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# Wyoming Basin Outlook Report February 1, 2002



# 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 for this time of the year. SWE averages for the State are about 71 percent of normal for this time of the year. Precipitation for January was generally below average for the State. Year-to-date precipitation is below average for the year. Reservoir levels vary from below average to average – average to above average in the northeast. Generally, forecast runoff is well below average. Forecast runoff varies from 8 to 90 percent of average. There may be some direct diversion irrigated areas that will be significantly short of water. In some cases, reservoirs may not fill with the spring runoff.

## Snowpack

Less than average, and in some cases much less than average, snowfall has occurred this past month. SWE is generally below average for the entire State. SWE in the northwestern portion of the State is now at 79 percent of average (155 percent of last year). Northeast Wyoming SWE is currently about 67 percent of average (86 percent of last year). The southeast portion is currently about 60 percent of average SWE (78 percent of last year). And the southwest is about 76 percent of average (112 percent of last year).

## Precipitation

January precipitation was below normal over the entire State. Some of the State had a very severe shortage of precipitation. The southwest portion of the State was near 50 percent below average for the month of January. The southeast was also near 50 percent, while the rest of the State received from 9 to 40 percent below average. The following table displays the major river basins and their departure from normal for this month.

Basin	Departure from normal	Basin	Departure from normal
Snake River	-28%	Upper North Platte River	-48%
Yellowstone & Madison	-10%	Lower North Platte	-51%
Wind River	-21%	Little Snake River	-52%
Big Horn	-33%	Upper Green River	-40%
Shoshone & Clarks Fork	-9%	Lower Green River	-48%
Powder & Tongue River	-29%	Upper Bear River	-50%
Belle Fourche & Cheyenne	-37%		

## Streams

Stream flow yield is expected to be below average across the State. Most probable yield for the State is forecast to be about 58 percent of average. The northwest part of the State is expected to yield about 67 percent of normal -- yield estimates vary from 45 to 90 percent of normal. Yield from the northeast portion of Wyoming will be below average (about 53 percent of average) -- yield estimates vary from 47 to 63 percent of average for the various forecast points. The southeast portion of the state will be about 40 percent of normal -- yield estimates range from 8 to 67 percent of normal. The southwest portion of Wyoming varies from 55 to 81 percent of average -- mean estimated yield for the forecast points in southwest Wyoming is about 70 percent of average.

## Reservoirs

Reservoir storage varies from above average to well below 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 JANUARY    2002

BASIN AREA RESERVIOR	CURRENT AS % CAPACITY	LAST YR AS % CAPACITY	AVERAGE AS % CAPACITY	CURRENT AS % AVERAGE	CURRENT AS % LAST YR
ALCOVA	35	46	74	47	77
ANGOSTURA	81	72	80	101	113
BELLE FOURCHE	76	81	57	133	94
BIG SANDY	35	46	74	47	77
BIGHORN LAKE	35	46	74	47	77
BOYSEN	35	46	74	47	77
BUFFALO BILL	35	46	74	47	77
BULL LAKE	35	46	74	47	77
DEERFIELD	98	99	84	116	99
EDEN	35	46	74	47	77
ENNIS LAKE	35	46	74	47	77
FLAMING GORGE	76	80	79	96	95
FONTENELLE	35	46	74	47	77
GLENDO	35	46	74	47	77
GRASSY LAKE	62	84	78	80	74
GUERNSEY	35	46	74	47	77
HEBGEN LAKE	35	46	74	47	77
JACKSON LAKE	17	75	58	30	23
KEYHOLE	80	82	53	151	97
PACTOLA	96	100	83	115	96
PALISADES	35	46	74	47	77
PATHFINDER	35	46	74	47	77
PILOT BUTTE	35	46	74	47	77
SEMINOE	79	78	63	124	101
SHADEHILL	63	49	60	104	127
VIVA NAUGHTON RES	35	46	74	47	77
WHEATLAND #2	35	46	74	47	77
WOODRUFF NARROWS	35	46	74	47	77
GLENDO PROJECT USE	35	46	74	47	77
KENDRICK PROJECT	35	46	74	47	77
NORTH PLATTE PROJ	35	46	74	47	77

