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# Wyoming Basin Outlook Report May 1, 2000



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

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## *How forecasts are made*

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be either above or below, the predicted value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making their operational decisions. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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# Wyoming Water Supply Outlook Report

## General

Generally, snow water equivalent (SWE) across the state is below normal to much below normal. SWE averages about 23 percent below normal for the State -- northwest portion of the State is 64 percent normal of (36 percent below), northeast is 76 percent of normal (24 percent below), and southeast part of the State is 75 percent of average (25 percent below), and the southwest is 62 percent of average (38 percent below). Precipitation for April was below average, with the exception of the Belle Fourche and Lower North Platte River drainages, -- the year-to-date precipitation is near average to below average. Most of the reservoir levels are average to well above average. Forecast runoff varies from 33 to 102 percent of average. The mean of all the forecast points in the State is about 68 percent of average (32 percent below average). The minimum yield forecast was 33 percent of average in the Middle Fork of the Powder River near Barnum and the maximum forecast was 102 percent of average at Laramie River near Woods Landing.

## Snowpack

Snow conditions deteriorated across the State this last month. SWE is generally just below average to well below average. SWE in the northwestern portion of the State is now at 64 percent of average (51 percent of last year). Although the Black Hills is only 22 percent of average, northeast Wyoming SWE is currently about 76 percent of average (79 percent of last year). The Southeast portion saw a decrease to 76 percent of average SWE (72 percent of last year). And the southwest dropped to about 62 percent of average (53 percent of last year).

## Precipitation

April precipitation was below normal across most of the State. The Belle Fourche and Lower North Platte River drainages were above normal, and the Big horn and Powder River drainages were near normal. The following table displays the major river basins and their departure from normal for April 2000.

Basin	Departure from normal	Basin	Departure from normal
Snake River	-29%	Upper North Platte River	-17%
Yellowstone & Madison	-09%	Lower North Platte	+20%
Wind River	-07%	Little Snake River	-38%
Big Horn	+01%	Upper Green River	-42%
Shoshone & Clarks Fork	-17%	Lower Green River	-36%
Powder & Tongue River	00%	Upper Bear River	-26%
Belle Fourche & Cheyenne	+53%		

## Streams

Stream flow yield is expected to be below average across the State. The northwest part of the State is expected to yield about 70 percent of normal -- yield estimates vary from 48 to 89 percent of normal through the northwest region of the State. Yield from the northeast portion of Wyoming will be below average (about 65 percent of average) -- yield estimates vary from 33 to 85 percent of average for the various forecast points. In most cases, the southeast portion of the state will be about 68 percent of normal -- yield estimates range from 41 to 102 percent of normal. The southwest portion of Wyoming varies from 53 to 82 percent of average -- mean estimated yield for the forecast points in southwest Wyoming is about 67 percent of average.

## Reservoirs

Although several reservoirs did not report, reservoir storage for those reporting is generally above average for this time of the year. See following table for further information about reservoir storage.

### Major Reservoirs in Wyoming

B A S I N    W I D E  
R E S E R V O I R    S U M M A R Y

FOR THE END OF    APRIL    2000

BASIN AREA RESERVOIR	CURRENT AS % CAPACITY	LAST YR AS % CAPACITY	AVERAGE AS % CAPACITY	CURRENT AS % AVERAGE	CURRENT AS % LAST YR
ALCOVA	107	97	98	110	110
ANGOSTURA	99	99	93	106	100
BELLE FOURCHE	106	103	82	130	104
BIG SANDY			NO REPORT		
BIGHORN LAKE	65	57	58	111	114
BOYSEN	84	80	84	100	106
BUFFALO BILL	67	56	52	129	119
BULL LAKE	62	66	53	117	94
DEERFIELD	100	101	89	112	99
EDEN			NO REPORT		
ENNIS LAKE	78	81	86	91	97
FLAMING GORGE			AVERAGE NOT ESTABLISHED		
FONTENELLE	34	39	47	73	88
GLENDO	102	104	90	113	98
GRASSY LAKE	86	88	77	111	97
GUERNSEY	79	82	72	110	97
HEBGEN LAKE	81	61	65	124	133
JACKSON LAKE	85	63	54	157	134
KEYHOLE	91	96	57	160	94
PACTOLA	100	101	87	115	99
PALISADES	83	40	68	122	209
PATHFINDER	98	98	60	163	100
PILOT BUTTE	79	61	95	83	130
SEMINOE	74	71	39	192	105
SHADEHILL	69	96	80	86	72
TONGUE RIVER	60	40	54	112	151
VIVA NAUGHTON RES	89	69	62	142	129
WHEATLAND #2	78	77	56	140	101
WOODRUFF NARROWS			AVERAGE NOT ESTABLISHED		
<hr/>					
GLENDON PROJECT USERS	94	94	70	134	100
KENDRICK PROJECT	87	86	67	130	102
NORTH PLATTE PROJ	101	100	74	136	101

# Basin Summary of Snow Course Data

## BASIN SUMMARY OF SNOW COURSE DATA

MAY 2000

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
-----						
WYOMING Snow Course and SNOTEL Stations						
ALBANY	9400	4/27/00	20	7.6	14.9	12.8
ASTER CREEK	7750				---	---
BALD MOUNTAIN SNOTEL	9380	5/01/00	---	22.1	21.7	24.1
BASE CAMP SNOTEL	7030	5/01/00	---	1.0	17.0	10.7
BATTLE MTN. SNOTEL	7440	5/01/00	---	.0	4.3	4.8
BEARLODGE DIVIDE	4680	4/26/00	0	.0	.0	.8
BEARTOOTH LK. SNOTEL	9280	5/01/00	---	23.0	27.7	26.0
BEAR TRAP SNOTEL	8200	5/01/00	---	.0	1.8	4.2
BIG GOOSE	7760	4/26/00	18	5.5	8.3	8.3
BIG GOOSE SNOTEL	7760	5/01/00	---	6.5	10.3	---
BIG PARK	8620	4/28/00	35	14.9	22.9	20.5
BIG SANDY SNOTEL	9080	5/01/00	---	8.1	16.4	13.9
BLACKWATER SNOTEL	9780	5/01/00	---	19.6	35.2	25.7
BLIND BULL SNOTEL	8900	5/01/00	---	22.5	32.5	22.7
BLIND PARK PILLOW	6870	5/01/00	---	.0	.0	9.6
BLUE RIDGE	9620				19.2	12.7
BONE SPGS. SNOTEL	9350	5/01/00	---	16.6	20.4	18.4
BOXELDER	7280	4/27/00	16	4.9	7.8	6.4
BROOKLYN LK. SNOTEL	10220	5/01/00	---	16.3	27.8	28.9
BRYAN FLAT	6420	4/27/00	---	.0	6.7	2.3
BUCK CREEK	7960	4/27/00	21	8.4	11.0	10.0
BURGESS JCT. SNOTEL	7880	5/01/00	---	12.3	11.3	13.5
BURROUGHS CRK SNOTEL	8750	5/01/00	---	10.6	19.1	12.9
CANYON SNOTEL	8090	5/01/00	---	8.7	16.2	10.9
CARTER MOUNTAIN	7950	4/28/00	1	.2	5.6	6.0
CASPER MTN. SNOTEL	7850	5/01/00	---	12.9	13.7	17.8
CASTLE CREEK	8400	4/25/00	3	.7	3.7	2.0
CCC CAMP	7000	4/27/00	11	3.9	12.1	7.9
CHALK CK #1 SNOTEL	9100	5/01/00	---	18.2	27.0	22.8
CHALK CK #2 SNOTEL	8200	5/01/00	---	5.0	14.6	9.8
CLOUD PEAK SNOTEL	9850	5/01/00	---	17.1	23.6	17.7
COLD SPRINGS SNOTEL	9630	5/01/00	---	.0	19.9	6.8
COTTONWOOD CR SNOTEL	7700	5/01/00	---	14.0	23.0	20.0
DARBY CANYON	8250	5/01/00	37	16.9	24.3	23.9
DEER PARK SNOTEL	9700	5/01/00	---	13.5	25.9	---
DITCH CREEK	6870				---	---
DIVIDE PEAK SNOTEL	8860	5/01/00	---	10.7	21.2	19.3
DOMELAKE SNOTEL	8880	5/01/00	---	9.6	13.2	15.0
DU NOIR	8760	4/28/00	2	.8	8.9	6.8
EAST RIM DIV SNOTEL	7930	5/01/00	---	8.3	15.0	14.8
ELBO RANCH	7100	5/01/00	11	3.6	12.4	9.0
ELKHART PARK SNOTEL	9400	5/01/00	---	8.1	16.1	14.0
EVENING STAR SNOTEL	9200	5/01/00	---	22.4	37.2	30.8

