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# Wyoming Basin Outlook Report March 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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## General

Generally, snow water equivalent (SWE) across the state is below normal. SWE is about 10 percent below average for most of the State -- north portion of the State is 87 percent of normal and south part of the State is 90 percent of average. Precipitation for February was average to well above average for February, but the year-to-date precipitation is average to below average. The Shoshone River drainage year-to-date precipitation is about average and the remaining portion of the state is 10-30 percent below average. Most of the reservoir levels are well above average. Forecast runoff varies, but is generally from 49 to 91 percent of average. The mean of all the forecast points is 20 percent below average -- for all points in the State. The minimum yield forecast was 46 percent of average in the Middle Fork of the Powder River near Barnum and the maximum forecast was 102 percent of average at North Platte near Northgate

## Snowpack

Snow conditions improved across the State in February, but SWE is generally just below average across the State. SWE in the northwestern portion of Wyoming improved significantly, but is still about 87 percent of average. Northeast Wyoming SWE is also running about 87 percent of average. The Southeast and Southwest portions of the State generally have about 90 percent of average SWE, but areas range from 70 to 110 percent of average.

## Precipitation

February precipitation was generally good across the state. The following table displays the major river basins and their departure from normal for January 2000.

Basin	Departure from normal	Basin	Departure from normal
Snake River	+12%	Upper North Platte River	+32%
Yellowstone & Madison	+20%	Lower North Platte	+15%
Wind River	0%	Little Snake River	+84%
Big Horn	+10%	Upper Green River	+09%
Shoshone & Clarks Fork	+34%	Lower Green River	+32%
Powder & Tongue River	+14%	Upper Bear River	+41%
Belle Fourche & Cheyenne	+51%		

## Streams

Stream flow yield is expected to be below average across the State. The northwest part of the State is expected to yield about 75-80 percent of normal -- yield estimates vary from 56 to 93 percent of normal through the northwest region of the State. Yield from the northeast portion of Wyoming will be below average (about 70 percent of average) -- yield estimates vary from 46 to 91 percent of average for the various forecast points. In most cases, the southeast portion of the state will be about 80 percent of normal -- yield estimates range from 63 to 102 percent of normal. The southwest portion of Wyoming varies from 67 to 92 percent of average -- mean estimated yield for the forecast points in southeast Wyoming is about 83 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.

R E S E R V O I R     S U M M A R Y

for the end of FEBRUARY 2000

BASIN AREA RESERVOIR	CURRENT STORAGE	LAST YEAR STORAGE	AVERAGE STORAGE	CAPACITY OF RESV.
-----				
SNAKE RIVER BASIN				
ALCOVA	156.1	157.7	157.1	184.3
ANGOSTURA	113.6	120.9	101.7	122.1
BELLE FOURCHE	173.6	167.4	113.0	178.4
BIG SANDY	---	33.1	18.4	38.3
BOYSEN	527.3	550.0	555.2	596.0
BUFFALO BILL	441.8	436.9	391.2	646.6
BULL LAKE	95.2	97.8	85.0	151.8
DEERFIELD	14.7	14.8	13.2	15.2
EDEN	---	---	4.1	11.8
FLAMING GORGE	3208	3265.3	---	3749.0
FONTENELLE	130.8	144.8	172.0	344.8
GLENDO	381.8	450.9	383.1	506.4
GRASSY LAKE	12.5	13.1	11.0	15.2
GUERNSEY	15.9	19.4	13.6	45.6
HEBGEN LAKE	320.6	289.2	247.8	377.5
JACKSON LAKE	653.5	623.4	481.0	847.0
KEYHOLE	173.5	178.6	101.9	193.8
PACTOLA	54.1	52.0	46.0	55.0
PALISADES	1247.1	1039.3	1063.1	1400.0
PATHFINDER	960.5	916.7	590.0	1016.5
PILOT BUTTE	22.4	22.0	17.7	31.6
SEMINOE	798.2	705.2	409.0	1016.7
SHADEHILL	53.5	69.7	50.0	81.4
VIVA NAUGHTON RES	34.5	30.6	27.8	42.4
WHEATLAND #2	70.0	61.0	43.2	98.9
WOODRUFF NARROWS	50.0	46.5	---	57.3
-----				
KENDRICK PROJECT	989.9	979.1	818.1	1201.7
GLENDO PROJECT USERS	154.7	159.3	126.8	183.2
NORTH PLATTE PROJ	998.6	910.2	633.3	1062.1

B A S I N   S U M M A R Y   O F  
S N O W   C O U R S E   D A T A

MARCH   2000

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
-----						
WYOMING Snow Course and SNOTEL Stations						
ALBANY	9400	2/28/00	39	11.0	11.3	12.9
ASTER CREEK	7750	2/28/00	74	22.3	33.0	25.3
BALD MOUNTAIN SNOTEL	9380	3/01/00	---	16.7	17.6	17.0
BASE CAMP SNOTEL	7030	3/01/00	---	15.3	22.4	15.7
BATTLE MTN. SNOTEL	7440	3/01/00	---	9.8	12.1	9.9
BEARLODGE DIVIDE	4680	2/24/00	2	.3	.0	2.2
BEARTOOTH LK. SNOTEL	9280	3/01/00	---	18.1	24.1	19.9
BEAR TRAP SNOTEL	8200	3/01/00	---	4.8	5.9	5.9
BIG GOOSE	7760	2/28/00	21	4.7	2.8	5.6
BIG GOOSE SNOTEL	7760	3/01/00	---	6.2	4.9	---
BIG PARK	8620	2/28/00	54	14.4	17.7	16.9
BIG SANDY SNOTEL	9080	3/01/00	---	9.8	14.2	12.1
BLACKWATER SNOTEL	9780	3/01/00	---	14.9	27.7	18.0
BLIND BULL SNOTEL	8900	3/01/00	---	22.2	26.2	24.3
BLIND PARK PILLOW	6870	3/01/00	---	5.7	7.0	9.1
BLUE RIDGE	9620	2/25/00	28	5.7	7.7	10.3
BONE SPGS. SNOTEL	9350	3/01/00	---	12.7	13.9	13.4
BOXELDER	7280	2/27/00	21	4.7	4.3	5.9
BROOKLYN LK. SNOTEL	10220	3/01/00	---	15.3	18.3	19.9
BRYAN FLAT	6420	2/25/00	28	7.6	10.4	8.3
BUCK CREEK	7960	2/27/00	31	8.4	6.6	7.8
BURGESS JCT. SNOTEL	7880	3/01/00	---	9.2	7.1	9.7
BURROUGHS CRK SNOTEL	8750	3/01/00	---	10.5	15.7	13.1
CANYON SNOTEL	8090	3/01/00	---	11.4	16.6	10.7
CARTER MOUNTAIN	7950	2/25/00	10	1.2	1.4	3.7
CASPER MTN. SNOTEL	7850	3/01/00	---	12.0	9.6	12.3
CASTLE CREEK	8400	2/28/00	20	4.2	6.2	4.0
CCC CAMP	7000	2/25/00	45	11.3	13.7	10.9
CHALK CK #1 SNOTEL	9100	3/01/00	---	17.0	18.3	18.6
CHALK CK #2 SNOTEL	8200	3/01/00	---	11.0	13.7	12.3
CLOUD PEAK SNOTEL	9850	3/01/00	---	12.2	12.5	11.1
COLD SPRINGS SNOTEL	9630	3/01/00	---	4.9	8.7	7.0
COTTONWOOD CR SNOTEL	7700	3/01/00	---	19.5	21.7	18.5
DARBY CANYON	8250	2/29/00	64	18.6	21.0	19.8
DEER PARK SNOTEL	9700	3/01/00	---	11.2	14.7	---
DITCH CREEK	6870	2/28/00	7	1.7	3.0	---
DIVIDE PEAK SNOTEL	8860	3/01/00	---	13.5	16.4	16.8
DOMELAKE SNOTEL	8880	3/01/00	---	8.8	9.5	11.3
DU NOIR	8760	2/28/00	22	4.3	7.2	7.0
EAST RIM DIV SNOTEL	7930	3/01/00	---	9.7	12.5	12.0
ELBO RANCH	7100	2/29/00	34	8.6	12.4	10.2
ELKHART PARK SNOTEL	9400	3/01/00	---	10.2	12.4	11.4
EVENING STAR SNOTEL	9200	3/01/00	---	21.4	30.9	22.5