# Basin Summary of Snow Course Data

## BASIN SUMMARY OF SNOW COURSE DATA

FEBRUARY 2002

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
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WYOMING Snow Course and SNOTEL Stations						
ALBANY	9400	1/30/02	19	3.6	6.1	9.5
ASTER CREEK	7750	1/30/02	62	17.2	7.8	19.6
BALD MOUNTAIN SNOTEL	9380	2/01/02	---	10.3	9.2	13.5
BASE CAMP SNOTEL	7030	2/01/02	---	9.4	5.5	12.7
BATTLE MTN. SNOTEL	7440	2/01/02	---	6.9	7.2	7.8
BEARLODGE DIVIDE	4680	1/29/02	4	.5	3.4	1.8
BEARTOOTH LK. SNOTEL	9280	2/01/02	---	13.2	7.4	16.2
BEAR TRAP SNOTEL	8200	2/01/02	---	3.4	3.1	3.5
BIG GOOSE	7760				1.2	4.0
BIG GOOSE SNOTEL	7760	2/01/02	---	4.5	3.8	---
BIG PARK	8620	1/29/02	42	10.0	7.9	12.3
BIG SANDY SNOTEL	9080	2/01/02	36	8.5	6.5	9.5
BLACKWATER SNOTEL	9780	2/01/02	---	12.0	7.7	16.6
BLIND BULL SNOTEL	8900	2/01/02	55	14.5	9.7	18.4
BLIND PARK SNOTEL	6870	2/01/02	---	3.1	4.7	5.2
BLUE RIDGE	9620	1/30/02	32	4.8	3.6	7.7
BONE SPGS. SNOTEL	9350	2/01/02	---	8.1	6.5	10.6
BOXELDER	7280				4.5	4.3
BROOKLYN LK. SNOTEL	10220	2/01/02	---	7.2	10.5	15.3
BRYAN FLAT	6420	1/29/02	26	4.8	4.1	6.2
BUCK CREEK	7960	1/30/02	13	2.0	7.2	6.3
BURGESS JCT. SNOTEL	7880	2/01/02	---	4.4	5.1	7.4
BURROUGHS CRK SNOTEL	8750	2/01/02	---	9.1	4.7	10.1
CANYON SNOTEL	8090	2/01/02	---	9.4	5.0	8.9
CARTER MOUNTAIN	7950				.8	3.0
CASPER MTN. SNOTEL	7850	2/01/02	---	4.8	7.9	9.0
CASTLE CREEK	8400	1/29/02	17	2.0	1.1	3.3
CCC CAMP	7000	1/28/02	37	7.6	5.6	8.4
CHALK CK #1 SNOTEL	9100	2/01/02	48	12.6	10.9	15.3
CHALK CK #2 SNOTEL	8200	2/01/02	37	9.0	6.5	9.9
CLOUD PEAK SNOTEL	9850	2/01/02	---	7.4	6.2	8.1
COLD SPRINGS SNOTEL	9630	2/01/02	---	3.0	1.7	6.0
COTTONWOOD CR SNOTEL	7700	2/01/02	---	12.3	10.6	14.2
DARBY CANYON	8250	1/30/02	47	11.7	12.2	15.9
DEER PARK SNOTEL	9700	2/01/02	---	9.0	7.5	11.7
DITCH CREEK	6870	1/29/02	10	1.4	2.4	2.8
DIVIDE PEAK SNOTEL	8860	2/01/02	---	8.7	9.3	13.0
DOMELAKE SNOTEL	8880	2/01/02	---	6.0	6.1	7.9
DU NOIR	8760	1/29/02	23	3.6	2.4	5.8
EAST RIM DIV SNOTEL	7930	2/01/02	---	6.5	4.9	8.5
ELBO RANCH	7100	2/01/02	31	7.0	3.6	8.0
ELKHART PARK SNOTEL	9400	2/01/02	---	7.2	6.9	8.8
EVENING STAR SNOTEL	9200	2/01/02	---	16.0	7.8	19.7