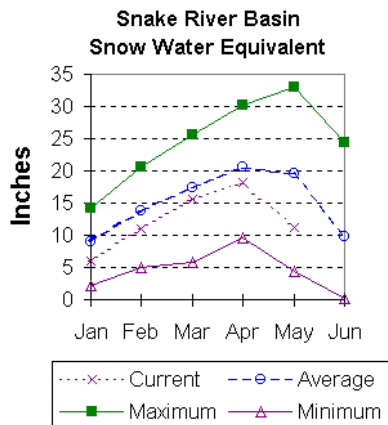
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
FOUR MILE MEADOWS	7860				---	---
FOXPARK	9060	4/27/00	0	.0	9.3	5.4
GEYSER CREEK	8500				5.1	5.4
GLADE CREEK	7040	4/27/00	21	10.5	25.4	21.0
GRANITE CRK SNOTEL	6770	5/01/00	---	3.8	17.9	12.9
GRANNIER MEADOWS	8860	4/26/00	30	10.8	21.2	15.1
GRASSY LAKE SNOTEL	7270	5/01/00	---	20.5	41.3	33.9
GRAVE SPRINGS SNOTEL	8550	5/01/00	---	6.2	11.3	11.6
GREYS BOUNDARY	5720	4/27/00	0	.0	.9	2.6
GROS VENTRE SNOTEL	8750	5/01/00	---	7.9	16.8	13.9
GROVER PARK DIVIDE	7000	4/27/00	1	.3	5.5	7.9
HAIRPIN TURN	9480	4/27/00	21	8.0	16.0	16.6
HANSEN S.M. SNOTEL	8360	5/01/00	---	.5	6.4	6.9
HAMS FORK SNOTEL	7840	5/01/00	---	.0	10.6	5.7
HASKINS CREEK	8980	4/27/00	69	30.0	31.5	32.6
HOBBS PARK SNOTEL	10100	5/01/00	---	9.4	29.1	18.0
HUCKLEBERRY DIVIDE	7300				---	---
INDIAN CREEK SNOTEL	9430	5/01/00	---	20.1	36.9	28.9
JACKPINE CREEK	7350	5/01/00	19	8.8	21.8	19.8
KELLEY R.S. SNOTEL	8180	5/01/00	---	7.4	16.9	15.0
KENDALL R.S. SNOTEL	7740	5/01/00	---	3.0	12.6	10.6
KIRWIN SNOTEL	9550	5/01/00	---	9.0	16.8	11.7
LA BONTE	8450	4/29/00	0	.0	.0	1.8
LAKE CAMP	7780	5/01/00	15	7.0	10.9	7.2
LA PRELE SNOTEL	8380	5/01/00	---	5.9	12.5	6.3
LARSEN CREEK	9020	4/26/00	26	9.8	14.6	11.2
LEWIS LAKE SNOTEL	7850	5/01/00	---	19.7E	39.4	34.4
LEWIS LAKE DIVIDE	7850	4/27/00	65	33.2	52.1	42.0
LIBBY LODGE	8750	4/27/00	3	.8	9.6	9.0
LITTLE BEAR RUN	6240				---	---
LITTLE WARM SNOTEL	9370	5/01/00	---	7.2	20.3	10.4
LOOMIS PARK SNOTEL	8240	5/01/00	---	8.6	17.6	15.1
LUPINE CREEK	7380	4/27/00	0	.0	9.6	6.6
MALLO	6420				---	.0
MARQUETTE SNOTEL	8760	5/01/00	---	6.6	17.4	8.6
MEDICINE LODGE LAKES	9340	4/26/00	34	10.5	13.2	12.5
MIDDLE FORK	7420	4/26/00	3	1.2	12.4	5.0
MIDDLE POWDER SNOTEL	7760	5/01/00	---	10.0	16.5	14.8
MORAN	6750				---	---
MOSS LAKE	9800	4/27/00	43	18.3	25.6	26.9
NEW FORK SNOTEL	8340	5/01/00	---	3.2	12.9	9.1
NORRIS BASIN	7500	4/30/00	0	.0	7.9	7.5
NORTH BARRETT CREEK	9400	4/27/00	49	20.8	27.0	22.6
NORTH FRENCH SNOTEL	10130	5/01/00	---	25.8	38.4	29.4
NORTH RAPID CK PILL.	6130	5/01/00	---	2.3	1.1	---
NORTH TONGUE	8450	4/26/00	34	11.1	12.9	13.9
OLD BATTLE SNOTEL	9920	5/01/00	---	27.8	36.9	38.2
OLD FAITHFUL	7400	4/28/00	8	3.2	14.2	10.0
ONION GULCH	8780	4/29/00	24	5.6	9.9	8.9
OWL CREEK SNOTEL	8980	5/01/00	---	.0	11.0	3.4
PARKERS PEAK SNOTEL	9400	5/01/00	---	17.9	27.4	23.7
PHILLIPS BENCH SNOT.	8200	5/01/00	---	19.7	36.1	29.5

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
POCKET CREEK	9350				---	13.3
POISON MEADOWS	8500				---	29.9
POLE MOUNTAIN	8700	4/27/00	4	1.2	8.2	4.1
POWDER RVR.PASS SNOT	9480	5/01/00	---	6.9	13.1	10.5
PURGATORY GULCH	8970	4/27/00	22	8.7	15.3	10.3
RANGER CREEK	8120	4/26/00	22	6.6	9.8	8.1
RENO HILL SNOTEL	8500	5/01/00	---	12.2	15.8	13.4
REUTER CANYON	6280	4/26/00	0	.0	.0	4.5
ROWDY CREEK	8300	4/26/00	37	16.6	25.0	20.6
RYAN PARK	8400	4/27/00	5	2.1	8.0	7.9
SALT RIVER SNOTEL	7600	5/01/00	---	4.3	14.4	10.8
SAND LAKE SNOTEL	10050	5/01/00	---	25.3	46.1	37.2
SANDSTONE SNOTEL	8150	5/01/00	---	2.4	8.2	9.8
SAWMILL DIVIDE	9260	4/26/00	46	14.1	14.8	15.6
SHELL CREEK SNOTEL	9580	5/01/00	---	15.8	17.9	17.0
SHERIDAN R.S.	7750	4/25/00	4	1.4	4.2	3.2
SNAKE RIVER STATION	6920				---	---
SNAKE RV STA SNOTEL	6920	5/01/00	---	.6	15.4	16.4
SNIDER BASIN SNOTEL	8060	5/01/00	---	6.9	20.4	13.0
SNOW KING MTN	7660	4/27/00	7	2.6	12.7	12.4
SOLDIER PARK	8780	4/29/00	0	.0	.0	6.9
SOUR DOUGH	8460	4/29/00	19	3.4	10.4	6.9
SOUTH BRUSH SNOTEL	8440	5/01/00	---	3.0	9.6	10.6
SOUTH PASS SNOTEL	9040	5/01/00	---	12.0	25.0	18.1
SPRING CRK. SNOTEL	9000	5/01/00	---	20.1	36.0	29.6
ST LAWRENCE ALT SNOT	8620	5/01/00	---	.0	14.6	5.4
SUCKER CREEK SNOTEL	8880	5/01/00	---	11.6	14.6	13.8
SYLVAN LAKE SNOTEL	8420	5/01/00	---	16.3	25.4	23.8
SYLVAN ROAD SNOTEL	7120	5/01/00	---	4.2	11.9	7.9
T CROSS RANCH	7900	4/25/00	2	.3	4.6	3.6
TETON PASS W.S.	7740	5/01/00	32	18.2	32.6	27.1
THUMB DIVIDE SNOTEL	7980	5/01/00	---	5.4	20.4	15.1
THUMB DIVIDE	7980				---	---
TIE CREEK SNOTEL	6870	5/01/00	---	.4	4.5	---
TIMBER CREEK SNOTEL	7950	5/01/00	---	.1	10.4	6.0
TOGWOTEE PASS SNOTEL	9580	5/01/00	55	23.3	32.1	28.3
TOWNSEND CRK SNOTEL	8700	5/01/00	---	3.1	19.7	9.5
TRIPLE PEAK SNOTEL	8500	5/01/00	---	12.0	32.0	25.0
TURPIN MEADOWS	6900				---	---
TWO OCEAN SNOTEL	9240	5/01/00	---	24.5	40.3	29.2
TYRELL RANGER STA.	8300	4/29/00	0	.0	.0	7.5
UPPER SPEARFISH	6500				---	7.0
WARREN PEAK SNOTEL	6520	5/01/00	---	5.5	6.9	9.6
WEBBER SPRING SNOTEL	9250	5/01/00	---	16.1	21.4	26.0
WHISKEY PARK SNOTEL	8950	5/01/00	---	23.3	30.6	29.6
WILLOW CREEK SNOTEL	8450	5/01/00	---	20.6	31.3	31.9
WINDY PEAK SNOTEL	7900	5/01/00	---	4.2	6.8	7.9
WOLVERINE SNOTEL	7650	5/01/00	---	.0	8.8	8.1
WOOD ROCK G.S.	8440	4/26/00	32	9.5	11.3	12.2
YOUNTS PEAK SNOTEL	8350	5/01/00	---	15.0	21.7	18.3

