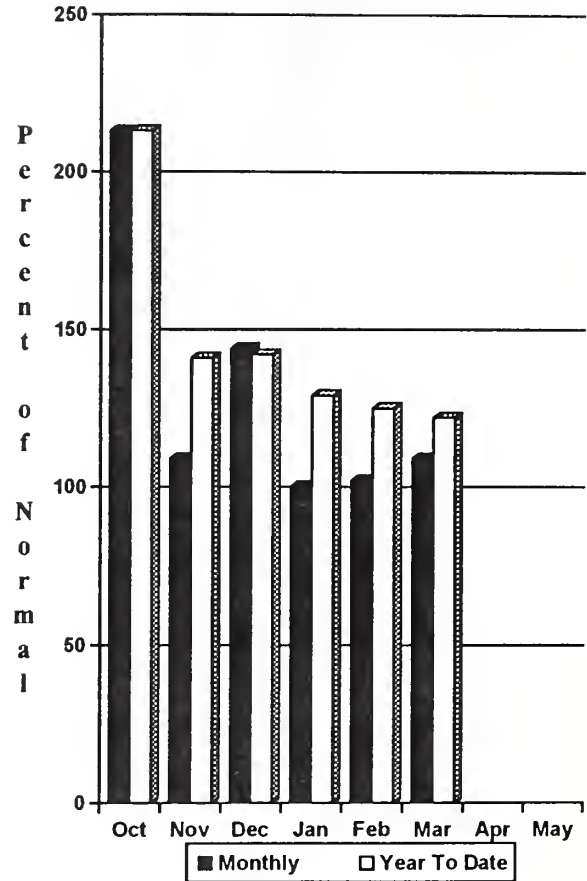


# Cowlitz - Lewis River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

The Lewis River is forecast for normal flows this summer. The Cowlitz River is forecast for 93% of normal runoff. March streamflow on the Cowlitz River was 110% of average, and 95% on the Lewis River. March precipitation was 109% of normal, bringing the precipitation down slightly to 122% of average for the water year. April 1 snowcover for the Cowlitz River was 99% and the the Lewis River had 96% of average. The Paradise Park SNOTEL recorded the most water content for the basin with 72.5 inches of water. Normal April 1 water content is 62.1 inches. Temperatures were 1 degree above normal for March.

For more information contact your local Natural Resources Conservation Service office.

## COWLITZ - LEWIS RIVER BASINS

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		Drier		Wetter		Chance Of Exceeding *		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
LEWIS RIVER at Ariel (2)	APR-SEP	805	1080	1210	100	1340	1610	1204
	APR-JUL	760	930	1050	100	1170	1340	1051
	APR-JUN	680	830	935	100	1040	1190	933
COWLITZ R. bl Mayfield Dam (2)	APR-SEP	965	1510	1830	93	2150	2700	1970
	APR-JUL	920	1330	1610	93	1890	2300	1731
	APR-JUN	800	1150	1390	94	1630	1980	1477
COWLITZ R. at Castle Rock (2)	APR-SEP	1250	2060	2450	92	2840	3650	2667
	APR-JUL	1300	1800	2140	92	2480	2980	2325
	APR-JUN	1140	1570	1860	93	2150	2580	1995
KLUICKITAT near Glenwood	APR-JUN	109	118	124	113	130	139	110
	APR-SEP	128	141	150	107	159	172	140