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
FOUR MILE MEADOWS	7860	1/31/02	32	6.5	3.6	8.7
FOXPAK	9060	1/30/02	12	1.9	4.3	4.9
GEYSER CREEK	8500	1/29/02	19	3.4	1.9	4.8
GLADE CREEK	7040	1/30/02	48	12.0	8.6	16.1
GRANITE CRK SNOTEL	6770	2/01/02	---	9.5	7.1	12.4
GRANNIER MEADOWS	8860	1/30/02	32	6.7	4.3	9.1
GRASSY LAKE SNOTEL	7270	2/01/02	---	18.5	13.3	23.0
GRAVE SPRINGS SNOTEL	8550	2/01/02	---	3.2	3.8	5.7
GREYS BOUNDARY	5720	1/28/02	35	8.8	5.9	8.3
GROS VENTRE SNOTEL	8750	2/01/02	---	8.7	5.9	9.5
GROVER PARK DIVIDE	7000	1/28/02	30	6.4	3.7	7.5
HAIRPIN TURN	9480	1/30/02	20	3.7	7.5	11.1
HANSEN S.M. SNOTEL	8360	2/01/02	---	2.8	2.5	4.2
HAMS FORK SNOTEL	7840	2/01/02	---	7.3	6.0	8.4
HASKINS CREEK	8980	1/30/02	49	15.2	16.2	19.6
HOBBS PARK SNOTEL	10100	2/01/02	---	6.3	4.5	9.8
HUCKLEBERRY DIVIDE	7300	1/30/02	44	10.3	7.5	14.2
INDIAN CREEK SNOTEL	9430	2/01/02	---	14.6	10.9	17.6
JACKPINE CREEK	7350	1/30/02	51	13.2	9.7	14.7
KELLEY R.S. SNOTEL	8180	2/01/02	---	9.1	6.6	10.7
KENDALL R.S. SNOTEL	7740	2/01/02	---	7.0	5.0	9.8
KIRWIN SNOTEL	9550	2/01/02	---	5.9	3.4	7.7
LA BONTE	8450				---	3.9
LAKE CAMP	7780	2/01/02	26	5.9	3.4	6.5
LA PRELE SNOTEL	8380	2/01/02	---	2.9	7.0	7.3
LARSEN CREEK	9020				5.0	8.4
LEWIS LAKE SNOTEL	7850	2/01/02	---	18.9	9.6	23.1
LEWIS LAKE DIVIDE	7850				---	27.4
LIBBY LODGE	8750	1/30/02	16	2.7	5.7	7.8
LITTLE BEAR RUN	6240	1/29/02	7	1.1	3.6	2.6
LITTLE WARM SNOTEL	9370	2/01/02	---	6.2	4.1	7.8
LOOMIS PARK SNOTEL	8240	2/01/02	---	10.5	7.6	11.2
LUPINE CREEK	7380	1/28/02	28	4.9	2.9	6.4
MALLO	6420	1/29/02	13	2.1	6.3	5.2
MARQUETTE SNOTEL	8760	2/01/02	---	3.0	1.8	5.9
MEDICINE LODGE LAKES	9340	1/30/02	22	4.4	4.1	7.5
MIDDLE FORK	7420	1/30/02	13	1.4	2.4	3.8
MIDDLE POWDER SNOTEL	7760	2/01/02	---	3.5	5.0	7.2
MORAN	6750	1/31/02	32	8.0	5.2	9.3
MOSS LAKE	9800	1/30/02	26	6.6	9.8	15.3
MOUNT TOM	5560	1/31/02	10	.9	6.8	3.2
NEW FORK SNOTEL	8340	2/01/02	---	5.8	5.8	7.7
NORRIS BASIN	7500	1/30/02	27	6.2	2.9	7.6
NORTH BARRETT CREEK	9400				12.1	12.8
NORTH FRENCH SNOTEL	10130	2/01/02	---	13.0	16.2	18.4
NORTH RAPID CK SNTL	6130	2/01/02	---	3.4	5.9	---
NORTH TONGUE	8450	1/30/02	26	5.7	5.2	8.4
OLD BATTLE SNOTEL	9920	2/01/02	---	12.4	14.8	20.0
OLD FAITHFUL	7400	1/30/02	33	7.4	3.3	9.5
ONION GULCH	8780				2.0	5.2
OWL CREEK SNOTEL	8980	2/01/02	---	2.0	1.9	3.4
PARKERS PEAK SNOTEL	9400	2/01/02	---	12.5	9.2	14.8