# Snake River Basin (1)

## Snow

Percentage of average snow water equivalent (SWE) for each drainage in the basin is: Snake above Jackson Lake -- 54 percent (45% of last year at this time), Pacific Creek -- 64 percent (45% of last year at this time), Gros Ventre River -- 59 percent (51% of last year at this time), Hoback River -- 63 percent (48% of last year at this time), Greys River -- 67 percent (57% of last year at this time), Salt River -- 55 percent (50% of last year at this time). Snake River Basin above Palisades is 57 percent of average (48% of last year at this time). See the Basin Summary of Snow Courses at the beginning of this report for a detailed listing of snow course information.

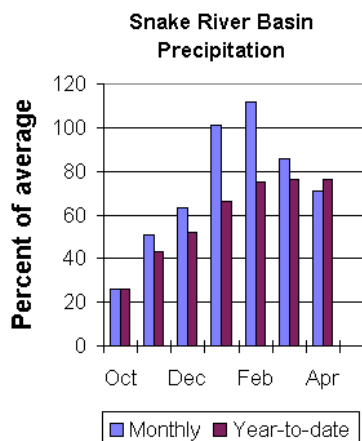


## Precipitation.

Precipitation across the basin was below average for last month. Monthly precipitation, for the basin, was 71 percent of average (52 percent of last year). April percentages range from 27 to 126 percent of average. Water-year-to-date precipitation is 76 percent of normal for the Snake River basin (72 percent of last year at this time). Year-to-date percentages range from 66 to 92 percent of average.

## Reservoir.

Current storage compared to average for the three storage reservoirs in the basin is as follows: Grassy Lake —111 percent of average (13,000 acre feet compared to 13,400 last year), Jackson lake — 157 percent of average (716,600 acre feet compared to 533,100 acre feet last year), and Palisades Reservoir —122 percent of average (1,161,100 acre feet compared to 555,400 acre feet last year).



## Streamflow.

The most probable, 50 percent chance, May through September runoff yield forecast is below average for the basin. The Snake near Moran is expected to yield 642,000 acre-feet (79 percent of normal). Yield from the Snake River above Palisades Reservoir is estimated to be 1,930,000 acre-feet (78 percent of normal). The 50 percent chance yield near Heise is expected to be 2,840,000 acre-feet (77 percent of normal). Pacific Creek at Moran is expected to yield about 117,000 acre-feet (75 percent of average). Greys River above Palisades Reservoir is estimated to yield 231,000 acre-feet (66 percent of normal). Salt River near Etna is estimated to have a yield of 217,000 acre-feet (64 percent of normal).



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SNAKE RIVER BASIN  
Streamflow Forecasts - May 1, 2000

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Forecast Point	Forecast Period	<<----- Drier -----		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SNAKE near Moran (1,2)	MAY-SEP	515	602	642	79	682	769	814
SNAKE above Palisades (2)	MAY-SEP	1694	1835	1930	78	2025	2166	2475
SNAKE near Heise (2)	MAY-SEP	2451	2682	2840	77	2998	3229	3672
PACIFIC CREEK at Moran	MAY-SEP	89	106	117	75	128	145	157
GREYS above Palisades	MAY-SEP	191	215	231	66	247	271	350
SALT near Etna	MAY-SEP	154	192	217	64	242	280	339

SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of April					SNAKE RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GRASSY LAKE	15.2	13.0	13.4	11.7	SNAKE above Jackson Lake	6	45	54
JACKSON LAKE	847.0	716.6	533.1	456.5	PACIFIC CREEK	2	45	64
PALISADES	1400.0	1161.1	555.4	950.0	GROS VENTRE RIVER	4	54	59
					HOBACK RIVER	6	48	63
					GREYS RIVER	5	57	67
					SALT RIVER	5	50	55
					SNAKE above Palisades	25	48	57

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

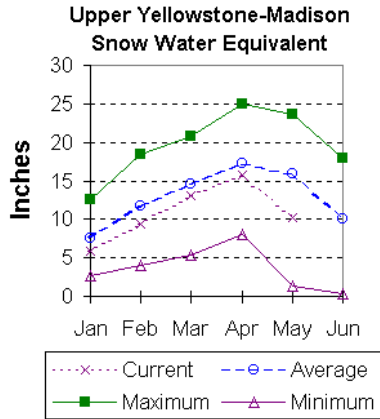
The average is computed for the 1961-1990 base period.

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

## Upper Yellowstone and Madison River Basins (2)

### Snow

Snowfall in the basin this year has been just below average, and very much below the SWE last year at this time. For this time of the year, snow water equivalent (SWE) is about 58 percent of average (46 percent of last year) in the Madison drainage. SWE in the Yellowstone drainage is about 69 percent of average (55 percent of last year at this time). See the "Snow Course Basin Summary" at the beginning of this document for more details on specific sites.



of water (124 percent of average and 81 percent of capacity). Hebgen Lake is storing about 133 percent and Ennis Lake is storing about 97 percent of last year's volume.

### Streamflow

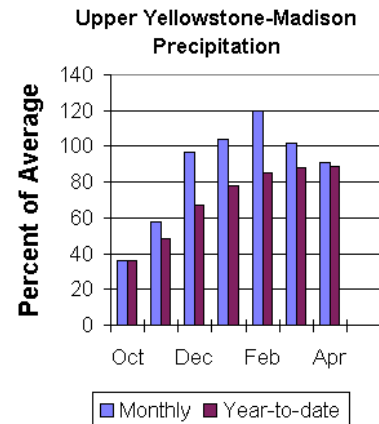
All the following forecasts are the 50 percent chance runoff for the May through September runoff period. Yellowstone at Lake Outlet is expected to yield about 485,000 acre feet (64 percent of normal). Yellowstone at Corwin Springs will yield about 1,375,000 acre-feet (75 percent of normal). Yellowstone near Livingston will yield about 1,570,000 acre feet (74 percent of normal). Hebgen lake inflow is estimated to be 345,000 acre feet (81 percent of normal). See the following page for detailed runoff volumes.

### Precipitation

April precipitation in the Madison and Yellowstone drainage was about 91 percent of average (81 percent of previous year) for the 7 reporting stations -- percentage range was from 68 to 122 percent of average. Water-year-to-date precipitation is about 89 percent of average (73 percent of last year's amount). Year to date percentage ranges from 73 to 110 percent

### Reservoir

Ennis Lake is storing 32,100 acre-feet (91 percent of average and 78 percent of capacity). Hebgen Lake is storing about 305,700 acre-feet



UPPER YELLOWSTONE & MADISON RIVER BASINS  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
YELLOWSTONE at Lake Outlet	MAY-SEP	393	448	485	64	522	577	756
YELLOWSTONE RIVER at Corwin Spgs.	MAY-SEP	1230	1316	1375	75	1434	1520	1844
YELLOWSTONE RIVER near Livingston	MAY-SEP	1341	1477	1570	74	1663	1799	2123
HEBGEN Reservoir Inflow	MAY-SEP	278	318	345	81	372	412	428

UPPER YELLOWSTONE & MADISON RIVER BASINS  
Reservoir Storage (1000 AF) - End of April

UPPER YELLOWSTONE & MADISON RIVER BASINS  
Watershed Snowpack Analysis - May 1, 2000

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ENNIS LAKE	41.0	32.1	33.2	35.1	MADISON RIVER in WY	9	46	58
HEBGEN LAKE	377.5	305.7	229.2	246.1	YELLOWSTONE RIVER in WY	11	55	69

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

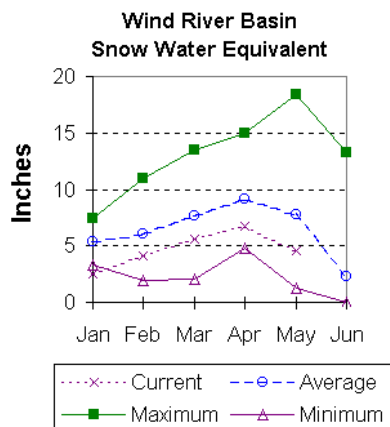
The average is computed for the 1961-1990 base period.