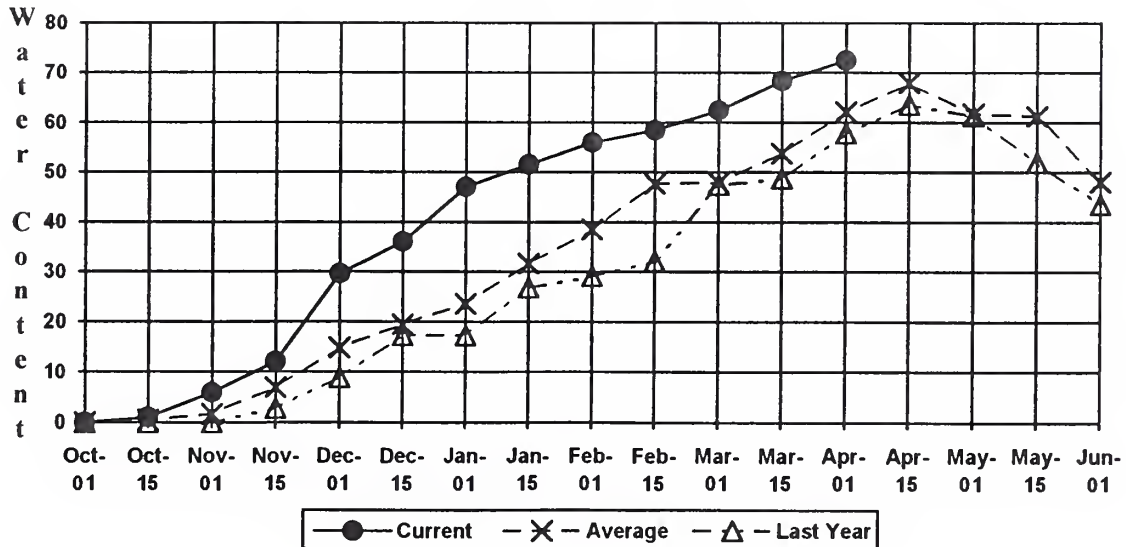
COWLITZ - LEWIS RIVER BASINS Reservoir Storage (1000 AF) - End of March				COWLITZ - LEWIS RIVER BASINS Watershed Snowpack Analysis - April 1, 1995				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Cowlitz River	7	116	99
					Lewis River	4	106	96

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

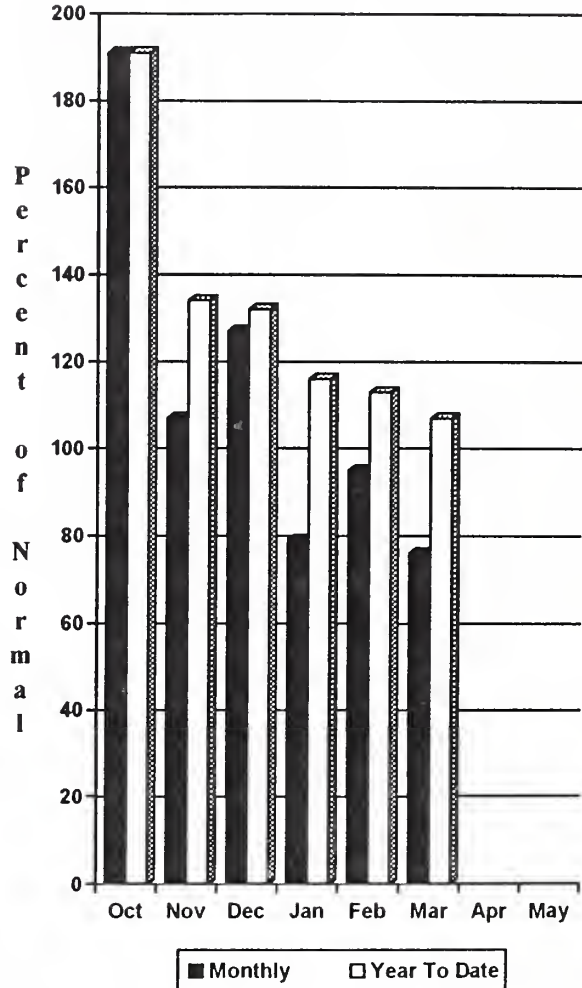
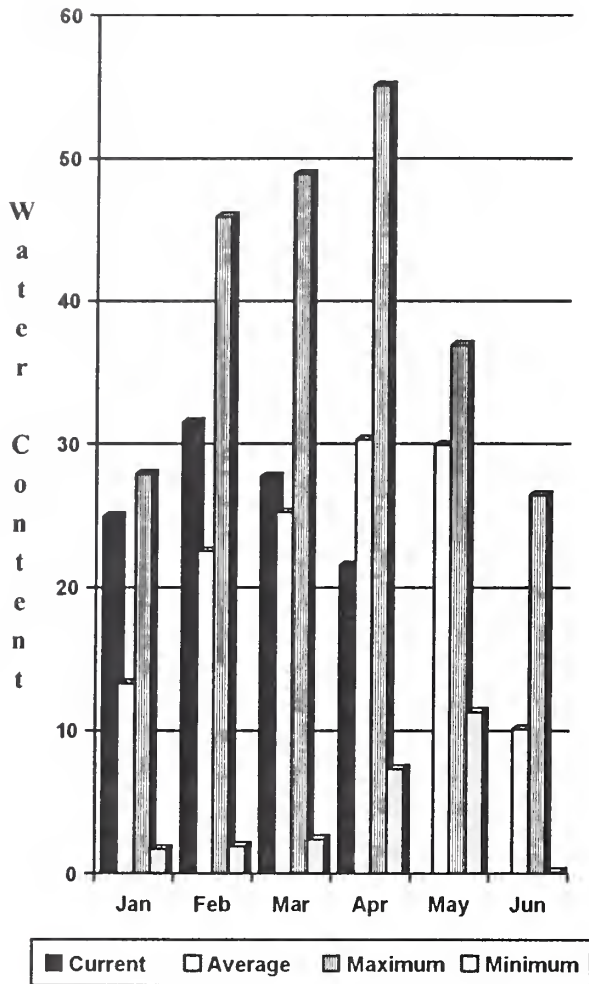
### Paradise SNOTEL Elevation 5120 ft.