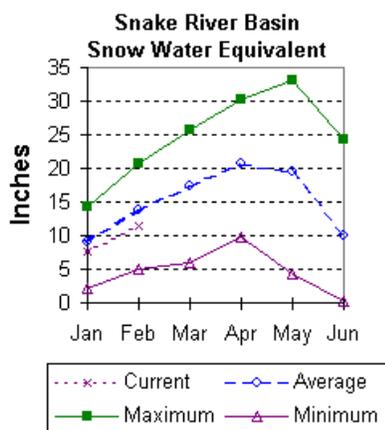
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
PHILLIPS BENCH SNTL	8200	2/01/02	---	15.4	11.3	18.5
POCKET CREEK	9350	1/31/02	32	8.2	6.7	8.6
POISON MEADOWS	8500				---	---
POLE MOUNTAIN	8700	1/30/02	20	2.9	6.3	6.1
POWDER RVR.PASS SNTL	9480	2/01/02	---	6.0	3.7	7.2
PURGATORY GULCH	8970	1/30/02	21	6.2	7.0	7.1
RANGER CREEK	8120				2.3	6.2
RENO HILL SNOTEL	8500	2/01/02	---	4.7	8.1	8.4
REUTER CANYON	6280	1/31/02	14	2.5	14.4	6.5
ROWDY CREEK	8300	1/28/02	40	11.5	7.8	14.6
RYAN PARK	8400	1/30/02	30	6.5	7.2	7.4
SALT RIVER SNOTEL	7600	2/01/02	---	7.5	5.2	9.2
SAND LAKE SNOTEL	10050	2/01/02	---	9.8	15.0	19.9
SANDSTONE SNOTEL	8150	2/01/02	---	4.5	7.0	9.7
SAWMILL DIVIDE	9260	1/30/02	29	5.8	5.2	8.8
SHELL CREEK SNOTEL	9580	2/01/02	---	8.9	6.6	9.9
SHERIDAN R.S.	7750	1/29/02	18	3.1	1.3	4.1
SNAKE RIVER STATION	6920				7.4	14.1
SNAKE RV STA SNOTEL	6920	1/30/02	42	10.3	6.6	12.6
SNIDER BASIN SNOTEL	8060	2/01/02	---	6.3	5.3	9.8
SNOW KING MTN	7660	1/29/02	34	7.6	---	9.8
SOLDIER PARK	8780	1/27/02	11	1.6	1.1	3.5
SOUR DOUGH	8460	1/27/02	14	2.8	1.8	4.2
SOUTH BRUSH SNOTEL	8440	2/01/02	---	5.7	6.8	7.4
SOUTH PASS SNOTEL	9040	2/01/02	---	8.2	6.2	11.4
SPRING CRK. SNOTEL	9000	2/01/02	---	15.2	11.1	17.4
ST LAWRENCE ALT SNTL	8620	2/01/02	---	2.2	1.7	4.8
SUCKER CREEK SNOTEL	8880	2/01/02	---	5.5	4.9	7.2
SYLVAN LAKE SNOTEL	8420	2/01/02	---	12.1	8.2	15.2
SYLVAN ROAD SNOTEL	7120	2/01/02	---	6.4	4.1	8.8
T CROSS RANCH	7900	1/28/02	27	4.2	2.0	5.3
TETON PASS W.S.	7740	2/01/02	49	14.5	11.0	18.5
THUMB DIVIDE SNOTEL	7980	1/30/02	38	8.9	4.1	11.8
THUMB DIVIDE	7980				4.2	12.2
TIE CREEK SNOTEL	6870	2/01/02	---	1.9	2.7	4.0
TIMBER CREEK SNOTEL	7950	2/01/02	---	1.2	1.3	3.6
TOGWOTEE PASS SNOTEL	9580	2/01/02	59	14.1	10.5	16.9
TOWNSEND CRK SNOTEL	8700	2/01/02	---	3.2	3.2	5.6
TRIPLE PEAK SNOTEL	8500	2/01/02	---	13.5	9.8	16.6
TURPIN MEADOWS	6900	1/31/02	29	5.9	3.1	7.6
TWO OCEAN SNOTEL	9240	2/01/02	---	17.7	11.7	19.0
TYRELL RANGER STA.	8300	1/27/02	16	3.2	1.9	5.2
UPPER SPEARFISH	6500	1/28/02	10	1.8	5.4	4.7
WARREN PEAK SNOTEL	6520				---	---
WEBBER SPRING SNOTEL	9250	2/01/02	---	9.6	10.5	16.1
WHISKEY PARK SNOTEL	8950	2/01/02	---	11.4	12.5	18.5
WILLOW CREEK SNOTEL	8450	2/01/02	---	14.9	12.1	20.2
WINDY PEAK SNOTEL	7900	2/01/02	---	1.8	5.3	4.5
WOLVERINE SNOTEL	7650	2/01/02	---	5.0	4.3	8.6
WOOD ROCK G.S.	8440	1/30/02	22	4.6	3.6	6.5
YOUNTS PEAK SNOTEL	8350	2/01/02	---	9.1	4.6	12.0

(d) Denotes discontinued site.

# Snake River Basin (1)

## Snow

The Snake River basin snow water equivalent (SWE) is below normal. Snake above Jackson Lake is 82 percent of average (164% of last year at this time). Pacific Creek is 86 percent of average (157% of last year at this time). Gros Ventre River is 87 percent of average (149% of last year at this time). Hoback River is 82 percent of average (139% of last year at this time), Greys River is 83 percent of average (138% of last year at this time). Salt River is 82 percent of average (131% of last year at this time). Snake River Basin above Palisades is 82 percent of average (149% 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.



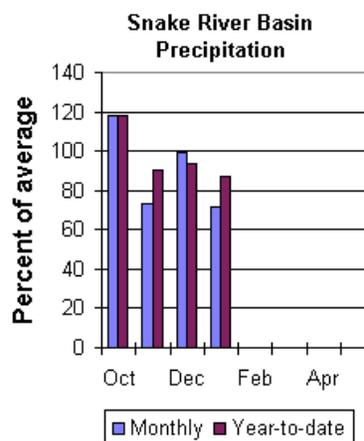
## Precipitation.

Precipitation across the basin was below average last month. Monthly precipitation, for the basin, was 99 percent of average. Last months percentages range from 46 to 95 percent of average. Water-year-to-date precipitation is 87 percent of normal for the Snake River basin (143 percent of last year at this time) Year-to-date percentages range from 76 to 96 percent of average.

## Reservoir.

Current reservoir storage compared to average for the three storage reservoirs in the

basin is below average. Grassy Lake storage is about 80 percent of average (9,400 acre feet compared to 12,700 last year). Jackson Lake storage is 30 percent of average (146,300 acre feet compared to 635,200 acre feet last year). Palisades Reservoir storage is about 47 percent of average (489,200 acre feet compared to 638,700 acre feet last year).



## Streamflow.

The most probable runoff, based on the 50 percent chance yield, for April through September runoff is forecast below average for the basin. The Snake near Moran is expected to yield 775,000 acre-feet (86 percent of normal). Yield from the Snake River above Palisades Reservoir is estimated to be 2,455,000 acre-feet (90 percent of normal). The 50 percent chance yield near Heise is expected to be 3,450,000 acre-feet (83 percent of normal). Pacific Creek at Moran is expected to yield about 149,000 acre-feet (84 percent of average). Greys River above Palisades Reservoir is estimated to yield 355,000 acre-feet (90 percent of normal). Salt River near Etna is estimated to have a yield of 370,000 acre-feet (88 percent of normal).