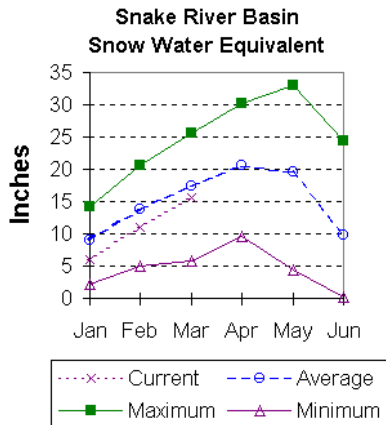
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
FOUR MILE MEADOWS	7860	2/29/00	37	9.0	12.5	11.1
FOXPARK	9060	2/28/00	30	7.6	5.6	6.5
GEYSER CREEK	8500	2/28/00	17	3.4	6.9	6.2
GLADE CREEK	7040	2/28/00	61	17.8	25.5	20.3
GRANITE CRK SNOTEL	6770	3/01/00	---	13.3	19.5	15.4
GRANNIER MEADOWS	8860	2/25/00	36	8.0	10.0	12.3
GRASSY LAKE SNOTEL	7270	3/01/00	---	26.7	38.4	29.6
GRAVE SPRINGS SNOTEL	8550	3/01/00	---	6.0	6.7	7.6
GREYS BOUNDARY	5720	2/25/00	41	10.4	12.0	10.3
GROS VENTRE SNOTEL	8750	3/01/00	---	9.0	14.0	12.9
GROVER PARK DIVIDE	7000	2/25/00	40	9.5	10.9	10.5
HAIRPIN TURN	9480	2/28/00	40	12.2	13.4	14.5
HANSEN S.M. SNOTEL	8360	3/01/00	---	5.1	4.6	5.7
HAMS FORK SNOTEL	7840	3/01/00	---	11.2	12.8	10.5
HASKINS CREEK	8980	2/28/00	85	23.9	26.2	25.6
HOBBS PARK SNOTEL	10100	3/01/00	---	8.3	15.5	12.1
HUCKLEBERRY DIVIDE	7300	2/28/00	59	16.8	22.9	18.7
INDIAN CREEK SNOTEL	9430	3/01/00	---	19.0	25.7	22.9
JACKPINE CREEK	7350	2/29/00	57	17.5	24.2	19.2
KELLEY R.S. SNOTEL	8180	3/01/00	---	12.0	14.9	14.2
KENDALL R.S. SNOTEL	7740	3/01/00	---	12.5	14.5	12.5
KIRWIN SNOTEL	9550	3/01/00	---	6.3	11.2	8.1
LA BONTE	8450	2/28/00	20	3.3	3.8	5.3
LAKE CAMP	7780	2/27/00	36	9.9	11.5	8.2
LA PRELE SNOTEL	8380	3/01/00	---	8.0	6.9	8.4
LARSEN CREEK	9020	2/23/00	36	9.8	12.5	11.2
LEWIS LAKE SNOTEL	7850	3/01/00	---	21.7	37.7	29.5
LEWIS LAKE DIVIDE	7850				---	35.3
LIBBY LODGE	8750	2/28/00	32	9.0	9.0	9.9
LITTLE BEAR RUN	6240	2/28/00	13	2.9	3.3	---
LITTLE WARM SNOTEL	9370	3/01/00	---	8.8	12.5	9.2
LOOMIS PARK SNOTEL	8240	3/01/00	---	14.6	16.9	14.9
LUPINE CREEK	7380	2/25/00	30	6.2	11.1	8.9
MALLO	6420	2/29/00	22	4.6	6.0	7.4
MARQUETTE SNOTEL	8760	3/01/00	---	4.7	7.1	6.5
MEDICINE LODGE LAKES	9340	2/28/00	34	9.1	11.4	9.6
MIDDLE FORK	7420	2/25/00	9	.8	3.6	4.8
MIDDLE POWDER SNOTEL	7760	3/01/00	---	8.5	7.5	9.7
MORAN	6750	2/29/00	37	11.6	14.7	11.8
MOSS LAKE	9800	2/25/00	50	13.7	16.2	20.7
NEW FORK SNOTEL	8340	3/01/00	---	8.9	11.4	9.9
NORRIS BASIN	7500	2/29/00	38	12.1	11.4	9.9
NORTH BARRETT CREEK	9400	2/25/00	53	14.4	21.5	17.4
NORTH FRENCH SNOTEL	10130	3/01/00	---	21.3	25.4	20.4
NORTH RAPID CK PILL.	6130	3/01/00	---	5.2	5.0	---
NORTH TONGUE	8450	2/28/00	38	10.2	8.8	10.7
OLD BATTLE SNOTEL	9920	3/01/00	---	21.4	24.2	26.2
OLD FAITHFUL	7400	2/29/00	41	11.2	20.1	13.7
ONION GULCH	8780	2/26/00	25	5.0	5.8	7.3
OWL CREEK SNOTEL	8980	3/01/00	---	2.7	5.5	3.7
PARKERS PEAK SNOTEL	9400	3/01/00	---	15.1	21.0	18.0
PHILLIPS BENCH SNOT.	8200	3/01/00	---	19.6	29.6	24.2

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
POCKET CREEK	9350	2/23/00	34	9.1	12.0	10.7
POISON MEADOWS	8500				---	24.5
POLE MOUNTAIN	8700	2/29/00	22	4.9	7.0	6.3
POWDER RVR.PASS SNOT	9480	3/01/00	---	7.7	11.1	8.8
PURGATORY GULCH	8970	2/25/00	33	8.2	12.3	8.9
RANGER CREEK	8120	2/28/00	30	7.7	9.2	7.7
RENO HILL SNOTEL	8500	3/01/00	---	9.8	11.4	10.8
REUTER CANYON	6280	2/24/00	18	5.0	7.1	8.3
ROWDY CREEK	8300	2/28/00	58	19.1	23.8	19.2
RYAN PARK	8400	2/25/00	33	7.6	11.6	9.7
SALT RIVER SNOTEL	7600	3/01/00	---	11.7	14.3	12.1
SAND LAKE SNOTEL	10050	3/01/00	---	18.5	29.0	26.8
SANDSTONE SNOTEL	8150	3/01/00	---	13.2	11.5	12.2
SAWMILL DIVIDE	9260	2/28/00	38	10.0	9.5	10.9
SHELL CREEK SNOTEL	9580	3/01/00	---	12.4	14.7	12.6
SHERIDAN R.S.	7750	2/29/00	21	4.5	5.5	5.3
SNAKE RIVER STATION	6920	2/28/00	56	16.2	21.9	18.2
SNAKE RV STA SNOTEL	6920	3/01/00	---	14.6	20.5	16.2
SNIDER BASIN SNOTEL	8060	3/01/00	---	10.8	15.1	12.8
SNOW KING MTN	7660				14.3	12.8
SOLDIER PARK	8780	2/26/00	18	3.2	1.9	4.6
SOUR DOUGH	8460	2/26/00	21	4.2	3.7	5.5
SOUTH BRUSH SNOTEL	8440	3/01/00	---	8.8	11.5	9.4
SOUTH PASS SNOTEL	9040	3/01/00	---	11.3	16.0	14.0
SPRING CRK. SNOTEL	9000	3/01/00	---	20.5	25.6	23.3
ST LAWRENCE ALT SNOT	8620	3/01/00	---	2.8	6.4	6.2
SUCKER CREEK SNOTEL	8880	3/01/00	---	9.6	8.6	9.7
SYLVAN LAKE SNOTEL	8420	3/01/00	---	16.0	23.4	18.5
SYLVAN ROAD SNOTEL	7120	3/01/00	---	11.8	15.8	11.2
T CROSS RANCH	7900	2/28/00	26	6.1	7.7	6.7
TETON PASS W.S.	7740	2/29/00	67	21.0	29.7	22.4
THUMB DIVIDE SNOTEL	7980	3/01/00	---	12.3	21.4	14.3
THUMB DIVIDE	7980	2/28/00	49	12.1	19.5	17.1
TIE CREEK SNOTEL	6870	3/01/00	---	5.6	2.9	---
TIMBER CREEK SNOTEL	7950	3/01/00	---	1.4	4.6	4.9
TOGWOTEE PASS SNOTEL	9580	3/01/00	61	16.9	26.1	20.8
TOWNSEND CRK SNOTEL	8700	3/01/00	---	4.6	8.7	8.0
TRIPLE PEAK SNOTEL	8500	3/01/00	---	20.3	24.7	21.7
TURPIN MEADOWS	6900	2/29/00	32	8.3	12.5	9.5
TWO OCEAN SNOTEL	9240	3/01/00	---	20.6	33.1	22.2
TYRELL RANGER STA.	8300	2/26/00	25	4.2	6.4	7.0
UPPER SPEARFISH	6500	2/29/00	17	4.2	4.6	6.0
WARREN PEAK SNOTEL	6520	3/01/00	---	9.2	9.2	9.1
WEBBER SPRING SNOTEL	9250	3/01/00	---	16.9	16.5	22.3
WHISKEY PARK SNOTEL	8950	3/01/00	---	20.7	23.2	23.6
WILLOW CREEK SNOTEL	8450	3/01/00	---	24.6	29.9	25.8
WINDY PEAK SNOTEL	7900	3/01/00	---	5.6	5.5	6.2
WOLVERINE SNOTEL	7650	3/01/00	---	10.6	13.0	10.1
WOOD ROCK G.S.	8440	2/28/00	33	7.5	6.5	8.3
YOUNTS PEAK SNOTEL	8350	3/01/00	---	12.9	19.5	14.8