# White - Green - Cedar River Basins

Mountain Snowpack\* (inches)

Precipitation\* (% of normal)



\*Based on selected stations

Summer runoff is forecast to be 74% of normal for the Green River, 83% for the Cedar River near Cedar Falls, 81% for the Rex River, 92% for the South Fork of the Tolt River, and 78% for the Cedar River at Cedar Falls. April 1 snowpack was 120% of normal in the White River Basin and 69% in the Green River Basin and only 24% of average at two snow courses in the Cedar River Basin. Water content on April 1 at the Morse Lake SNOTEL near Chinook Pass on the White River, at an elevation of 5400 feet, was 71.5 inches. This site has an April 1 average of 47.2 inches. March precipitation was 76% of normal, bringing the water year-to-date to 107% of average. National Weather Service reported temperatures at Stampede Pass to be 1 degree above average for March.

*For more information contact your local Natural Resources Conservation Service office.*



**WHITE - GREEN - CEDAR RIVER BASINS**  
Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)		
		90% (1000AF)		70% (1000AF)		50% (Most Probable) (1000AF) (% AVG.)			30% (1000AF) 10% (1000AF)	
GREEN RIVER below Howard Hanson Dam	APR-JUL	142	172	192	75	210	240	257		
	APR-SEP	159	189	210	74	230	260	285		
	APR-JUN	130	157	176	75	195	220	234		
CEDAR RIVER near Cedar Falls	APR-JUL	49	57	63	82	69	77	77		
	APR-SEP	55	64	70	83	76	85	85		
	APR-JUN	45	52	57	84	63	70	68		
REX RIVER near Cedar Falls	APR-JUL	16.0	20	22	81	25	28	27		
	APR-SEP	19.0	22	24	81	27	30	30		
	APR-JUN	15.0	18.0	21	82	23	26	25		
CEDAR RIVER at Cedar Falls	APR-JUL	43	55	64	78	73	85	82		
	APR-SEP	46	57	65	78	72	84	83		
	APR-JUN	41	54	62	78	71	83	80		
SOUTH FORK TOLT near Index	APR-JUL	11.4	12.8	13.8	91	14.8	16.2	15.2		
	APR-SEP	13.3	15.2	16.4	92	17.6	19.5	17.8		
	APR-JUN	9.3	10.9	11.9	91	12.9	14.5	13.1		