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SNAKE RIVER BASIN  
Streamflow Forecasts - February 1, 2002

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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	584	715	775	86	835	966	905
SNAKE above Palisades (2)	APR-SEP	2020	2279	2455	90	2631	2890	2730
PALISADES RESERVOIR INFLOW (1,2)	APR-SEP	2379	2978	3250	84	3522	4121	3870
SNAKE near Heise (2)	APR-SEP	2699	3146	3450	83	3754	4201	4160
PACIFIC CREEK at Moran	APR-SEP	115	135	149	84	163	183	178
GREYS above Palisades	APR-SEP	269	320	355	90	390	441	395
SALT near Etna	APR-SEP	256	324	370	88	416	484	420

SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January					SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 2002			
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	9.4	12.7	11.8	SNAKE above Jackson Lake	9	164	82
JACKSON LAKE	847.0	146.3	635.2	490.1	PACIFIC CREEK	3	157	86
PALISADES	1400.0	489.2	638.7	1040.3	GROS VENTRE RIVER	4	149	85
					HOBACK RIVER	6	139	82
					GREYS RIVER	5	138	83
					SALT RIVER	5	131	82
					SNAKE above Palisades	30	149	82

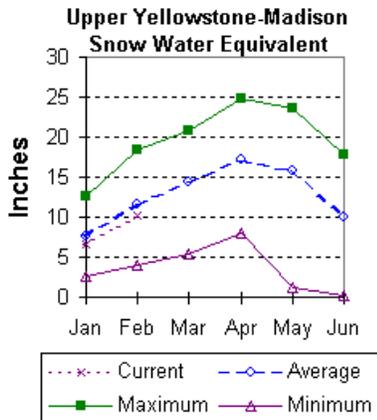
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 these basins this year has been below average for this time of the year, but better than last year. Snow water equivalent (SWE) is about 92 percent of average (201 percent of last year) in the Madison drainage. SWE in the Yellowstone drainage is about 83 percent of average (165 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.



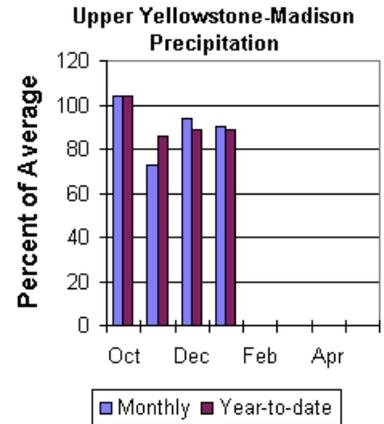
acre-feet of water (76 percent of capacity) – 108 percent of average. Hebgen Lake is storing about 96 percent and Ennis Lake, last month, was storing about 100 percent of last year's volume.

### Precipitation

Last month's precipitation in the Madison and Yellowstone drainage was about 90 percent of average for the 5 reporting stations -- percentage range was from 70 to 103 percent of average. Water-year-to-date precipitation is about 89 percent of average (145 percent of last year's amount). Year to date percentage ranges from 85 to 95 percent

### Reservoir

Ennis Lake did not report this month, but last month was storing 30,700 acre-feet (75 percent of capacity) – 97 percent of average. Hebgen Lake is storing about 286,900



### Streamflow

All the following forecasts are based on the 50 percent chance runoff for the April through September runoff period. Yellowstone at Lake Outlet is expected to yield about 630,000 acre feet (78 percent of normal). Yellowstone at Corwin Springs will yield about 1,510,000 acre-feet (77 percent of normal). Yellowstone near Livingston will yield about 1,740,000 acre feet (76 percent of normal). Hebgen lake inflow is estimated to be 410,000 acre feet (82 percent of normal). See the following page for detailed runoff volumes.

UPPER YELLOWSTONE & MADISON RIVER BASINS  
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	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	475	567	630	78	693	785	805
YELLOWSTONE RIVER at Corwin Springs	APR-SEP	1171	1373	1510	77	1647	1849	1970
YELLOWSTONE RIVER near Livingston	APR-SEP	1437	1618	1740	76	1862	2043	2280
HEBGEN Reservoir Inflow	APR-SEP	323	375	410	82	445	497	500

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

UPPER YELLOWSTONE & MADISON RIVER BASINS  
Watershed Snowpack Analysis - February 1, 2002

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	28.9	29.6	31.3	MADISON RIVER in WY	9	201	92
HEBGEN LAKE	377.5	286.9	298.2	266.5	YELLOWSTONE RIVER in WY	12	165	83