# Snake River Basin (1)

## Snow

Percentage of average snow water equivalent (SWE) for each drainage in the basin is: Snake above Jackson Lake -- 87 percent (67% of last year at this time), Pacific Creek -- 96 percent (68% of last year at this time), Gros Ventre River -- 79 percent (66% of last year at this time), Hoback River -- 87 percent (77% of last year at this time), Greys River -- 93 percent (83% of last year at this time), Salt River -- 98 percent (85% of last year at this time). Snake River Basin above Palisades is 89 percent of average (72% 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.

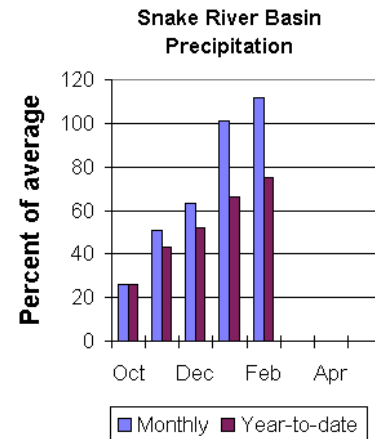


## Precipitation.

Precipitation across the basin was above average for last month. Monthly precipitation, for the basin, was 112 percent of average (70 percent of last year). February percentages range from 93 to 260 percent of average. Water-year-to-date precipitation is 75 percent of normal for the Snake River basin (70 percent of last year at this time) Year-to-date percentages range from 54 to 105 percent of average.

## Reservoir.

Current storage compared to average for the three storage reservoirs in the basin is as follows: Grassy Lake —114 percent of average (12,500 acre feet compared to 13,100 last year), Jackson lake — 136 percent of average (653,500 acre feet compared to 623,400 acre feet last year), and Palisades Reservoir —117 percent of average (1,247,100 acre feet compared to 1,039,300 acre feet last year).



## Streamflow.

The most probable, 50 percent chance, April through September runoff yield forecast is below average for the basin. The Snake near Moran is expected to yield 735,000 acre-feet (85 percent of normal). Yield from the Snake River above Palisades Reservoir is estimated to be 2,387,000 acre-feet (89 percent of normal). The 50 percent chance yield near Heise is expected to be 3,440,000 acre-feet (85 percent of normal). Pacific Creek at Moran is expected to yield about 136,000 acre-feet (82 percent of average). Greys River above Palisades Reservoir is estimated to yield 310,000 acre-feet (80 percent of normal). Salt River near Etna is estimated to have a yield of 320,000 acre-feet (80 percent of normal).



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SNAKE RIVER BASIN  
Streamflow Forecasts - March 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)	APR-SEP	556	679	735	85	791	914	869
SNAKE above Palisades (2)	APR-SEP	2026	2241	2387	89	2533	2748	2671
SNAKE near Heise (2)	APR-SEP	2824	3191	3440	85	3689	4056	4049
PACIFIC CREEK at Moran	APR-SEP	101	122	136	82	150	171	166
GREYS above Palisades	APR-SEP	236	280	310	80	340	384	388
SALT near Etna	APR-SEP	213	277	320	80	363	427	399

SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of February					SNAKE RIVER BASIN Watershed Snowpack Analysis - March 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	12.5	13.1	11.0	SNAKE above Jackson Lake	9	67	87
JACKSON LAKE	847.0	653.5	623.4	481.0	PACIFIC CREEK	3	68	96
PALISADES	1400.0	1247.1	1039.3	1063.1	GROS VENTRE RIVER	3	68	79
					HOBACK RIVER	6	77	87
					GREYS RIVER	5	83	93
					SALT RIVER	5	85	98
					SNAKE above Palisades	29	72	89

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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.

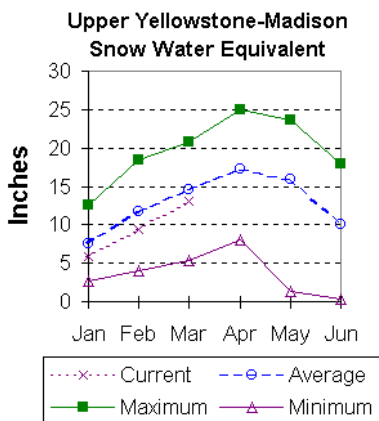
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(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 for the year, and very much below the SWE last year at this time. For this time of the year, snow water equivalent (SWE) is about 90 percent of average (62 percent of last year) in the Madison drainage. SWE in the Yellowstone drainage is about 91 percent of average (68 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.

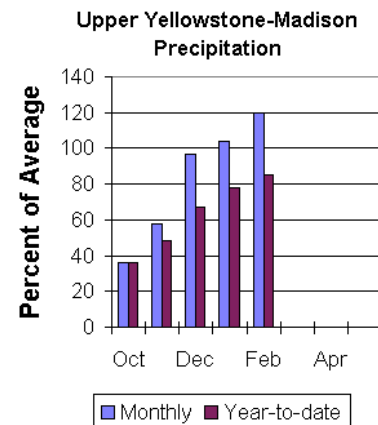


### Precipitation

February precipitation in the Madison and Yellowstone drainage was about 120 percent of average (74 percent of previous year) for the 8 reporting stations -- percentage range was from 82 percent of average at Yellowstone Park to 146 percent of average at Parkers Peak SNOTEL. Water-year-to-date precipitation is about 85 percent of average (66 percent of last year's amount). Year to date percentage ranges from 66 to 112 percent

### Reservoir

Ennis Lake is storing 28,200 acre-feet (83 percent of average and 69 percent of capacity). Hebgen Lake is storing about 320,600 acre-feet of water (129 percent of average and 85 percent of capacity). Hebgen Lake is storing about 111 percent and Ennis Lake is storing about 93 percent of last year's volume.



### Streamflow

All the following forecasts are the 50 percent chance runoff for the April through September runoff period. Yellowstone at Lake Outlet is expected to yield about 600,000 acre feet (76 percent of normal). Yellowstone at Corwin Springs will yield about 1,650,000 acre-feet (85 percent of normal). Yellowstone near Livingston will yield about 1,610,000 acre feet (85 percent of normal). Hebgen lake inflow is estimated to be 430,000 acre feet (89 percent of normal). See the following page for detailed runoff volumes.