WHITE - GREEN RIVER BASINS  
Reservoir Storage (1000 AF) - End of March

WHITE - GREEN RIVER BASINS  
Watershed Snowpack Analysis - April 1, 1995

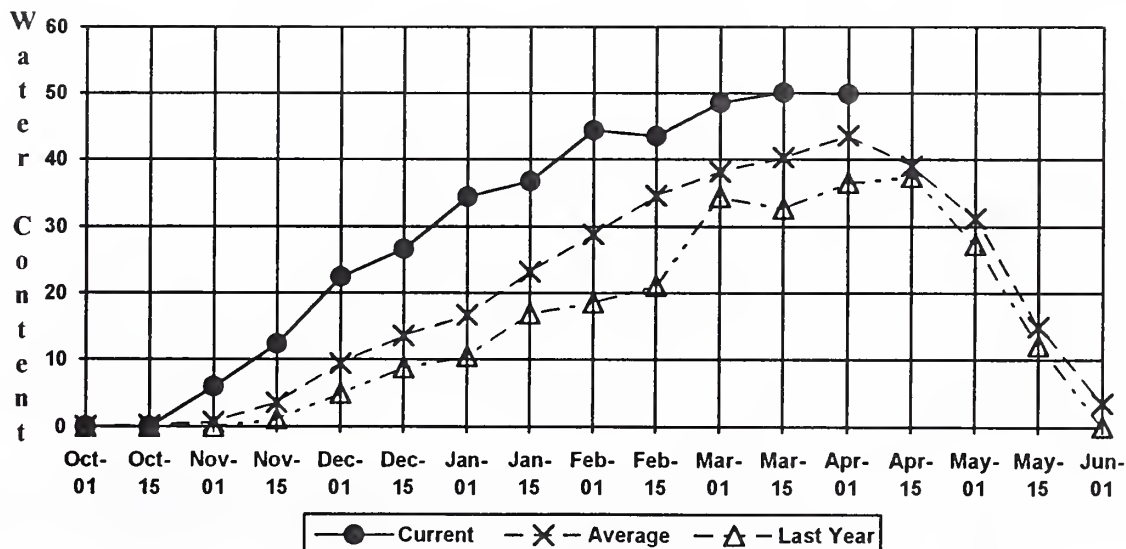
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					White River	3	137	120
					Green River	7	107	69
					Cedar River	2	96	24

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

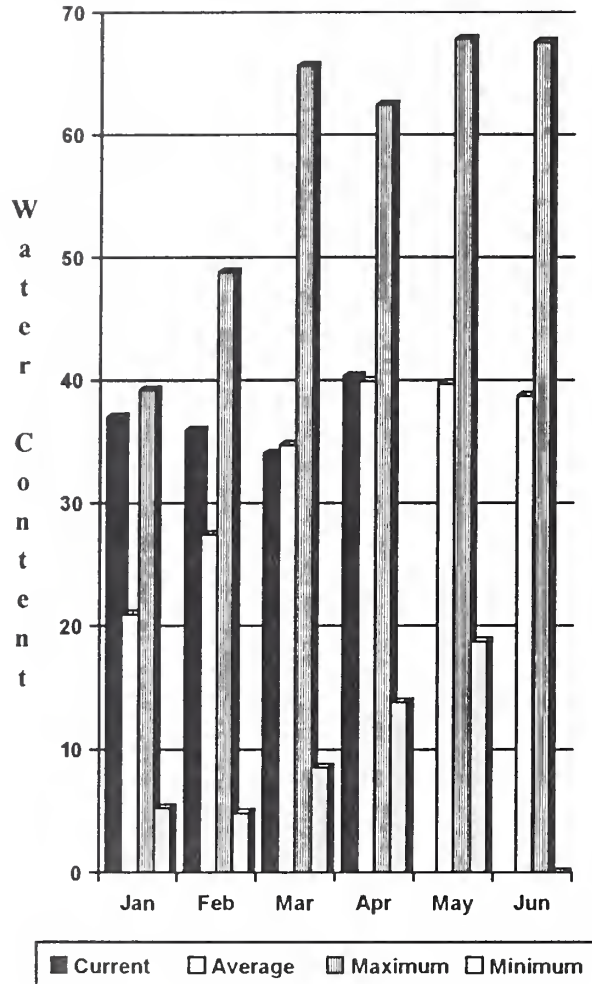
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**Stampede Pass SNOTEL**  
Elevation 3860 ft.