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

## Wind River Basin (3)

### Snow

The Wind River basin has well below average snow water equivalent (SWE) for this time of the year. SWE in the Wind River above Dubois is 67 percent of average (48 percent of last year). The Little Wind SWE is 40 percent of average water content (22 percent of last year), and the Popo Agie drainage SWE is about 56 percent of average (34 percent of last year). The Wind River basin, above Boysen Reservoir, SWE is about 58 percent of average (about 37 percent of last year). See the Basin Summary of Snow Course Data at the front of this report for details.

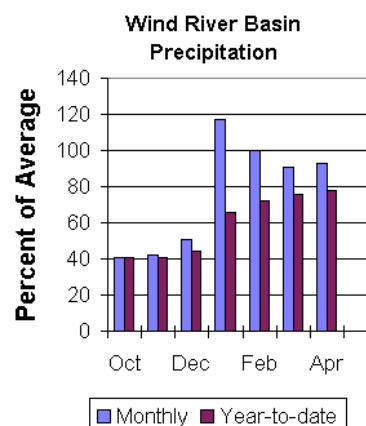


### Precipitation

April precipitation in the basin varied from 35 to 126 percent of average. April precipitation for the basin was about 93 percent of average for the 8 reporting stations; that is about 32 percent of last year's amount. Water year-to-date precipitation is 78 percent of normal. The current water-year-to-date average is about 58 percent of last year at this time. Year to date figures range from 57 to 90 percent of average.

### Reservoirs

Current storage varies from 83 to 117 percent of average. Bull Lake is currently storing about 53 percent of capacity at this time of the year. Boysen Reservoir is storing about 84 percent of capacity (501,400 acre feet) -- normally the reservoir is at 48 percent of capacity at this time of the year. Pilot Butte is storing 79 percent of capacity (25,000 acre feet) -- normally the reservoir is at 95 percent of capacity at this time of the year.



### Streamflow

Water supply is estimated to be below normal this year. The following values reflect the 50 percent chance yields for the May through September runoff period. The Wind River above Bull Lake Creek is expected to yield 450,000 acre feet (88 percent of average). Wind River at Riverton will yield about 470,000 acre feet (77 percent of average). Boysen Reservoir inflow will yield about 530,000 acre feet (70 percent of normal). Bull Lake Creek near Lenore is expected to yield about 140,000 acre feet (78 percent of average). Little Popo Agie River near Lander is expected to yield about 20,000 acre feet (41 percent of average). South Fork of Little Wind near Fort Washakie will yield about 54,000 acre feet (69 percent of average). Little Wind River near Riverton will yield about 160,000 acre feet (53 percent of average).

=====

WIND RIVER BASIN  
Streamflow Forecasts - May 1, 2000

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		=====		Chance Of Exceeding *		=====		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
WIND RIVER abv Bull Lake Cr (2)	MAY-SEP	374	419	450	88	481	526	511
WIND RIVER at Riverton (2)	MAY-SEP	292	398	470	77	542	648	609
BOYSEN RESERVOIR Inflow (2)	MAY-SEP	271	425	530	70	635	789	758
BULL LAKE CR near Lenore (2)	MAY-SEP	111	128	140	78	152	169	179
LT POPO AGIE RIVER nr Lander	MAY-SEP	6.3	14.4	20	41	26	34	49
SF LT WIND nr Fort Washakie	MAY-SEP	34	46	54	69	62	74	78
LT WIND RIVER nr Riverton	MAY-SEP	42	112	160	53	208	278	303

WIND RIVER BASIN Reservoir Storage (1000 AF) - End of April					WIND RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BULL LAKE	151.8	93.5	99.9	79.9	WIND RIVER above Dubios	6	52	67
BOYSEN	596.0	501.4	474.8	502.6	LITTLE WIND	2	22	40
PILOT BUTTE	31.6	25.0	19.2	30.1	POPO AGIE	5	38	56
					WIND above Boysen Resv	12	39	58

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

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

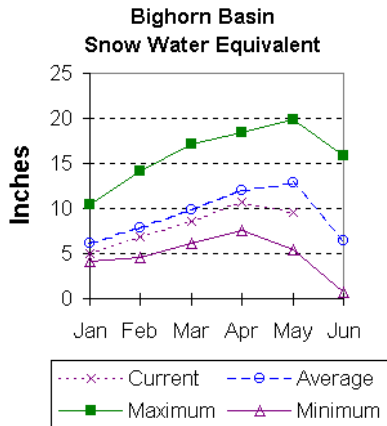
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.  
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

BIGHORN RIVER BASIN as of May 1, 2000

# Bighorn River Basin (4)

## Snow

Snowpack in this basin is well below average for this time of year. The Nowood drainage is 61 percent of average SWE (63 percent of last year). The Greybull River drainage SWE is 51 percent of average (33 percent of last year). Shell Creek SWE is 90 percent of average (88 percent of last year). The basin SWE, as a whole, is currently 74 percent of average (69 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



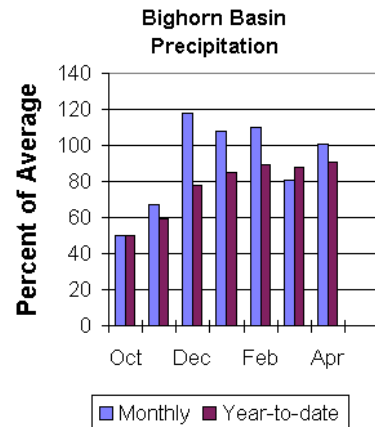
## Precipitation

April precipitation was 101 percent of the monthly average (58 percent of last year). Sites ranged from 47 to 176 percent of average for the month. Year-to-date precipitation is 91 percent of normal; that is 71 percent of last year at this time. Year to date percentages, from the 14 reporting stations, range from 49 to 107.

## Reservoir

Boysen Reservoir is currently storing 501,400-acre feet (100 percent of average). Bighorn

Lake is now at 111 percent of average (877,600-acre feet). Boysen is currently storing 106 percent of last year at this time and Big Horn Lake is storing 114 percent of last year's volume.



## Streamflow

The 50 percent chance May through September runoff is anticipated to be well below normal. The Boysen Reservoir inflow is forecast to yield 530,000 acre feet (70 percent of average); the Greybull River nr Meeteese should yield 94,000 acre feet (48 percent of average); Shell Creek near Shell should yield 64,000 acre feet (89 percent of average) and the Bighorn River at Kane should yield 730,000 acre feet (70 percent of average).

BIGHORN RIVER BASIN  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	Future Conditions					Wetter		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)		
BOYSEN RESERVOIR Inflow (2)	MAY-SEP	271	425	530	70	635	789	758	
GREYBULL RIVER nr Meeteetse	MAY-SEP	54	78	94	48	110	134	195	
SHELL CREEK nr Shell	MAY-SEP	54	60	64	89	68	75	72	
BIGHORN RIVER at Kane (2)	MAY-SEP	353	577	730	70	883	1107	1039	

BIGHORN RIVER BASIN Reservoir Storage (1000 AF) - End of April				BIGHORN RIVER BASIN Watershed Snowpack Analysis - May 1, 2000				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BOYSEN	596.0	501.4	474.8	502.6	NOWOOD RIVER	3	64	72
BIGHORN LAKE	1356.0	877.6	771.3	789.2	GREYBULL RIVER	2	33	51
					SHELL CREEK	4	88	90
					BIGHORN (Boysen-Bighorn)	9	70	79

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

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

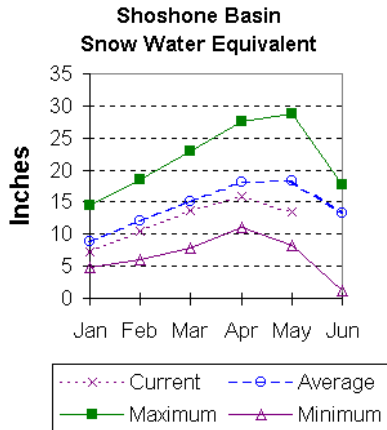
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