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

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
YELLOWSTONE at Lake Outlet	APR-SEP	413	524	600	76	676	787	792
YELLOWSTONE RIVER at Corwin Spgs.	APR-SEP	1401	1549	1650	85	1751	1899	1937
YELLOWSTONE RIVER near Livingston	APR-SEP	1634	1798	1910	85	2022	2186	2241
HEBGEN Reservoir Inflow	APR-SEP	345	396	430	89	464	515	486

UPPER YELLOWSTONE & MADISON RIVER BASINS Reservoir Storage (1000 AF) - End of February					UPPER YELLOWSTONE & MADISON RIVER BASINS Watershed Snowpack Analysis - March 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	28.2	30.3	34.1	MADISON RIVER in WY	9	62	90
HEBGEN LAKE	377.5	320.6	289.2	247.8	YELLOWSTONE RIVER in WY	12	68	91

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

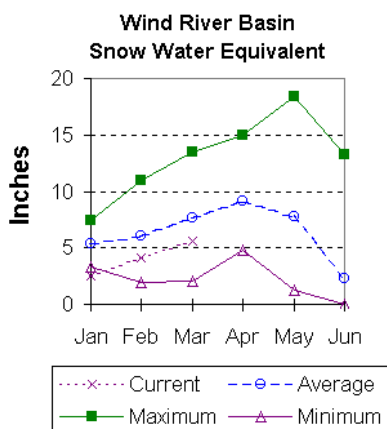
The average is computed for the 1961-1990 base period.

- (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. The Wind River above Dubois is 81 percent of average (67 percent of last year). The Little Wind is 61 percent of average water content (51 percent of last year), and the Popo Agie drainage is about 63 percent of average (65 percent of last year). The Wind River basin, above Boysen Reservoir, SWE is about 67 percent of average (about 65 percent of last year). See the Basin Summary of Snow Course Data at the front of this report for details.



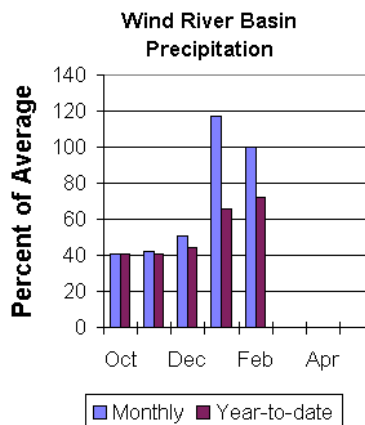
### Precipitation

February precipitation in the basin varied from 44 to 240 percent of average. February precipitation for the basin was about 100 percent of average for the 8 reporting stations; that is about 66 percent of last year's amount. Water year-to-date precipitation is 72 percent of normal. The current water-year-to-date average is about 62 percent of last year at this time. Year to date figures range from 15 to 79 percent of average.

### Reservoirs

Current storage varies from 95 to 127 percent of

average. Bull Lake is currently storing about 95,200 acre feet (63 percent of capacity) -- normally the reservoir is at 56 percent of capacity at this time of the year. Boysen Reservoir is storing about 88 percent of capacity (527,300 acre feet) -- normally the reservoir is at 93 percent of capacity at this time of the year. Pilot Butte is storing 71 percent of capacity (22,400 acre feet) -- normally the reservoir is at 56 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 April through September runoff period. The Wind River above Bull Lake Creek is expected to yield 475,000 acre feet (88 percent of average). Wind River at Riverton will yield about 540,000 acre feet (83 percent of average). Boysen Reservoir inflow will yield about 590,000 acre feet (73 percent of normal). Bull Lake Creek near Lenore is expected to yield about 156,000 acre feet (85 percent of average). Little Popo Agie River near Lander is expected to yield about 36,000 acre feet (69 percent of average). South Fork of Little Wind near Fort Washakie will yield about 60,000 acre feet (74 percent of average). Little Wind River near Riverton will yield about 210,000 acre feet (65 percent of average).

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WIND RIVER BASIN  
Streamflow Forecasts - March 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)	
WIND RIVER abv Bull Lake Cr (2)	APR-SEP	369	432	475	88	518	581	538
WIND RIVER at Riverton (2)	APR-SEP	321	451	540	83	629	759	648
BOYSEN RESERVOIR Inflow (2)	APR-SEP	268	460	590	73	720	912	809
BULL LAKE CR near Lenore (2)	APR-SEP	116	140	156	85	172	196	183
LT POPO AGIE RIVER nr Lander	APR-SEP	17.2	28	36	69	44	55	52
SF LT WIND nr Fort Washakie	APR-SEP	32	49	60	74	71	88	81
LT WIND RIVER nr Riverton	APR-SEP	58	149	210	65	271	362	324

WIND RIVER BASIN Reservoir Storage (1000 AF) - End of February					WIND RIVER BASIN Watershed Snowpack Analysis - March 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	95.2	97.8	85.0	WIND RIVER above Dubios	7	67	80
BOYSEN	596.0	527.3	550.0	555.2	LITTLE WIND	2	51	61
PILOT BUTTE	31.6	22.4	22.0	17.7	POPO AGIE	6	65	63
					WIND above Boysen Resv	14	65	72

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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.

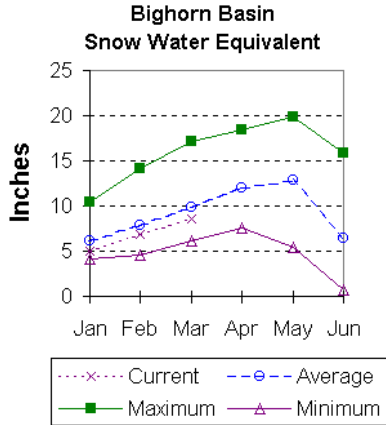
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

BIGHORN RIVER BASIN as of March 1, 2000

# Bighorn River Basin (4)

## Snow

Snowpack in this basin is just below average for this time of year. The Nowood drainage is 81 percent of average SWE (82 percent of last year). The Greybull River drainage SWE is 59 percent of average (49 percent of last year). Shell Creek SWE is 98 percent of average (89 percent of last year). The basin SWE, as a whole, is currently 86 percent of average (81 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



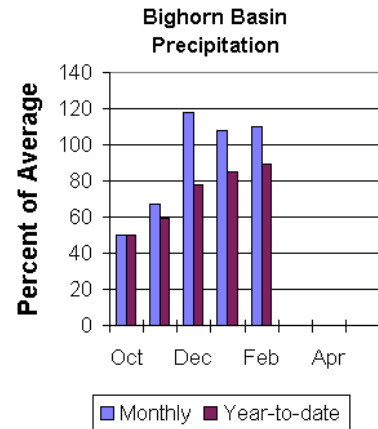
## Precipitation

February precipitation was 110 percent of the monthly average (87 percent of last year). Sites ranged from 5 to 167 percent of average for the month. Year-to-date precipitation is 89 percent of normal; that is 70 percent of last year at this time. Year to date percentages, from the 14 reporting stations, range from 33 to 110.

## Reservoir

Boysen Reservoir is currently storing 527,300-

acre feet (95 percent of average). Bighorn Lake is now at 115 percent of average (935,300-acre feet). Boysen is currently storing 96 percent of last year at this time and Big Horn Lake is storing 117 percent of last year's volume.



## Streamflow

The 50 percent chance April through September runoff is anticipated to be well below normal. The Boysen Reservoir inflow is forecast to yield 590,000 acre feet (73 percent of average); the Greybull River at Meeteese should yield 145,000 acre feet (72 percent of average); Shell Creek near Shell should yield 68,000 acre feet (91 percent of average) and the Bighorn River at Kane should yield 775,000 acre feet (69 percent of average).

BIGHORN RIVER BASIN  
Streamflow Forecasts - March 1, 2000

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Future Conditions		Wetter		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
BOYSEN RESERVOIR Inflow (2)	APR-SEP	268	460	590	73	720	912	809
GREYBULL RIVER nr Meeteetse	APR-SEP	111	131	145	72	159	179	201
SHELL CREEK nr Shell	APR-SEP	57	64	68	91	73	79	75
BIGHORN RIVER at Kane (2)	APR-SEP	309	587	775	69	963	1241	1124

BIGHORN RIVER BASIN Reservoir Storage (1000 AF) - End of February					BIGHORN RIVER BASIN Watershed Snowpack Analysis - March 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	527.3	550.0	555.2	NOWOOD RIVER	5	82	81
BIGHORN LAKE	1356.0	935.3	800.2	810.4	GREYBULL RIVER	2	49	59
					SHELL CREEK	4	89	98
					BIGHORN (Boysen-Bighorn)	11	81	86

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

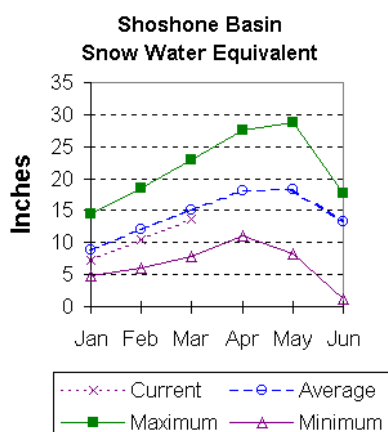
The average is computed for the 1961-1990 base period.