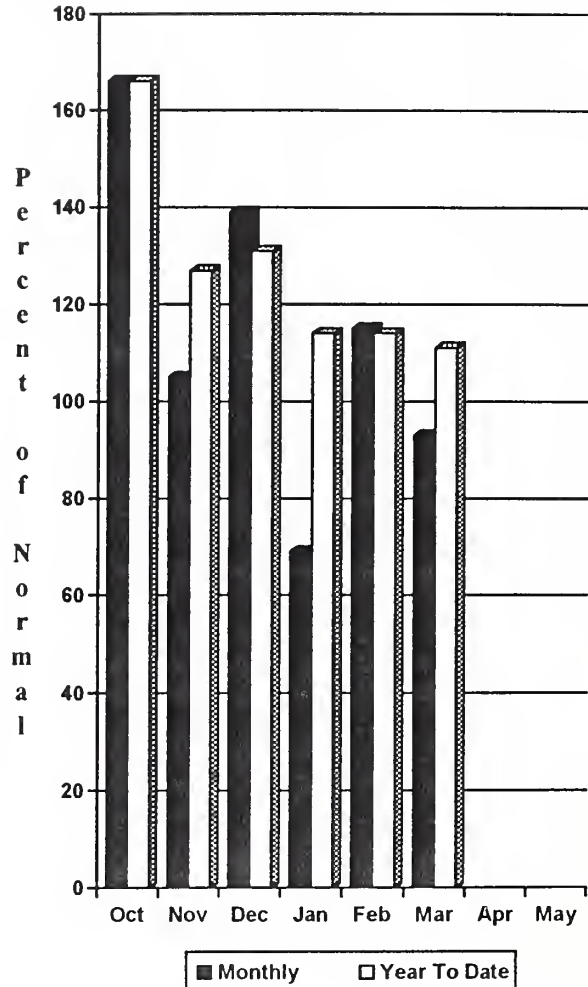


# North Puget Sound River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

Forecast for the Skagit River streamflow is for 109% of normal for the spring and summer period. March streamflow in the Skagit River was 124% of average. Other forecast points include the Baker River at 98% and Thunder Creek at 100% of average. Basin - wide precipitation for March was 93% of average. Water year - to - date remains at 111% of normal. April 1 snow cover in the Skagit River Basin was 112%, the Baker River Basin was 100% and the Snohomish River Basin was 90% of average. Rainy Pass SNOTEL, at 4780 feet, had 52.6 inches of water content. Normal April 1 water content is 38 inches. April 1 reservoir storage showed Ross Lake at 213% normal and 45% of capacity. March temperatures were near normal.

For more information contact your local Natural Resources Conservation Service office.