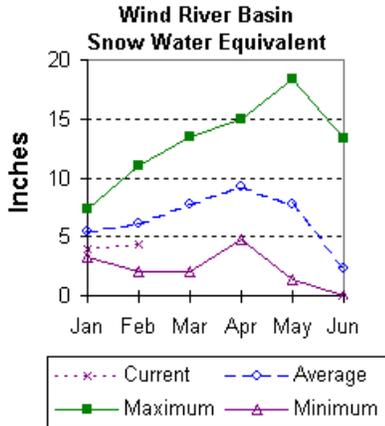
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 much below average snow water equivalent (SWE) for this time of the year. SWE in the Wind River above Dubois is 79 percent of average (154 percent of last year). The Little Wind SWE is 88 percent of average water content (125 percent of last year), and the Popo Agie drainage SWE is about 67 percent of average (97 percent of last year). The Wind River basin, above Boysen Reservoir, SWE is about 71 percent of average (about 144 percent of last year). See the Basin Summary of Snow Course Data at the front of this report for details.



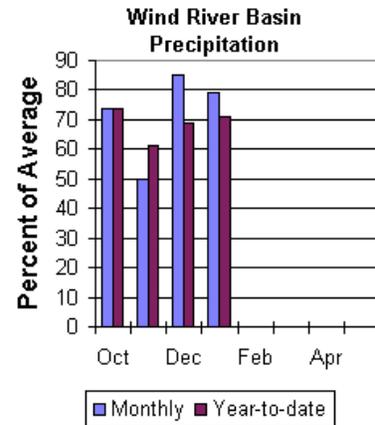
### Precipitation

Last month's precipitation in the basin varied from 25 to 154 percent of average. Precipitation for the basin was about 79 percent of average for the 8 reporting stations. Water year-to-date precipitation is 71 percent of normal. The current water-year-to-date average is about 140 percent of last year at this time. Year to date figures range from 37 to 86 percent of average.

### Reservoirs

Current storage varies from 15 to 119 percent of average.

Bull Lake is currently storing about 28,300 acre feet (19 percent of capacity) -- normally the reservoir is at 57 percent of capacity at this time of the year. Boysen Reservoir is storing about 15 percent of capacity 87,000 acre feet -- normally the reservoir is at 99 percent of capacity at this time of the year. Pilot Butte is storing 75 percent of capacity (23,800 acre feet) -- normally the reservoir is at 63 percent of capacity at this time of the year.



### Streamflow

Water supply is estimated to be much 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 360,000 acre feet (67 percent of average). Wind River at Riverton will yield about 330,000 acre feet (52 percent of average). Boysen Reservoir inflow will yield about 455,000 acre feet (56 percent of normal). Bull Lake Creek near Lenore is expected to yield about 105,000 acre feet (58 percent of average). Little Popo Agie River near Lander is expected to yield about 26,000 acre feet (57 percent of average). South Fork of Little Wind near Fort Washakie will yield about 48,000 acre feet (57 percent of average). Little Wind River near Riverton will yield about 175,000 acre feet (56 percent of average).

WIND RIVER BASIN  
Streamflow Forecasts - February 1, 2002

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	232	308	360	67	412	488	535
WIND RIVER at Riverton (2)	APR-SEP	94	235	330	52	425	566	640
BOYSEN RESERVOIR Inflow (2)	APR-SEP	133	325	455	56	585	777	809
BULL LAKE CR near Lenore (2)	APR-SEP	51	83	105	58	127	159	182
LT POPO AGIE RIVER nr Lander	APR-SEP	11.1	20	26	49	38	56	53
SF LT WIND nr Fort Washakie	APR-SEP	19.0	36	48	57	60	77	84
LT WIND RIVER nr Riverton	APR-SEP	92	141	175	56	235	324	315

WIND RIVER BASIN Reservoir Storage (1000 AF) - End of January					WIND RIVER BASIN Watershed Snowpack Analysis - February 1, 2002			
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	28.3	62.6	85.9	WIND RIVER above Dubios	7	160	79
BOYSEN	596.0	87.0	445.5	592.0	LITTLE WIND	2	137	58
PILOT BUTTE	31.6	23.8	23.5	20.0	POPO AGIE	7	125	67
					WIND above Boyesen Resv	14	145	71

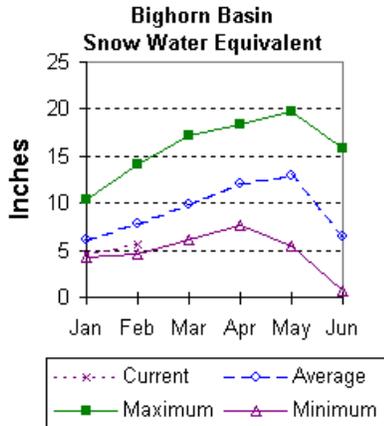
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 (4)

### Snow

Snowpack in this basin is well below average for this time of year. The Nowood drainage SWE is 65 percent of average (125 percent of last year). Greybull River SWE is 63 percent of average (151 percent of last year). Shell Creek SWE is 77 percent of average (126 percent of last year). The basin SWE, as a whole, is currently 70 percent of average (128 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