- (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 and Clarks Fork River Basin (5)

### Snow

Snow Water Equivalent (SWE) is 87 percent of the March 1 average (66 percent of last year) in the Shoshone River basin. The Clarks Fork River basin SWE is 95 percent of the March 1 average (76 percent of last year). For more information see the Basin Summary of Snow Course Data at the beginning of this report.



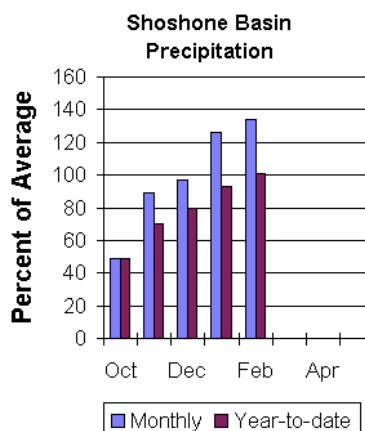
### Precipitation

Precipitation for the month of February was 134 percent of normal (93 percent of last year). Monthly percentages range from 18 to 450 percent of average. The basin year-to-date precipitation is now 101 percent of average (73 percent of last year). Year-to-date percentages range from 68 to 182 percent of average.

### Reservoir

Current storage in Buffalo Bill Reservoir is 113 percent of average (101 percent of last year's

storage). Currently, about 441,800 acre-feet are stored in the reservoir compared to 436,900 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 (April through September period) for North Fork Shoshone River at Wapiti is expected to be 450,000 acre-feet (87 percent of average). South Fork of the Shoshone River near Valley is estimated to yield of 185,000 acre-feet (69 percent of average), and South Fork above Buffalo Bill Reservoir is expected to be 127,000 acre-feet (56 percent of average). At the Buffalo Bill Reservoir, the fifty percent chance yield for the Shoshone River is expected to be about 600,000 acre-feet (75 percent of average). The fifty-percent chance yield for the Clarks Fork of the Yellowstone near Belfry, Montana is expected to be about 550,000 acre-feet (93 percent of average).



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

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
NF SHOSHONE RIVER at Wapiti	APR-SEP	377	420	450	87	480	523	520
SF SHOSHONE RIVER nr Valley	APR-SEP	130	163	185	69	207	240	269
SF SHOSHONE RIVER abv Buffalo Bill	APR-SEP	39	91	127	56	163	215	229
BUFFALO BILL DAM Inflow (2)	APR-SEP	448	539	600	75	661	752	804
CLARKS FORK RIVER nr Belfry	APR-SEP	457	512	550	93	588	643	590

SHOSHONE & CLARKS FORK RIVER BASINS Reservoir Storage (1000 AF) - End of February					SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - March 1, 2000			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BUFFALO BILL	646.6	441.8	436.9	391.2	SHOSHONE RIVER	7	66	87
					CLARKS FORK in WY	7	76	95

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

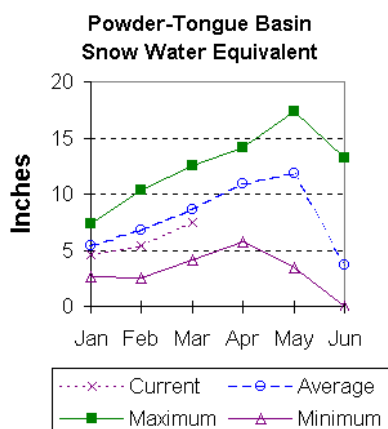
The average is computed for the 1961-1990 base period.

- (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 93 percent of normal (102 percent of last year). Goose Creek drainage SWE is 85 percent of average (99 percent of last year). Clear Creek drainage is 92 percent of normal SWE (109 percent of last year). Crazy Woman Drainage is 78 percent of normal (82 percent of last year). The Upper Powder River is 82 percent of normal (86 percent of last year). The Powder River basin snow water equivalent (SWE), in Wyoming, is about 87 percent of average (96 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



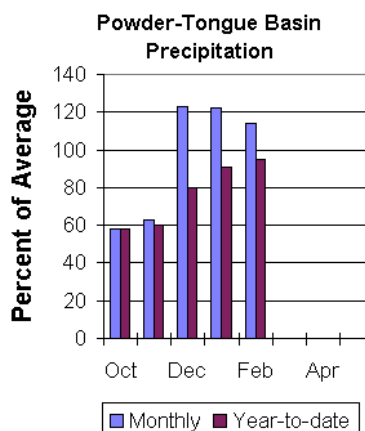
### Precipitation

February precipitation was 114 percent of average for the 10 reporting stations (100 percent of last year). Monthly percentages range from 80 to 160 percent of average. Precipitation for the year ranges from 68 to 110 percent of average. Year-to-date precipitation is about 95 percent of average in the basin; this is 81 percent of last year at this time.

### Reservoir

Tongue River Reservoir is currently at 122 percent of average storage for this

time of year (that is 36,600 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 April through September forecast period. The estimated yield for Tongue River near Dayton is 105,000 acre-feet (91 percent of normal). Water users on the Middle Fork near Barnum should have a yield near 9,000 acre-feet (46 percent of normal). The North Fork of the Powder near Hazelton should yield about 6,900 acre-feet (68 percent of normal). The estimated yield for Clear Creek near Buffalo is 29,500 acre-feet (76 percent of average). Rock Creek near Buffalo will yield about 20,000 acre-feet (83 percent of normal), and Piney Creek at Kearny should yield about 43,000 acre-feet (84 percent of average).

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

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)	
TONGUE RIVER nr Dayton (2)	APR-SEP	76	93	105	91	117	134	115
MIDDLE FORK POWDER nr Barnum	APR-SEP	1.8	6.1	9.0	46	11.9	16.2	19.7
NORTH FORK POWDER nr Hazelton	APR-SEP	4.3	5.9	6.9	68	7.9	9.5	10.1
CLEAR CREEK nr Buffalo	APR-SEP	17.8	25	30	76	34	41	39
ROCK CREEK nr Buffalo	APR-SEP	14.4	17.7	20	83	22	26	24
PINEY CREEK at Kearny	APR-SEP	16.2	32	43	84	54	70	51

POWDER & TONGUE RIVER BASINS Reservoir Storage (1000 AF) - End of February					POWDER & TONGUE RIVER BASINS Watershed Snowpack Analysis - March 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	36.6	7.8	30.1	UPPER TONGUE RIVER	8	106	93
					GOOSE CREEK	2	105	85
					CLEAR CREEK	4	109	92
					CRAZY WOMAN CREEK	3	82	78
					UPPER POWDER RIVER	4	86	82
					POWDER RIVER in WY	8	96	87

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

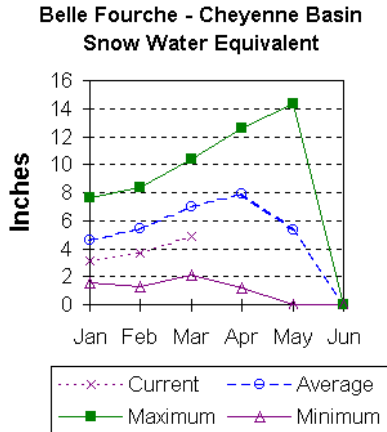
The average is computed for the 1961-1990 base period.

- (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 69 percent of normal SWE. The basin SWE is 87 percent of what it was last year. See Basin summary of Snow Course Data at the beginning of this report for a detailed listing.



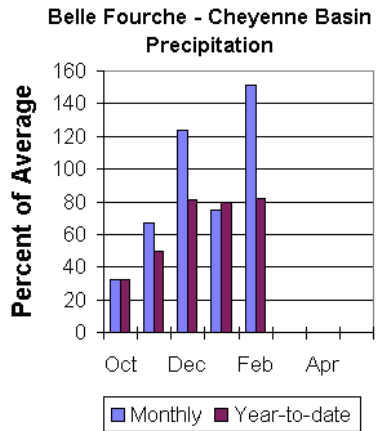
## Precipitation.