## NORTH PUGET SOUND RIVER BASINS

### Streamflow Forecasts - April 1, 1995

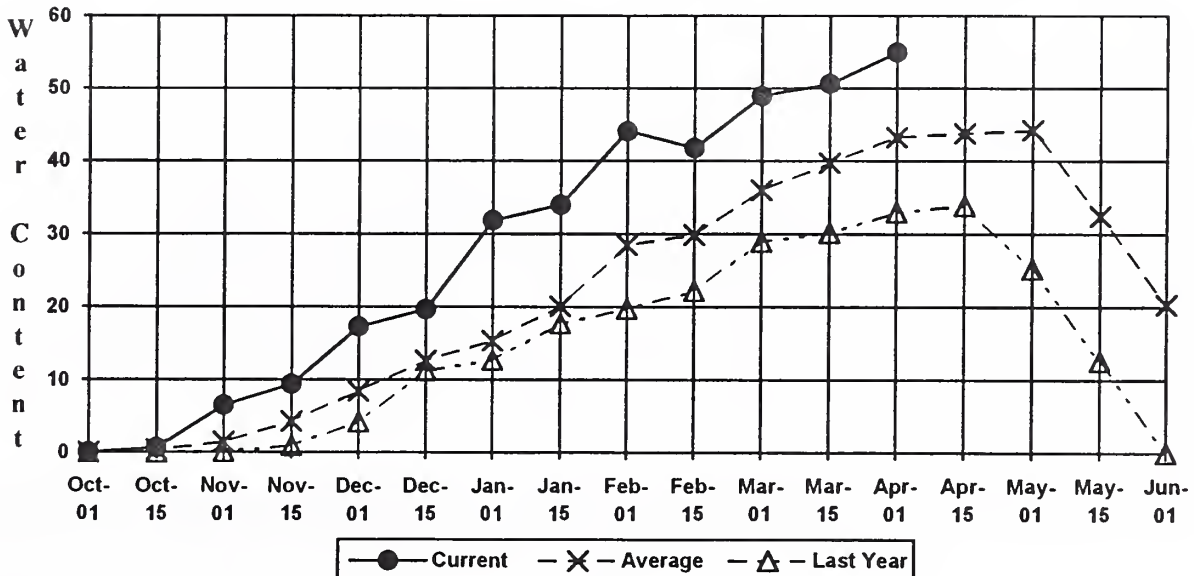
Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (% AVG.) (1000AF)		30% (1000AF)	
THUNDER CREEK near Newhalem	APR-JUL	205	220	229	99	240	230
	APR-SEP	300	320	328	100	340	328
	APR-JUN	117	133	143	96	154	149
SKAGIT RIVER at Newhalem (2)	APR-SEP	2020	2230	2380	109	2530	2185
	APR-JUL	1710	1890	2010	110	2130	1830
	APR-JUN	1320	1460	1550	110	1640	1410
BAKER RIVER near Concrete	APR-JUL	740	800	838	100	880	836
	APR-SEP	920	990	1040	98	1090	1064
	APR-JUN	510	570	610	100	650	611

Reservoir	NORTH PUGET SOUND RIVER BASINS Reservoir Storage (1000 AF) - End of March				NORTH PUGET SOUND RIVER BASINS Watershed Snowpack Analysis - April 1, 1995			
	Usable Capacity	*** Usable Storage This Year	*** Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
ROSS	1404.1	636.2	786.0	298.0	Snohomish River	6	117	90
DIABLO RESERVOIR	90.6	84.7	85.3	---	Skagit River	14	163	112
GORGE RESERVOIR		NO REPORT			Baker River	9	140	100

\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.  
 The average is computed for the 1961-1990 base period.

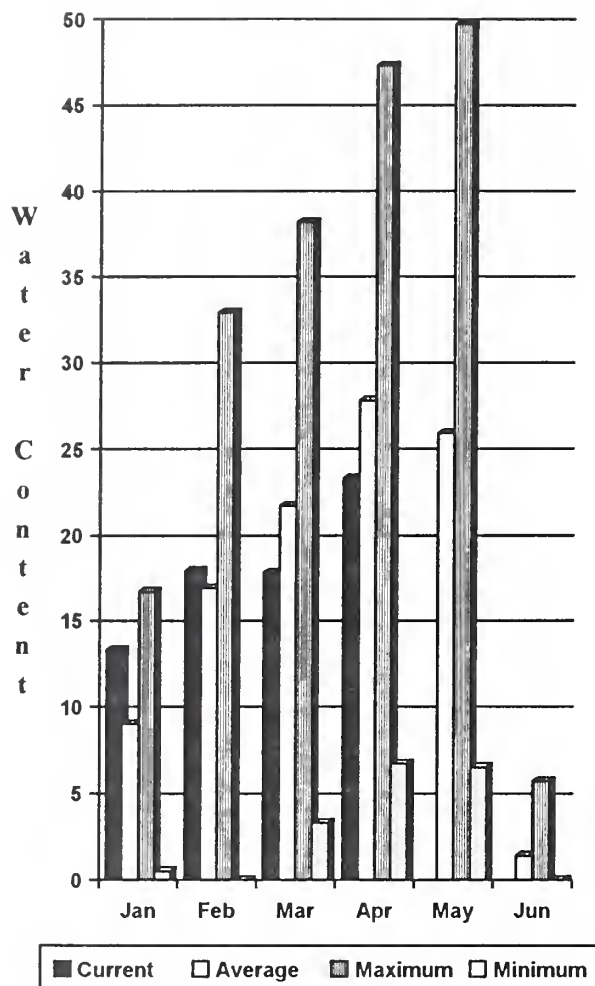
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### Rainy Pass SNOTEL Elevation 4780 ft.