SHOSHONE & CLARKS FORK RIVER BASINS as of May 1, 2000

# Shoshone and Clarks Fork River Basin (5)

## Snow

Snow Water Equivalent (SWE) is 70 percent of the May 1 average (55 percent of last year) in the Shoshone River basin. The Clarks Fork River basin SWE is 76 percent of the May 1 average (67 percent of last year). For more information see the Basin Summary of Snow Course Data at the beginning of this report.



stored in the reservoir compared to 360,800 acre feet last year. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

## Streamflow

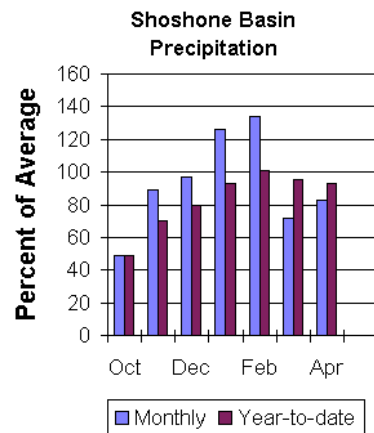
The fifty percent yield (May through September period) for North Fork Shoshone River at Wapiti is expected to be 360,000 acre-feet (75 percent of average). South Fork of the Shoshone River near Valley is estimated to yield of 170,000 acre-feet (66 percent of average), and South Fork above Buffalo Bill Reservoir is expected to be 115,000 acre-feet (53 percent of average). At the Buffalo Bill Reservoir, the fifty percent chance yield for the Shoshone River is expected to be about 535,000 acre-feet (71 percent of average). The fifty-percent chance yield for the Clarks Fork of the Yellowstone near Belfry, Montana is expected to be about 475,000 acre-feet (84 percent of average).

## Precipitation

Precipitation for the month of April was 83 percent of normal (53 percent of last year). Monthly percentages range from 33 to 161 percent of average. The basin year-to-date precipitation is now 93 percent of average (74 percent of last year). Year-to-date percentages range from 41 to 163 percent of average.

## Reservoir

Current storage in Buffalo Bill Reservoir is 129 percent of average (119 percent of last year's storage). Currently, about 430,800 acre-feet are





SHOSHONE & CLARKS FORK RIVER BASINS  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
NF SHOSHONE RIVER at Wapiti	MAY-SEP	312	341	360	75	379	408	480
SF SHOSHONE RIVER nr Valley	MAY-SEP	134	156	170	66	184	206	259
SF SHOSHONE RIVER abv Buffalo Bill	MAY-SEP	58	92	115	53	138	172	218
BUFFALO BILL DAM Inflow (2)	MAY-SEP	402	481	535	71	589	668	754
CLARKS FORK RIVER nr Belfry	MAY-SEP	391	441	475	84	509	559	566

SHOSHONE & CLARKS FORK RIVER BASINS Reservoir Storage (1000 AF) - End of April					SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
BUFFALO BILL	646.6	430.8	360.8	335.1	SHOSHONE RIVER	7	55	70
					CLARKS FORK in WY	7	67	76

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

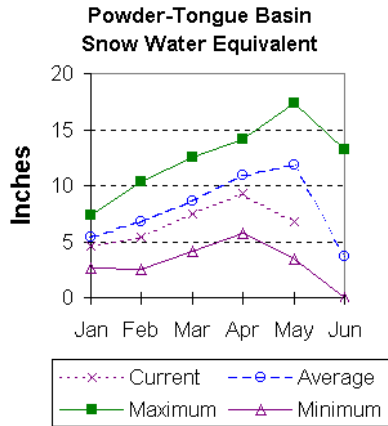
The average is computed for the 1961-1990 base period.

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

## Powder and Tongue River Basins (6)

### Snow

Snow water equivalent (SWE) in the Upper Tongue River drainage is 84 percent of normal (86 percent of last year). Goose Creek drainage SWE is 77 percent of average (85 percent of last year). Clear Creek drainage is 55 percent of normal SWE (52 percent of last year). Crazy Woman Drainage is 60 percent of normal (48 percent of last year). The Upper Powder River is 59 percent of normal (54 percent of last year). The Powder River basin snow water equivalent (SWE), in Wyoming, is about 57 percent of average (53 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



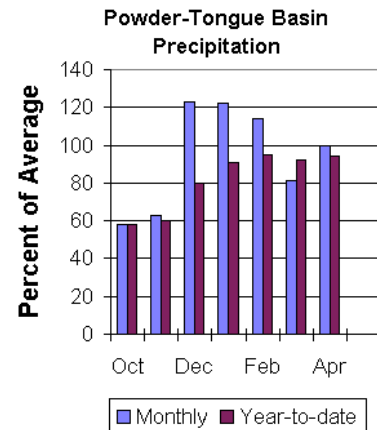
### Precipitation

April precipitation was 100 percent of average for the 10 reporting stations (53 percent of last year). Monthly percentages range from 50 to 121 percent of average. Precipitation for the year ranges from 74 to 105 percent of average. Year-to-date precipitation is about 94 percent of average in the basin; this is 75 percent of last year at this time.

### Reservoir

Tongue River Reservoir is currently at 112 percent of average storage for this time of

year (that is 41,100 acre feet). The total reservoir capacity is about 68,000 acre feet. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.



### Streamflow

The following runoff values are for the 50 percent probability during the May through September forecast period. The estimated yield for Tongue River near Dayton is 93,000 acre-feet (85 percent of normal).

Water users on the Middle Fork near Barnum should have a yield near 5,900 acre-feet (33 percent of normal). The North Fork of the Powder near Hazelton should yield about 6,500 acre-feet (68 percent of normal). The estimated yield for Clear Creek near Buffalo is 25,500 acre-feet (69 percent of average). Rock Creek near Buffalo will yield about 16,000 acre-feet (70 percent of normal), and Piney Creek at Kearny should yield about 37,500 acre-feet (80 percent of average).

POWDER & TONGUE RIVER BASINS  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
TONGUE RIVER nr Dayton (2)	MAY-SEP	69	83	93	85	103	117	109
MIDDLE FORK POWDER nr Barnum	MAY-SEP	1.6	3.7	5.9	33	8.1	11.5	17.7
NORTH FORK POWDER nr Hazelton	MAY-SEP	4.00	5.49	6.50	68	7.51	9.00	9.50
CLEAR CREEK nr Buffalo	MAY-SEP	18.4	23	26	69	28	33	37
ROCK CREEK nr Buffalo	MAY-SEP	10.6	13.8	16.0	70	18.2	21	23
PINEY CREEK at Kearny	MAY-SEP	13.2	28	38	80	47	62	47

POWDER & TONGUE RIVER BASINS Reservoir Storage (1000 AF) - End of April					POWDER & TONGUE RIVER BASINS Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
TONGUE RIVER	68.0	41.1	27.3	36.6	UPPER TONGUE RIVER	8	82	84
					GOOSE CREEK	2	79	77
					CLEAR CREEK	2	59	72
					CRAZY WOMAN CREEK	1	53	66
					UPPER POWDER RIVER	3	54	57
					POWDER RIVER in WY	5	56	64

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

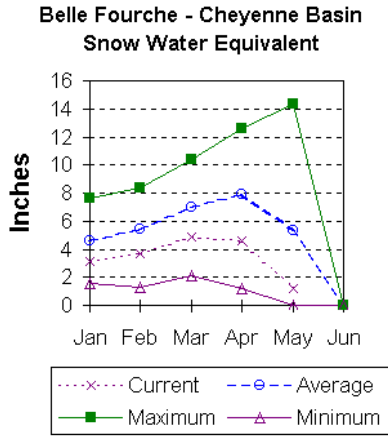
The average is computed for the 1961-1990 base period.

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

# Belle Fourche and Cheyenne River Basins (7)

## Snow.

The Belle Fourche River basin has just 22 percent of normal SWE. The basin SWE is 80 percent of what it was last year. See Basin summary of Snow Course Data at the beginning of this report for a detailed listing.



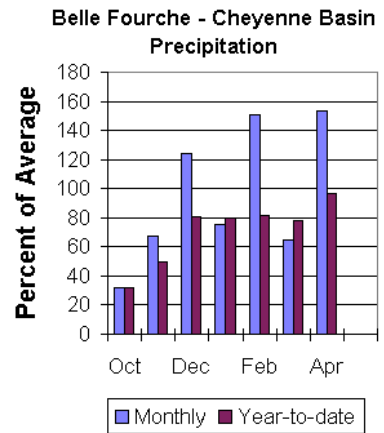
## Precipitation.

Precipitation, for the month of April was 153 percent of average in the Black Hills (157 percent of last April). Monthly percentages range from 121 to 275 percent. Year-to-date precipitation is 97 percent of average and 71 percent of last year's amount. Year to date percentages range from 80 to 151. This is from the 4 reporting stations.