Precipitation, for the month of February was 151 percent of average in the Black Hills (104 percent of last February). Monthly percentages range from 54 to 370 percent. Year-to-date precipitation is 82 percent of average and 47 percent of last year's amount. Year to date percentages range from 46 to 137. This is from the 4 reporting stations.

## Reservoir.

Reservoir storage is above average in the basin.

Angostura is currently storing 112 percent of average (113,600-acre feet). Belle Fourche reservoir is storing 154 percent of average (173,600-acre feet). Deerfield reservoir is storing 111 percent of average (14,700-acre feet). Keyhole reservoir is storing 170 percent of average (173,500-acre feet). Pactola reservoir is storing 118 percent of average (54,100-acre feet), and Shadehill reservoir is storing 107 percent of average (53,500-acre feet).



## Streamflow

Streamflow forecast are below average as of March 1. Deerfield Reservoir inflow is forecast at 3150 acre feet (64 percent of average). Pactola is forecast at 11800 acre feet (56 percent of average). This is for the March – July forecast period.

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BELLE FOURCHE & CHEYENNE RIVER BASINS  
Streamflow Forecasts - March 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)	
DEERFIELD RESERVOIR Inflow	MAR-JUL	0.17	1.95	3.15	64	4.35	6.13	4.90
PACTOLA RESERVOIR Inflow	MAR-JUL	3.1	4.6	11.8	56	19.0	30	21

BELLE FOURCHE & CHEYENNE RIVER BASINS Reservoir Storage (1000 AF) - End of February					BELLE FOURCHE & CHEYENNE RIVER BASINS Watershed Snowpack Analysis - March 1, 2000			
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	113.6	120.9	101.7	BELLE FOURCHE	7	85	69
BELLE FOURCHE	178.4	173.6	167.4	113.0				
DEERFIELD	15.2	14.7	14.8	13.2				
KEYHOLE	193.8	173.5	178.6	101.9				
PACTOLA	55.0	54.1	52.0	46.0				
SHADEHILL	81.4	53.5	69.7	50.0				

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

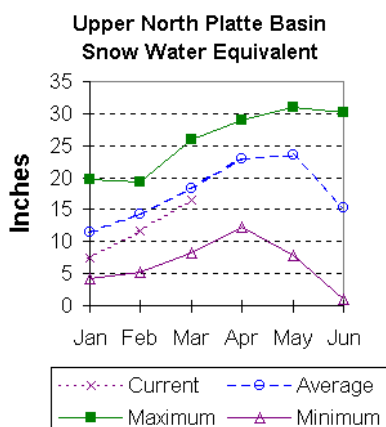
The average is computed for the 1961-1990 base period.

- (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 82 percent of average snow water equivalent (SWE) recorded for this time of the year (83 percent of last year). SWE in the drainage area above Northgate is about 104 percent of average and 107 percent of last year at this time. SWE in the Encampment River drainage is about 83 percent of normal and 88 percent of last year. Brush Creek SWE for the year is about 85 percent of normal and 76 percent of last year's SWE. Medicine Bow and Rock Creek drainage SWE is about 70 percent of average and 75 percent of last year at this time. For more information see Basin Summary of Snow Courses at the beginning of this report.

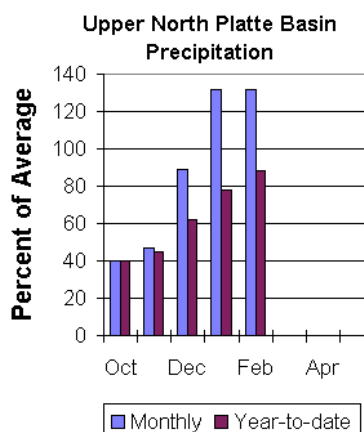


### Precipitation

Eight reporting stations indicate February precipitation was 132 percent of average and about 113 percent of last year's amount. February precipitation varied from 79 percent of average at Reno Hill SNOTEL to 186 percent of average at Willow Creek PS SNOTEL. Total water-year-to-date precipitation is about 71 percent of average for the basin, which is about 88 percent of last year's amount. Year to date percentage ranges from 65 to 111 percent of average for the 8 reporting stations.

### Reservoirs

Seminoe Reservoir is currently storing about 195 percent of normal for this time of the year. Currently, the reservoir is storing 113 percent of last year's amount. Currently, Seminoe Reservoir storage is estimated to be storing 798,200 acre-feet (79 percent of capacity). Last year, at this time, the reservoir had 705,200 acre-feet in storage.



### Streamflow

All the following yields are based on the fifty percent chance April through September yield. Yield for the North Platte River near Northgate is expected to be about 156,000 acre-feet (58 percent of average). Encampment River near Encampment is estimated to yield 63,000 acre-feet (40 percent of normal). North Platte River near Sinclair will yield about 358,000 acre-feet (50 percent of normal). Rock Creek near Arlington is estimated to yield 44,000 acre-feet (79 percent of average). Medicine Bow River above Seminoe Reservoir is expected to yield about 57,000 acre-feet (45 percent of normal). Seminoe Reservoir inflow should be about (423,000 acre-feet (50 percent of normal). See the following table for more detailed information on projected runoff.

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

Forecast Point	Forecast Period	<<----- Drier ----->>		Future Conditions		----- Wetter ----->>		30-Yr Avg. (1000AF)
		90%	70%	Chance Of Exceeding *		30%	10%	
		(1000AF)	(1000AF)	50% (Most Probable)	(% AVG.)	(1000AF)	(1000AF)	
North Platte River nr Northgate	APR-SEP	159	228	275	102	322	391	271
Encampment River nr Encampment	APR-SEP	81	107	125	80	143	169	156
North Platte River nr Sinclair	APR-SEP	368	542	660	92	778	952	719
Rock Creek nr Arlington	APR-SEP	33	43	50	89	58	70	56
Medicine Bow River ab Seminoe Reserv	APR-SEP	26	54	80	63	110	164	127
Seminoe Reservoir inflow	APR-JUL	395	574	695	88	816	995	788
	APR-SEP	421	614	745	88	876	1069	851

UPPER NORTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of February					UPPER NORTH PLATTE RIVER BASIN Watershed Snowpack Analysis - March 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	798.2	705.2	409.0	N PLATTE above Northgate	8	107	104
					ENCAMPMENT RIVER	4	88	83
					BRUSH CREEK	5	76	85
					MEDICINE BOW & ROCK CREEK	3	75	70
					N PLATTE above Seminoe	20	90	90

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

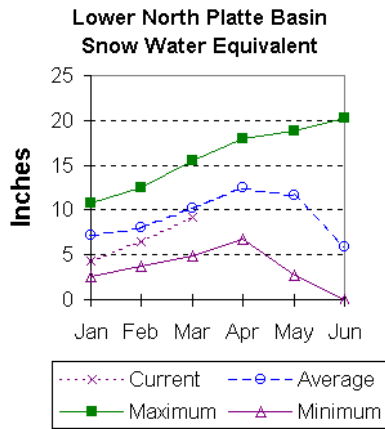
The average is computed for the 1961-1990 base period.

- (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 90 percent of normal (91 % of last year). The Sweetwater drainage is currently 90 percent of average (90 % of last year). Deer and LaPrele Creeks are currently 94 percent of normal (106 percent of last year). SWE for the North Platte above the Laramie River drainage is 90 percent of average (90 % of last year). SWE for the Laramie River above the mouth is 90 percent of average (95 % of last year). SWE for the Laramie River above Laramie is 94 percent of average (97 % of last year). And SWE in the Little Laramie River is 83 percent of normal (91 % of last year). For more information see Basin Summary of Snow Courses at beginning of report.