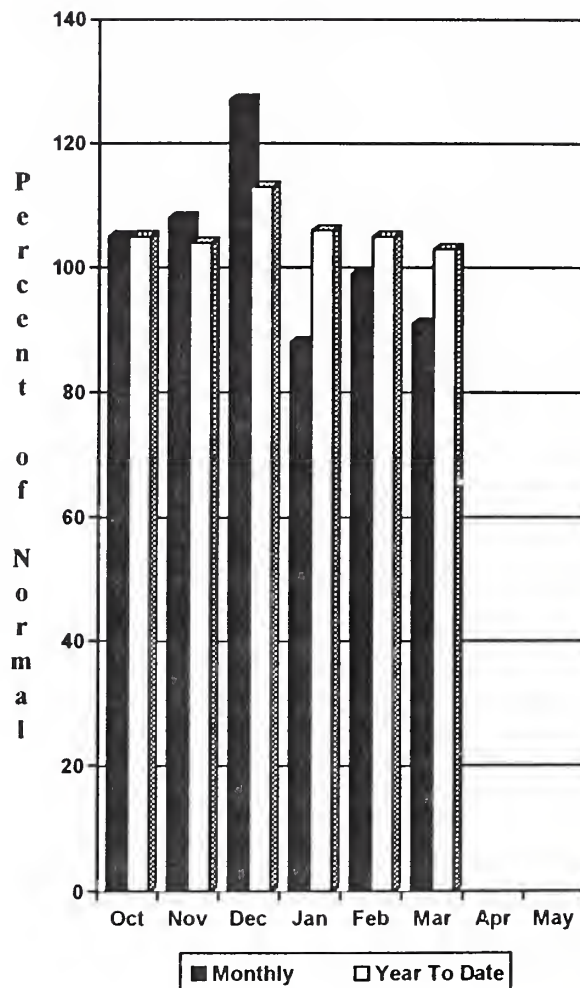


# Olympic Peninsula River Basins

Mountain Snowpack\* (inches)



Precipitation\* (% of normal)



\*Based on selected stations

April forecasts of runoff for streamflow in the basin are for 87% of average for the Dungeness River and 86% of normal for the Elwha River. March precipitation was 91% of average. Precipitation has accumulated at 103% of normal for the water year. March precipitation at Quillayute was 9.9 inches, which is slightly below normal at 90% of average. Average April 1 snow cover in the Olympic Basin varied as follows; Elwa River, 59%, Morse Creek, 96%, Dungeness River, 69%, and the Quilcene River, 111%. The Mount Crag SNOTEL near Quilcene had 35 inches of snow water equivalent on April 1. Normal for this site is 31.5 inches. Temperatures at Quillayute were 1.5 degrees above normal for March.

For more information contact your local Natural Resources Conservation Service office.