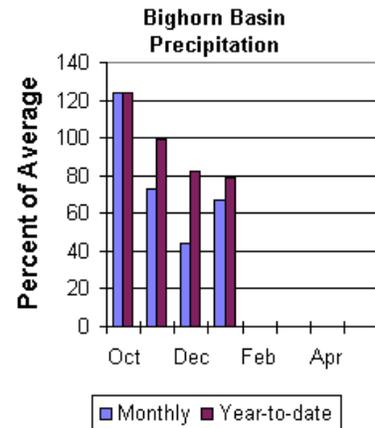
### Precipitation

January precipitation was 67 percent of the monthly average (215 percent of last year). Sites ranged from 53 to 130 percent of average for the month. Year-to-date precipitation is 79 percent of normal; that is 126 percent of last year at this time. Year to date percentages, from the 10 reporting stations, range from 62 to 93.

### Reservoir

Boysen Reservoir is currently storing 87,000-acre feet (15 percent of average). Bighorn

Lake is now at 82 percent of average (701,100-acre feet). Boysen is currently storing 81 percent of last year at this time and Big Horn Lake is storing 60 percent of last year's volume.



### Streamflow

The 50 percent chance April through September runoff is anticipated to be below normal. The Boysen Reservoir inflow is forecast to yield 455,000 acre feet (56 percent of average); the Greybull River nr Meeteese should yield 90,000 acre feet (45 percent of average); Shell Creek near Shell should yield 37,000 acre feet (51 percent of average) and the Bighorn River at Kane should yield 575,000 acre feet (52 percent of average).

SHOSHONE & CLARKS FORK RIVER BASINS  
Streamflow Forecasts - February 1, 2002

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)	
NF SHOSHONE RIVER at Wapiti	APR-SEP	255	309	345	66	381	435	520
SF SHOSHONE RIVER nr Valley	APR-SEP	95	128	150	57	172	205	265
SF SHOSHONE RIVER abv Buffalo Bill	APR-SEP	37	83	115	51	147	193	225
BUFFALO BILL DAM Inflow (2)	APR-SEP	322	437	515	64	593	708	805
CLARKS FORK RIVER nr Belfry	APR-SEP	290	350	390	66	430	490	595

SHOSHONE & CLARKS FORK RIVER BASINS Reservoir Storage (1000 AF) - End of January					SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - February 1, 2002			
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	280.2	370.2	292.6	SHOSHONE RIVER	6	171	75
					CLARKS FORK in WY	7	166	79

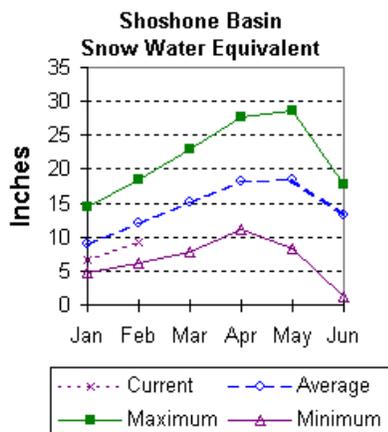
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 75 percent of the February average (171 percent of last year) in the Shoshone River basin. The Clarks Fork River basin SWE is 79 percent of average (166 percent of last year). For more information see the Basin Summary of Snow Course Data at the beginning of this report.



Currently, about 280,200 acre-feet are stored in the reservoir compared to 370,200 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

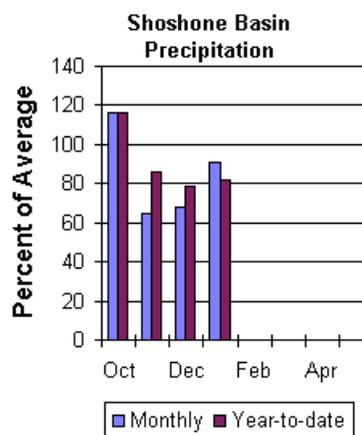
The fifty percent yield (April through September period) for North Fork Shoshone River at Wapiti is expected to be 345,000 acre-feet (66 percent of average). South Fork of the Shoshone River near Valley is estimated to yield of 150,000 acre-feet (57 percent of average), and South Fork above Buffalo Bill Reservoir is expected to be 115,000 acre-feet (51 percent of average). At the Buffalo Bill Reservoir, the fifty percent chance yield for the Shoshone River is expected to be about 515,000 acre-feet (64 percent of average). The fifty-percent chance yield for the Clarks Fork of the Yellowstone near Belfry, Montana is expected to be about 390,000 acre-feet (66 percent of average).

### Precipitation

Precipitation for the month of January was 91 percent of normal. Monthly percentages range from 0 to 138 percent of average. The basin year-to-date precipitation is now 82 percent of average (141 percent of last year). Year-to-date percentages range from 63 to 88 percent of average.

### Reservoir

Current storage in Buffalo Bill Reservoir is 96 percent of average (76 percent of last year's storage) – the reservoir is about 43 percent of capacity.