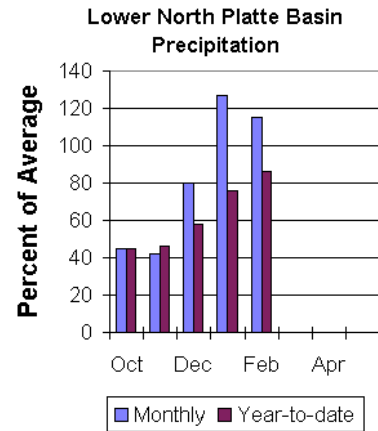
## Precipitation

Of the 6 reporting stations, percentages for the month range from 45 to 211. February precipitation for the basin was 115 percent of average (95 percent of last year). The water year-to-date precipitation for the basin is currently 86 percent of average (67 percent of last year). Year to date percentages range from 56 to 103.

## Reservoir

The Lower North Platte River basin reservoir storage is average to well

above average. Reservoir storage is as follows: Alcova 156,100 acre feet (99 percent of average); Glendo 381,800 acre feet (100 percent of average); Guernsey 15,900 acre feet (117 percent of average); Pathfinder 960,500 acre feet (163 percent of average); Seminoe 798,200 acre feet (195 percent of average); and Wheatland No.2 70,000 acre feet (162 percent of average). Water allocated to project use is also above average with North Platte Project users at 158 percent of average, Kendrick Project users at 121 percent of average, and Glendo Project users at 122 percent of average.



## Streamflow

Yields from 73 to 86 percent are expected in the basin during the forecast period. The following yields are based on the fifty percent chance probability runoff for the April through September forecast period. The Sweetwater near Alcova is forecast to yield about 55,000 acre-feet (74 percent of average). Deer Creek at Glenrock is expected to yield about 77 percent of average (30,000 acre-feet). LaPrele Creek above the reservoir is estimated to yield 80 percent of average (20,000 acre-feet). North Platte River below Guernsey Reservoir is expected to yield about 83 percent of normal (816,000 acre-feet), and below Glendo Reservoir is anticipated to yield about 81 percent of average (784,000 acre-feet). Laramie River near Woods should yield about 82 percent of average (110,000 acre-feet). The Little Laramie near Filmore should produce about 55,000 acre-feet (86 percent of average).



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

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Future Conditions		Wetter		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Sweetwater River nr Alcova	APR-JUL	26	33	50	73	67	93	69
	APR-SEP	29	37	55	74	73	99	74
Deer Creek at Glenrock	APR-SEP	13.6	23	30	77	39	53	39
La Prele Creek ab La Prele Reservoir	APR-SEP	8.0	11.0	20	80	26	35	25
North Platte River blw Glendo	APR-SEP	433		784	81		1242	963
North Platte River blw Guernsey	APR-SEP	445		816	83		1296	989
Laramie River nr Woods	APR-SEP	44	83	110	82	137	176	135
Little Laramie River nr Filmore	APR-SEP	34	47	55	86	63	76	64

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

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Watershed Snowpack Analysis - March 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	156.1	157.7	157.1	SWEETWATER	3	76	78
GLENDO	506.4	381.8	450.9	383.1	DEER & LAPRELE CREEKS	4	106	94
GUERNSEY	45.6	15.9	19.4	13.6	N PLATTE abv Laramie R.	27	90	90
PATHFINDER	1016.5	960.5	916.7	590.0	LARAMIE RIVER abv Laramie	8	97	94
SEMINOE	1016.7	798.2	705.2	409.0	LITTLE LARAMIE RIVER	4	91	83
WHEATLAND #2	98.9	70.0	61.0	43.2	LARAMIE RIVER above mouth	11	95	90
NORTH PLATTE PROJ	1062.1	998.6	910.2	633.3	NORTH PLATTE	34	91	90
KENDRICK PROJECT	1201.7	989.9	979.1	818.1				
GLENDO PROJECT USERS	183.2	154.7	159.3	126.8				

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

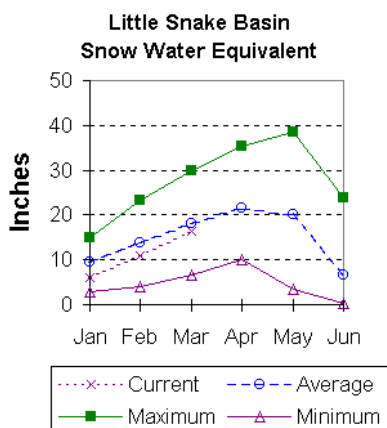
The average is computed for the 1961-1990 base period.

- (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 91 percent of average (92 percent of last year at this time). For more information see Basin Summary of Snow Courses at beginning of this report.

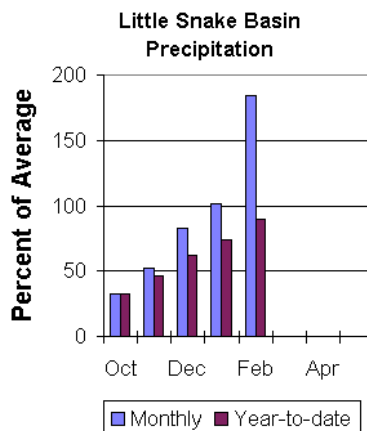


## Precipitation

Precipitation across the basin was near average this past month. February precipitation was 184 percent of average (125 percent of last year) for the 5 reporting stations. The Little Snake River basin water-year-to-date precipitation is currently 90 percent of average (76 percent of last year). Year-to-date percentages range from 74 to 100 percent of average.

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 130,000 acre-feet (84 percent of normal). Little Snake River near Dixon is estimated to yield 270,000 acre-feet (82 percent of normal).

## Streamflow



LITTLE SNAKE RIVER BASIN  
Streamflow Forecasts - March 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)	
Little Snake River nr Slater	APR-JUL	82	109	130	84	153	190	155
LITTLE SNAKE R nr Dixon	APR-JUL	158	225	270	82	315	382	329

LITTLE SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of February				LITTLE SNAKE RIVER BASIN Watershed Snowpack Analysis - March 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	92	91

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

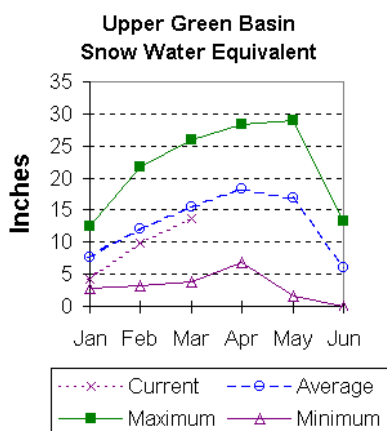
The average is computed for the 1961-1990 base period.

- (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 89 percent of average (79 percent of last year). The Green River basin SWE above Warren Bridge is 88 percent of normal (79 percent of last year). SWE on the west side of the Upper Green River basin is about 90 percent of normal, 80 percent of this time last year. Newfork River SWE is now 88 percent of normal (79 percent of last year). Big Sandy-Eden Valley SWE is about 84 percent of average (73 percent of last year). For more information see the Basin Summary of Snow Courses at the beginning of this report.



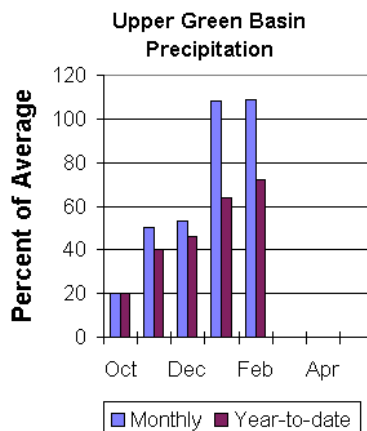
## Precipitation

The 12 reporting precipitation sites in the basin were 109 percent of the February average (69 percent of last year at this time). February precipitation varied from 45 to 144 percent of average. Water year-to-date precipitation is about 72 percent of average (73 percent of last year). Year to date percentage of average ranges from 41 to 80 for the reporting stations.

## Reservoir

Data for Big Sandy Reservoir and Eden

Reservoir were not reported this month. Fontenelle Reservoir is storing 130,800 acre-feet (76 percent of average and 38 percent of the total capacity). Flaming Gorge reservoir is currently storing 3,208,000 acre feet (86 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 below average. Green River at Warren Bridge is expected to yield about 250,000 acre-feet (94 percent of normal). Pine Creek above Fremont Lake is expected to yield 100,000 acre-feet (96 percent of normal). New Fork River near Big Piney is expected to yield about 360,000 acre-feet (94 percent of normal). Fontenelle Reservoir Inflow is estimated to be 725,000 acre-feet (85 percent of average), and Big Sandy near Farson is expected to be about 50,000 acre-feet (88 percent of normal).