## Reservoir.

Reservoir storage is above average in the basin.

Angostura is currently storing 106 percent of average (120,900-acre feet). Belle Fourche reservoir is storing 130 percent of average (189,900-acre feet). Deerfield reservoir is storing 112 percent of average (15,200-acre feet). Keyhole reservoir is storing 160 percent of average (175,400-acre feet). Pactola reservoir is storing 115 percent of average (54,900-acre feet), and Shadehill reservoir is storing 86 percent of average (55,800-acre feet).



## Streamflow

Streamflow forecast are below average as of May 1. Deerfield Reservoir inflow is forecast at 1650 acre feet (55 percent of average). Pactola is forecast at 9500 acre feet (63 percent of average). This is for the May – July forecast period.

=====

BELLE FOURCHE & CHEYENNE RIVER BASINS  
Streamflow Forecasts - May 1, 2000

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>							
		Chance Of Exceeding *							30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
DEERFIELD RESERVOIR Inflow	MAY-JUL	0.33	0.85	1.65	55	2.45	3.62	3.00	
PACTOLA RESERVOIR Inflow	MAY-JUL	3.0	3.4	9.5	63	15.6	25	15.1	

=====

BELLE FOURCHE & CHEYENNE RIVER BASINS  
Reservoir Storage (1000 AF) - End of April

=====

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ANGOSTURA	122.1	120.9	121.1	113.7	BELLE FOURCHE	4	80	22
BELLE FOURCHE	178.4	189.9	183.1	145.7				
DEERFIELD	15.2	15.2	15.3	13.6				
KEYHOLE	193.8	175.4	185.9	109.6				
PACTOLA	55.0	54.9	55.7	47.9				
SHADEHILL	81.4	55.8	77.9	65.2				

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

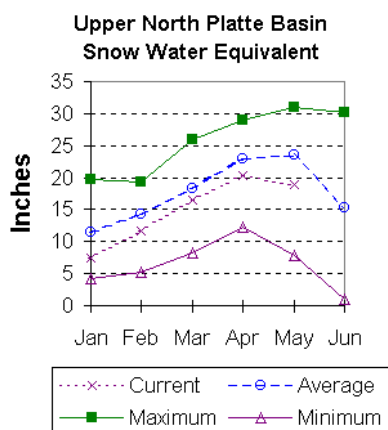
The average is computed for the 1961-1990 base period.

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

## Upper North Platte River Basin (8)

### Snow

The snow courses above Seminoe Reservoir have about 80 percent of average snow water equivalent (SWE) recorded for this time of the year (78 percent of last year). SWE in the drainage area above Northgate is about 96 percent of average and 99 percent of last year at this time. SWE in the Encampment River drainage is about 73 percent of normal and 73 percent of last year. Brush Creek SWE for the year is about 72 percent of normal and 64 percent of last year's SWE. Medicine Bow and Rock Creek drainage SWE is about 64 percent of average and 60 percent of last year at this time. For more information see Basin Summary of Snow Courses at the beginning of this report.

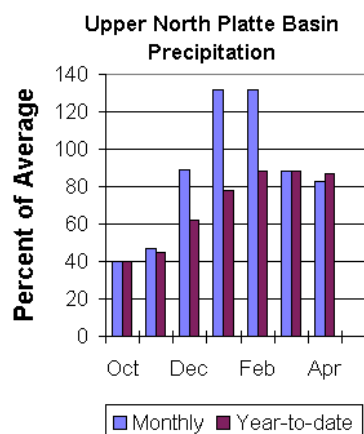


### Precipitation

Eight reporting stations indicate April precipitation was 83 percent of average and about 54 percent of last year's amount. April precipitation varied from 47 to 180 percent of average. Total water-year-to-date precipitation is about 87 percent of average for the basin, which is about 74 percent of last year's amount. Year to date percentage ranges from 71 to 114 percent of average for the 8 reporting stations.

### Reservoirs

Seminoe Reservoir is currently storing about 192 percent of normal for this time of the year. Currently, the reservoir is storing 105 percent of last year's amount. Currently, Seminoe Reservoir storage is estimated to be storing 753,000 acre-feet (74 percent of capacity). Last year, at this time, the reservoir had 719,800 acre-feet in storage.



### Streamflow

All the following yields are based on the fifty percent chance May through September yield. Yield for the North Platte River near Northgate is expected to be about 203,000 acre-feet (89 percent of average). Encampment River near Encampment is estimated to yield 104,000 acre-feet (70 percent of normal). North Platte River near Sinclair will yield about 511,000 acre-feet (81 percent of normal). Rock Creek near Arlington is estimated to yield 31,000 acre-feet (56 percent of average). Medicine Bow River above Seminoe Reservoir is expected to yield about 63,000 acre-feet (60 percent of normal). Seminoe Reservoir inflow should be about (574,000 acre-feet (78 percent of normal). See the following table for more detailed information on projected runoff.

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UPPER NORTH PLATTE RIVER BASIN  
Streamflow Forecasts - May 1, 2000

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
North Platte River nr Northgate	MAY-SEP	142	178	203	89	228	264	228
Encampment River nr Encampment	MAY-SEP	69	90	104	70	118	139	148
North Platte River nr Sinclair	MAY-SEP	337	441	511	81	581	681	631
Rock Creek nr Arlington	MAY-SEP	24	28	31	56	34	39	55
Medicine Bow River ab Seminoe Reserv	MAY-SEP	29	48	63	60	80	109	105
Seminoe Reservoir inflow	MAY-JUL	340	450	525	78	600	705	671
	MAY-SEP	372	492	574	78	656	770	733

UPPER NORTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of April					UPPER NORTH PLATTE RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SEMINOE	1016.7	753.0	719.8	392.0	N PLATTE above Northgate	8	99	96
					ENCAMPMENT RIVER	4	73	73
					BRUSH CREEK	5	64	72
					MEDICINE BOW & ROCK CREEK	3	60	64
					N PLATTE above Seminoe	20	78	80

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

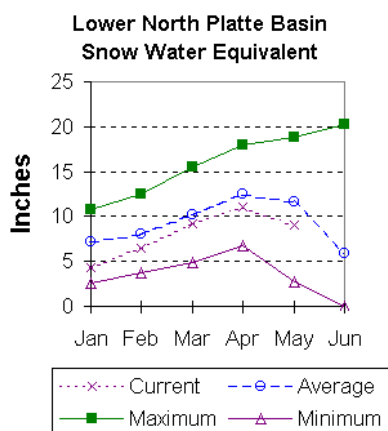
The average is computed for the 1961-1990 base period.

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

## Lower North Platte River Basin (9)

### Snow

SWE for the North Platte River basin in Wyoming averages 77 percent of normal (71 % of last year). The Sweetwater drainage is currently 73 percent of average (54 % of last year). Deer and LaPrele Creeks are currently 87 percent of normal (67 percent of last year). SWE for the North Platte above the Laramie River drainage is 80 percent of average (74 % of last year). SWE for the Laramie River above the mouth is 71 percent of average (72 % of last year). SWE for the Laramie River above Laramie is 82 percent of average (82 % of last year). And SWE in the Little Laramie River is 49 percent of normal (48 % of last year). For more information see Basin Summary of Snow Courses at beginning of report.



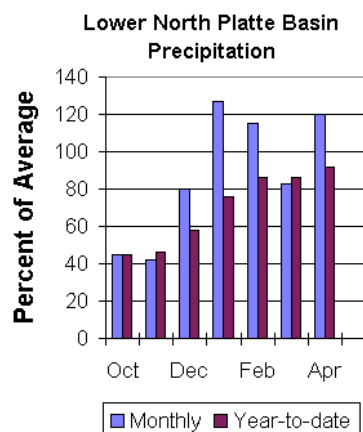
### Precipitation

Of the 6 reporting stations, percentages for the month range from 29 to 199. April precipitation for the basin was 120 percent of average (62 percent of last year). The water year-to-date precipitation for the basin is currently 92 percent of average (73 percent of last year). Year to date percentages range from 62 to 125.

### Reservoir

The Lower North Platte River basin reservoir storage is average to well above average. Reservoir storage is as follows:

Alcova 197,700 acre feet (110 percent of average); Glendo 516,100 acre feet (113 percent of average); Guernsey 36,000 acre feet (110 percent of average); Pathfinder 994,600 acre feet (163 percent of average); Seminoe 753,000 acre feet (192 percent of average); and Wheatland No.2 77,000 acre feet (140 percent of average). Water allocated to project use is also above average with North Platte Project users at 136 percent of average, Kendrick Project users at 130 percent of average, and Glendo Project users at 134 percent of average.