## OLYMPIC PENINSULA RIVER BASINS

### Streamflow Forecasts - April 1, 1995

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	Chance Of Exceeding * (% AVG.)	
DUNGENESS RIVER nr Sequim	APR-SEP	114	129	139	87	149	164	160
	APR-JUL	96	108	116	89	125	137	131
	APR-JUN	72	81	87	89	93	102	98
ELWHA RIVER nr Port Angeles	APR-SEP	345	395	433	86	470	520	502
	APR-JUL	295	335	365	88	395	435	417

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of March				OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - April 1, 1995				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Elwha River	1	88	59
					Morse Creek	1	118	96
					Dungeness River	1	111	69
					Quilcene River	1	130	111
					Wynoochee River	0	0	0

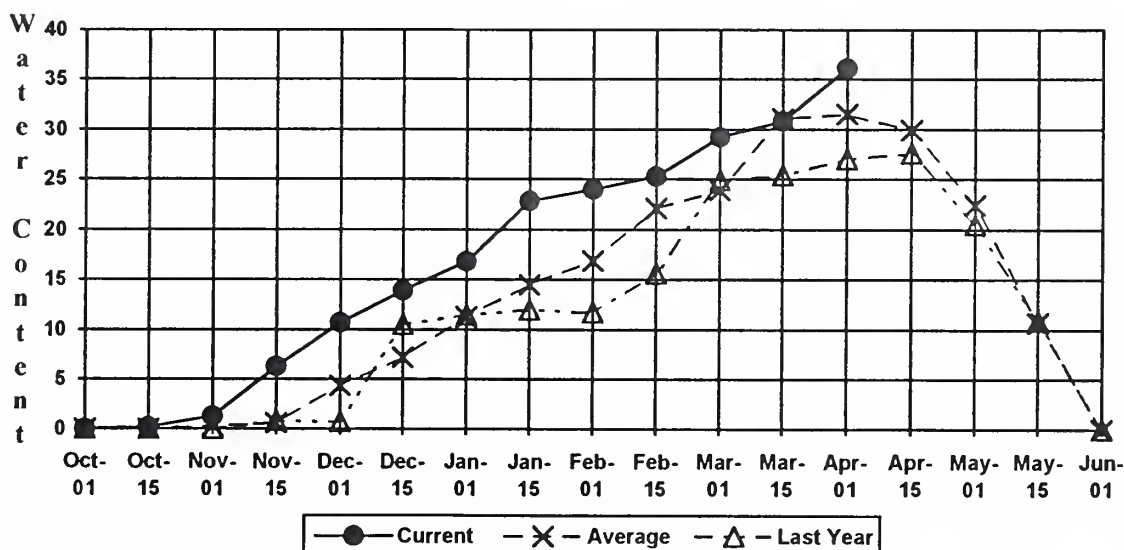
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The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

### Mount Crag SNOTEL Elevation 4050 ft.





In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Natural Resources Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Natural Resources Conservation Service, West National Technical Center, 101 SW Main Street, Suite 1700, Portland, OR 97204-3225.

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*Issued by*

**Paul W. Johnson**  
Chief  
Natural Resources Conservation Service  
U.S. Department of Agriculture

*Released by*

**Lynn A. Brown**  
State Conservationist  
Natural Resources Conservation Service  
Spokane, Washington

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## The Following Organizations Cooperate With the Natural Resources Conservation Service in Snow Survey Work\*:

**Canada**

Ministry of the Environment  
Investigations Branch, Victoria, British Columbia

**State**

Washington State Department of Ecology  
Washington State Department of Natural Resources

**Federal**

Department of the Army  
Corps of Engineers  
U.S. Department of Agriculture  
Forest Service  
U.S. Department of Commerce  
NOAA, National Weather Service  
U.S. Department of Interior  
Bonneville Power Administration  
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City of Tacoma  
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Pacific Power and Light Company  
Puget Sound Power and Light Company  
Washington Water Power Company  
Snohomish County P.U.D.  
Colville Confederated Tribes  
Spokane County  
Yakama Indian Nation

**Private**

Okanogan Irrigation District  
Wenatchee Heights Irrigation District  
Newman Lake Homeowners Association

\*Other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.



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