UPPER GREEN RIVER BASIN  
Streamflow Forecasts - March 1, 2000

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 at Warren Bridge	APR-JUL	191	226	250	94	274	309	266
Pine Creek abv Fremont Lake	APR-JUL	84	93	100	96	107	116	104
New Fork River nr Big Piney	APR-JUL	254	317	360	94	403	466	385
Fontenelle Reservoir Inflow	APR-JUL	552	652	725	85	802	922	849
Big Sandy River nr Farson	APR-JUL	33	43	50	88	57	68	57

UPPER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of February				UPPER GREEN RIVER BASIN Watershed Snowpack Analysis - March 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	78	88
EDEN		NO REPORT			UPPER GREEN (West Side)	7	80	90
FLAMING GORGE	3749.0	3208.0	3265.3	---	NEWFORK RIVER	3	79	88
FONTENELLE	344.8	130.8	144.8	172.0	BIG SANDY/EDEN VALLEY	2	73	84
					GREEN above Fontenelle	14	79	89

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

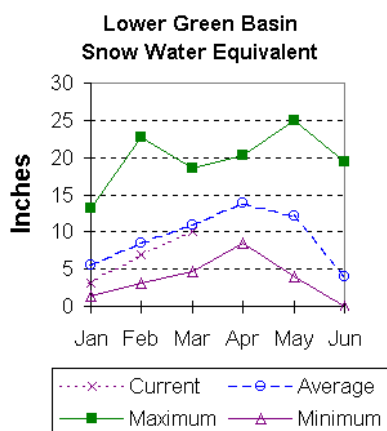
The average is computed for the 1961-1990 base period.

- (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 111 percent of average (96 % of last year). SWE in the Hams Fork, as of March 1, is 88 percent of average (80% of last year). The Henry's Fork SWE for the basin is 82 percent of average (75 % of last year). The basin, as a whole, is 92 percent of average (81 percent of last year). For more information see Basin Summary of Snow Courses at beginning of this report.

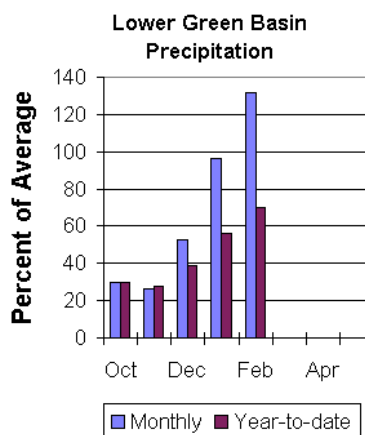


## Precipitation

Precipitation was above average for the 3 reporting stations during February. Precipitation ranged from 121 to 148 percent of average for the month. The entire basin received 132 percent of average for the month (82 percent of last year). The basin year-to-date precipitation is currently 70 percent of average (76 percent of last year). Year to date percentages range from 65 to 73.

## Reservoir

Fontenelle Reservoir is currently storing 130,800 acre feet; this is 76 percent of average (90 % of last year). Flaming Gorge does not have an average established. Flaming Gorge is currently storing 3,208,000 acre feet. Last year at this time there was 3,265,300 acre feet in storage at Flaming Gorge. Viva Naughton is currently storing 34,500 acre feet; this is 124 percent of average (113 % of last year).



## Streamflow

Expected yields vary from 80 to 84 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 740,000-acre feet (82 percent of average). Blacks Fork near Robertson is forecast to yield 80,000-acre feet (84 percent of average). East Fork of Smiths Fork near Robertson is estimated to yield 24,000 acre-feet (80 percent of average). The estimated yield for Hams Fork near Frontier is 55,000-acre feet (83 percent of average). Viva Naughton Reservoir inflow will be about 72,000-acre feet (81 percent of average). Flaming Gorge Reservoir inflow will be about 1,000,000-acre feet (84 percent of average).

LOWER GREEN RIVER BASIN  
Streamflow Forecasts - March 1, 2000

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Green River nr Green River, WY	APR-JUL	504	645	740	82	835	976	899
Blacks Fork nr Robertson	APR-JUL	52	69	80	84	91	108	95
EF of Smiths Fork nr Robertson	APR-JUL	18.2	22	24	80	27	32	30
Hams Fk blw Pole Ck nr Frontier	APR-JUL	36	47	55	83	64	78	66
Hams Fk Inflow to Viva Naughton Res	APR-JUL	40	59	72	81	85	104	89
Flaming Gorge Reservoir Inflow	APR-JUL	673	868	1000	84	1133	1328	1196

LOWER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of February					LOWER GREEN RIVER BASIN Watershed Snowpack Analysis - March 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	130.8	144.8	172.0	HAMS FORK RIVER	4	80	88
FLAMING GORGE	3749.0	3208.0	3265.3	---	BLACKS FORK	5	96	111
VIVA NAUGHTON RES	42.4	34.5	30.6	27.8	HENRYS FORK	3	75	82
					GREEN above Flaming Gorge	26	81	92

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

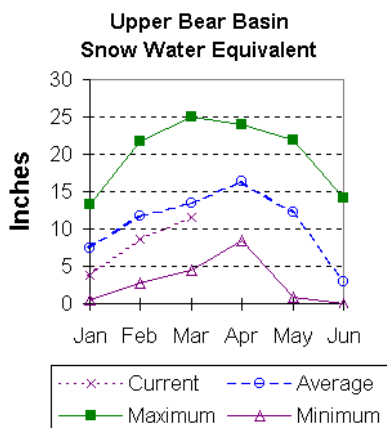
The average is computed for the 1961-1990 base period.

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- (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 86 percent of average (80 percent of last year). SWE for the Bear River in Utah is estimated to be 91 percent of average; that is about 89 percent of last year at this time. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is estimated at 86 percent of average (79 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.



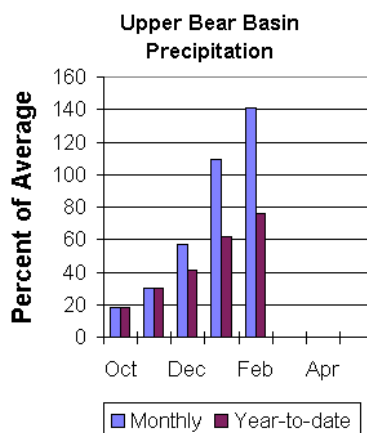
## Precipitation

Precipitation for the month of February was 141 percent of average for the 2 reporting stations; this is 78 percent of the previous February. The monthly percentages range from 90 to 148 percent of average. The year-to-date precipitation, for the basin, is 76 percent of average; this is 74 percent of last year's amount.

## Reservoir

Woodruff Narrows reservoir is currently storing 50,000 acre feet of

water. Current storage is 87 percent of the 57,300 acre feet capacity. Last year the reservoir was storing 46,500 acre feet (107 percent of last year at this time).



## Streamflow

The following 50 percent chance stream flow yields are for the April through September period. Smiths Fork near Border is estimated to yield 98,000 acre-feet (83 percent of normal), and Thomas Fork drainage near the Idaho-Wyoming state line is estimated to yield 24,000 acre-feet or 67 percent of normal. Bear River near the Utah-Wyoming State Line is expected to yield about 101,000 acre feet; that is 80 percent of average, while Bear River near Woodruff is expected to yield about 114,000 acre-feet, about 74 percent of normal.



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UPPER BEAR RIVER BASIN  
Streamflow Forecasts - March 1, 2000

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Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		----->>		----->>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
SMITHS FK nr Border, WY	APR-SEP	70	86	98	83	112	137	118
THOMAS FK nr WY-ID State Line (Disc.	APR-SEP	14.1	19.3	24	67	30	41	36
Bear R nr UT-WY State Line	APR-SEP	75	89	101	80	114	137	126
BEAR R nr Woodruff, UT	APR-SEP	63	90	114	74	144	205	154

UPPER BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of February					UPPER BEAR RIVER BASIN Watershed Snowpack Analysis - March 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	50.0	46.5	---	UPPER BEAR RIVER in Utah	7	89	91
					SMITHS & THOMAS FORKS	4	79	86
					BEAR RIVER abv ID line	9	80	86

• 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.

•

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