### Streamflow

Yields from 41 to 102 percent are expected in the basin during the forecast period. The following yields are based on the fifty percent chance probability runoff for the May through September forecast period. The Sweetwater near Alcova is forecast to yield about 25,000 acre-feet (41 percent of average). Deer Creek at Glenrock is expected to yield about 46 percent of average (13,700 acre-feet). LaPrele Creek above the reservoir is estimated to yield 47 percent of average (9,400 acre-feet). North Platte River below Guernsey Reservoir is expected to yield about 73 percent of normal (597,000 acre-feet), and below Glendo Reservoir is anticipated to yield about 72 percent of average (573,000 acre-feet). Laramie River near Woods should yield about 102 percent of average (102,000 acre-feet). The Little Laramie near Filmore should produce about 42,000 acre-feet (69 percent of average).



LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	Future Conditions					Wetter		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)		
Sweetwater River nr Alcova	MAY-JUL	9.0	13.7	23	41	32	46	56	
	MAY-SEP	9.8	15.0	25	41	35	50	61	
Deer Creek at Glenrock	MAY-SEP	8.4	11.4	13.7	46	16.2	20	30	
La Prele Creek ab La Prele Reservoir	MAY-SEP	2.4	5.8	9.4	47	14.3	24	20	
North Platte River blw Glendo	MAY-SEP	431		573	72		815	799	
North Platte River blw Guernsey	MAY-SEP	453		597	73		848	823	
Laramie River nr Woods	MAY-SEP	84	111	129	102	147	174	127	
Little Laramie River nr Filmore	MAY-SEP	33	38	42	69	46	52	61	

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Reservoir Storage (1000 AF) - End of April

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Watershed Snowpack Analysis - May 1, 2000

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ALCOVA	184.3	197.7	179.0	179.9	SWEETWATER	3	53	73
GLENDO	506.4	516.1	527.7	457.6	DEER & LAPRELE CREEKS	4	67	87
GUERNSEY	45.6	36.0	37.2	32.8	N PLATTE abv Laramie R.	27	73	80
PATHFINDER	1016.5	994.6	995.3	609.0	LARAMIE RIVER abv Laramie	9	82	82
SEMINOE	1016.7	753.0	719.8	392.0	LITTLE LARAMIE RIVER	4	48	49
WHEATLAND #2	98.9	77.0	76.0	54.9	LARAMIE RIVER above mouth	12	72	71
NORTH PLATTE PROJ	1062.1	1069.1	1061.8	786.7	NORTH PLATTE	35	71	77
KENDRICK PROJECT	1201.7	1047.4	1031.3	807.0				
GLENDO PROJECT USERS	183.2	172.2	172.2	128.9				

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

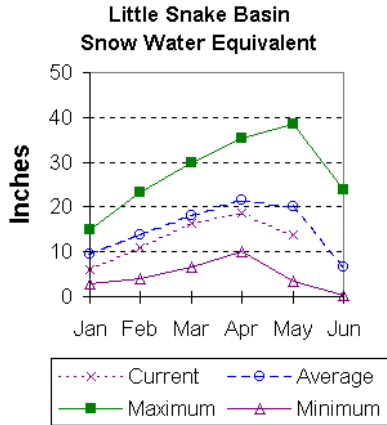
The average is computed for the 1961-1990 base period.

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

# Little Snake River Basin (10)

## Snow

Snowfall has been below average across the basin this year. Currently, snow water equivalent (SWE) in the Little Snake River drainage is 68 percent of average (70 percent of last year at this time). For more information see Basin Summary of Snow Courses at beginning of this report.



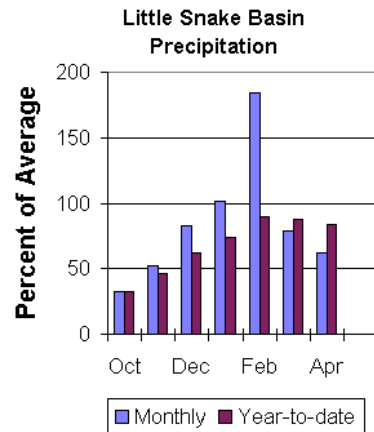
## Precipitation

Precipitation across the basin was near average this past month. April precipitation was 62 percent of average (46 percent of last year) for the 5 reporting stations. The Little Snake River basin water-year-to-date precipitation is currently 84 percent of average (74 percent of last year). Year-to-date percentages range from 80 to 93 percent of average.

## Streamflow

Runoff yield in the Little Snake River drainage is expected to be below normal

this year. Stream yield is based on the 50 percent probability for the April through July forecast period. The Little Snake River near Slater should yield about 107,000 acre-feet (69 percent of normal). Little Snake River near Dixon is estimated to yield 215,000 acre-feet (65 percent of normal).



LITTLE SNAKE RIVER BASIN  
Streamflow Forecasts - May 1, 2000

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)	
Little Snake River nr Slater	APR-JUL	71	92	107	69	124	150	155
LITTLE SNAKE R nr Dixon	APR-JUL	109	172	215	65	258	321	329

LITTLE SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of April					LITTLE SNAKE RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					LITTLE SNAKE RIVER	8	70	68

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

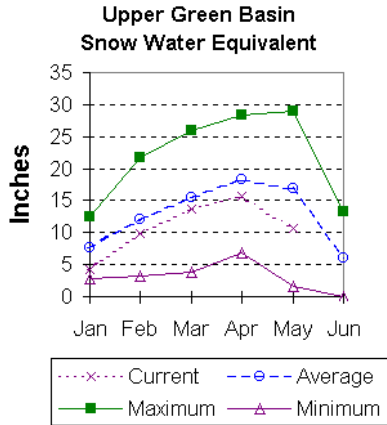
The average is computed for the 1961-1990 base period.

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

# Upper Green River Basin (11)

## Snow

The Upper Green River Basin snow water equivalent (SWE), above Fontenelle Reservoir, is 64 percent of average (51 percent of last year). The Green River basin SWE above Warren Bridge is 51 percent of normal (45 percent of last year). SWE on the west side of the Upper Green River basin is about 71 percent of normal, 55 percent of this time last year. Newfork River SWE is now 49 percent of normal (39 percent of last year). Big Sandy-Eden Valley SWE is about 71 percent of average (58 percent of last year). For more information see the Basin Summary of Snow Courses at the beginning of this report.



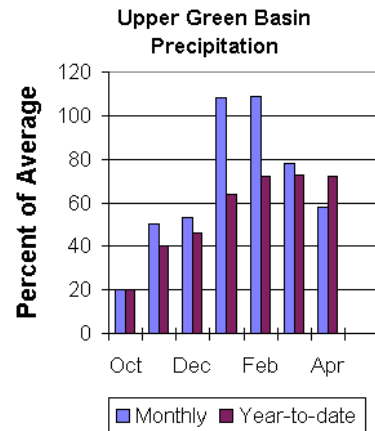
## Precipitation

The 11 reporting precipitation sites in the basin were 58 percent of the April average (32 percent of last year at this time). April precipitation varied from 17 to 122 percent of average. Water year-to-date precipitation is about 72 percent of average (69 percent of last year). Year to date percentage of average ranges from 66 to 85 for the reporting stations.

## Reservoir

Data for Big Sandy Reservoir and Eden Reservoir were not reported this month.

Fontenelle Reservoir is storing 118,600 acre-feet (73 percent of average and 30 percent of the total capacity). Flaming Gorge reservoir is currently storing 3,196,900 acre feet (85 percent of capacity). There is no average established for Flaming Gorge. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.



## Streamflow

The fifty-percent chance April through July runoff in the Upper Green River basin is forecast well below average. Green River at Warren Bridge is expected to yield about 215,000 acre-feet (81 percent of normal). Pine Creek above Fremont Lake is expected to yield 85,000 acre-feet (82 percent of normal). New Fork River near Big Piney is expected to yield about 285,000 acre-feet (74 percent of normal). Fontenelle Reservoir Inflow is estimated to be 575,000 acre-feet (68 percent of average), and Big Sandy near Farson is expected to be about 40,000 acre-feet (70 percent of normal).

UPPER GREEN RIVER BASIN  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Green River at Warren Bridge	APR-JUL	178	200	215	81	230	252	266
Pine Creek abv Fremont Lake	APR-JUL	72	80	85	82	90	98	104
	MAY-JUL	66	74	79	78	84	92	101
New Fork River nr Big Piney	APR-JUL	200	251	285	74	319	370	385
Fontenelle Reservoir Inflow	APR-JUL	457	526	575	68	627	707	849
Big Sandy River nr Farson	APR-JUL	26	34	40	70	46	54	57

UPPER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of April					UPPER GREEN RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BIG SANDY		NO REPORT			GREEN above Warren Bridge	4	50	51
EDEN		NO REPORT			UPPER GREEN (West Side)	7	55	71
FLAMING GORGE	3749.0	3196.9	3140.3	---	NEWFORK RIVER	2	39	49
FONTENELLE	344.8	118.6	134.1	161.8	BIG SANDY/EDEN VALLEY	2	58	71
					GREEN above Fontenelle	13	51	64

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

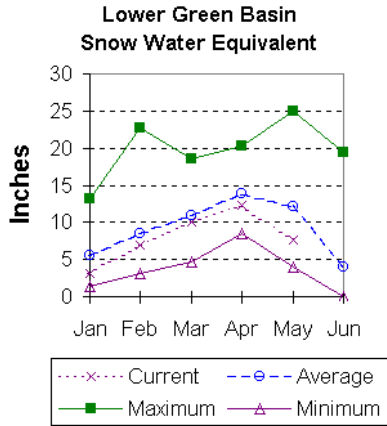
The average is computed for the 1961-1990 base period.

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

## Lower Green River Basin (12)

### Snow

The Blacks Fork drainage snow water equivalent (SWE) is 66 percent of average (61 % of last year). SWE in the Hams Fork, as of May 1, is 60 percent of average (49% of last year). The Henry's Fork SWE for the basin is 43 percent of average (30 % of last year). The basin, as a whole, is 88 percent of average (87 percent of last year). For more information see Basin Summary of Snow Courses at beginning of this report.

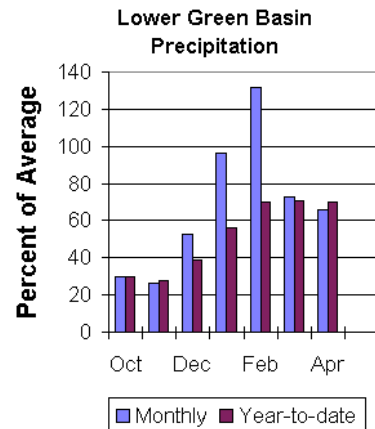


### Precipitation

Precipitation was above average for the 3 reporting stations during April. Precipitation ranged from 38 to 140 percent of average for the month. The entire basin received 66 percent of average for the month (25 percent of last year). The basin year-to-date precipitation is currently 70 percent of average (65 percent of last year). Year to date percentages range from 65 to 76.

### Reservoir

Fontenelle Reservoir is currently storing 118,600 acre feet; this is 73 percent of average (88 % of last year). Flaming Gorge does not have an average established. Flaming Gorge is currently storing 3,196,000 acre feet. Last year at this time there was 3,140,300 acre feet in storage at Flaming Gorge. Viva Naughton is currently storing 37,600 acre feet; this is 142 percent of average (129 % of last year).



### Streamflow

Expected yields vary from 56 to 70 percent of average across the basin.

The following forecast values are based on a 50 percent chance probability for the April through July forecast period. Green River near Green River is forecast to yield about 580,000-acre feet (65 percent of average). Blacks Fork near Robertson is forecast to yield 66,000-acre feet (70 percent of average). East Fork of Smiths Fork near Robertson is estimated to yield 19,800 acre-feet (66 percent of average). The estimated yield for Hams Fork near Frontier is 40,000-acre feet (61 percent of average). Viva Naughton Reservoir inflow will be about 50,000-acre feet (56 percent of average). Flaming Gorge Reservoir inflow will be about 775,000-acre feet (65 percent of average).

LOWER GREEN RIVER BASIN  
Streamflow Forecasts - May 1, 2000

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		Chance Of Exceeding *		===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
Green River nr Green River, WY	APR-JUL	397	506	580	65	654	763	899
Blacks Fork nr Robertson	APR-JUL	50	60	66	70	72	82	95
EF of Smiths Fork nr Robertson	APR-JUL	16.8	18.5	19.8	66	21	23	30
Hams Fk blw Pole Ck nr Frontier	APR-JUL	29	36	40	61	45	52	66
Hams Fk Inflow to Viva Naughton Res	APR-JUL	31	42	50	56	58	69	89
Flaming Gorge Reservoir Inflow	APR-JUL	520	672	775	65	878	1030	1196

LOWER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of April					LOWER GREEN RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
FONTENELLE	344.8	118.6	134.1	161.8	HAMS FORK RIVER	4	49	60
FLAMING GORGE	3749.0	3196.9	3140.3	---	BLACKS FORK	5	61	66
VIVA NAUGHTON RES	42.4	37.6	29.2	26.5	HENRYS FORK	3	30	43
					GREEN above Flaming Gorge	25	50	62

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

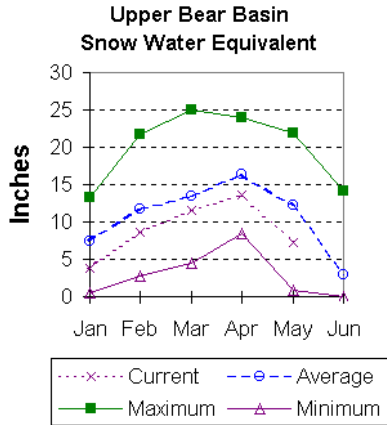
The average is computed for the 1961-1990 base period.

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

# Upper Bear River Basin (13)

## Snow

Snow water equivalent (SWE), at snow courses in the Bear River above the Idaho State line, is 56 percent of average (46 percent of last year). SWE for the Bear River in Utah is estimated to be 59 percent of average; that is about 47 percent of last year at this time. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is estimated at 62 percent of average (51 percent of last year at this time.). See the Basin Summary of Snow Course Data at the beginning of this report for more detailed information.



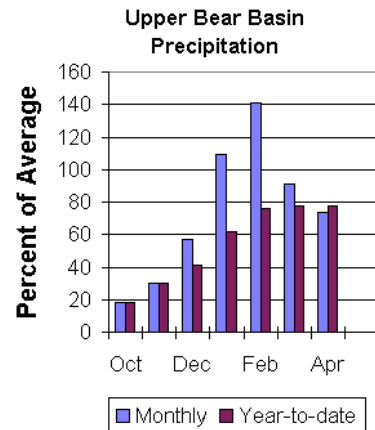
acre feet capacity. Last year the reservoir was storing 57,300 acre feet (100 percent of last year at this time).

## Precipitation

Precipitation for the month of April was 74 percent of average for the 2 reporting stations; this is 45 percent of the previous April. The monthly percentages range from 61 to 75 percent of average. The year-to-date precipitation, for the basin, is 78 percent of average; this is 72 percent of last year's amount.

## Reservoir

Woodruff Narrows reservoir is currently storing 57,300 acre feet of water. Current storage is 100 percent of the 57,300



## Streamflow

The following 50 percent chance stream flow yields are for the May through September period. Smiths Fork near Border is estimated to yield 66,000 acre-feet (61 percent of normal), and Thomas Fork drainage near the Idaho-Wyoming state line is estimated to yield 16,000 acre-feet or 53 percent of normal. Bear River near the Utah-Wyoming State Line is expected to yield about 77,000 acre feet; that is 64 percent of average, while Bear River near Woodruff is expected to yield about 81,000 acre-feet, about 62 percent of normal.



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UPPER BEAR RIVER BASIN  
Streamflow Forecasts - May 1, 2000

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		===== Chance Of Exceeding * =====						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
SMITHS FK nr Border, WY	MAY-SEP	52	60	66	61	73	84	109
THOMAS FK nr WY-ID State Line (Disc.	MAY-SEP	10.2	13.3	16.0	53	19.2	25	30
Bear R nr UT-WY State Line	APR-SEP	72	78	82	65	86	93	126
	MAY-SEP	67	73	77	64	81	88	120
BEAR R nr Woodruff, UT	APR-SEP	63	82	97	63	115	149	154
	MAY-SEP	51	67	81	62	98	130	131

UPPER BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of April					UPPER BEAR RIVER BASIN Watershed Snowpack Analysis - May 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
WOODRUFF NARROWS	57.3	57.3	57.3	---	UPPER BEAR RIVER in Utah	7	47	59
					SMITHS & THOMAS FORKS	4	51	62
					BEAR RIVER abv ID line	9	46	56
					NORTHWEST	68	51	64
					NORTHEAST	15	79	76
					SOUTHEAST	37	72	75
					SOUTHWEST	34	53	62