SHOSHONE & CLARKS FORK RIVER BASINS  
Streamflow Forecasts - January 1, 2002

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)	
NF SHOSHONE RIVER at Wapiti	APR-SEP	243	286	315	61	344	387	520
SF SHOSHONE RIVER nr Valley	APR-SEP	72	108	132	50	156	192	265
SF SHOSHONE RIVER abv Buffalo Bill	APR-SEP	26	77	112	50	147	198	225
BUFFALO BILL DAM Inflow (2)	APR-SEP	280	408	495	62	582	710	805
CLARKS FORK RIVER nr Belfry	APR-SEP	291	359	405	68	451	519	595

SHOSHONE & CLARKS FORK RIVER BASINS Reservoir Storage (1000 AF) - End of December					SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - January 1, 2002			
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	234.4	379.0	299.0	SHOSHONE RIVER	6	122	70
					CLARKS FORK in WY	7	127	78

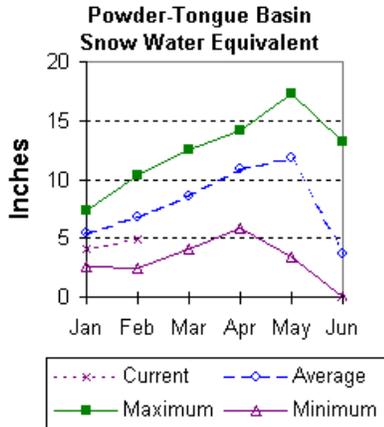
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 72 percent of normal (111 percent of last year). The Goose Creek drainage is 71 percent of average (104 percent of last year). Clear Creek drainage is 73 percent of normal SWE (126 percent of last year). Crazy Woman Creek is 76 percent of average (168 percent of last year). The Upper Powder River drainage is 72 percent of average (121 percent of last year). The Powder River basin snow water equivalent (SWE), in Wyoming, is about 73 percent of average (123 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



year (21,800 acre feet) – the reservoir is about 28 percent of capacity (total capacity is 79,100 acre feet). Last year at this time the reservoir was storing about 34,000 acre feet – average storage is about 22,700 acre feet for this time of the year. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

### Streamflow

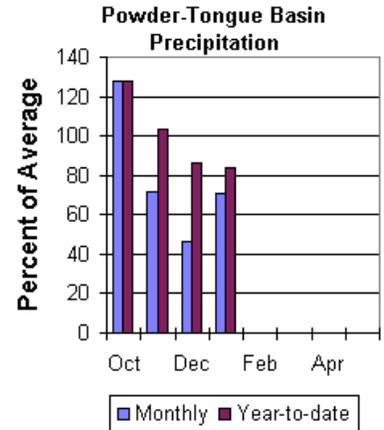
The following runoff values are for the 50 percent probability during the April through September forecast period. The estimated yield for Tongue River near Dayton is 59,000-acre feet (54 percent of normal). Middle Fork of the Powder River near Barnum is estimated to yield 8,700-acre feet (47 percent of average). The North Fork of the Powder near Hazelton should yield about 5,700 acre-feet (55 percent of normal). The estimated yield for Clear Creek near Buffalo is 21,000 acre-feet (54 percent of average). Rock Creek near Buffalo will yield about 12,500 acre-feet (52 percent of normal), and Piney Creek at Kearny should yield about 25,000 acre-feet (48 percent of average).

### Precipitation

January precipitation was 71 percent of average for the 11 reporting stations. Monthly percentages range from 9 to 132 percent of average. Precipitation for the year ranges from 59 to 113 percent of average at the reporting stations. Year-to-date precipitation is about 84 percent of average in the basin; this is 123 percent of last year at this time.

### Reservoir

Tongue River Reservoir is currently at 96 percent of average storage for this time of



POWDER & TONGUE RIVER BASINS  
Streamflow Forecasts - February 1, 2002

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)	
TONGUE RIVER nr Dayton (2)	APR-SEP	43	52	59	54	71	89	109
MIDDLE FORK POWDER nr Barnum	APR-SEP	5.1	7.2	8.7	47	11.8	16.3	18.7
NORTH FORK POWDER nr Hazelton	APR-SEP	4.2	5.1	5.7	55	6.8	8.3	10.4
CLEAR CREEK nr Buffalo	APR-SEP	16.7	19.3	21	54	24	29	39
ROCK CREEK nr Buffalo	APR-SEP	9.8	11.4	12.5	52	14.6	17.8	24
PINEY CREEK at Kearny	APR-SEP	12.3	19.9	25	48	36	51	52

POWDER & TONGUE RIVER BASINS Reservoir Storage (1000 AF) - End of January					POWDER & TONGUE RIVER BASINS Watershed Snowpack Analysis - February 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
TONGUE RIVER	79.1	21.8	34.0	22.7	UPPER TONGUE RIVER	9	111	72
					GOOSE CREEK	2	108	71
					CLEAR CREEK	4	126	73
					CRAZY WOMAN CREEK	3	168	76
					UPPER POWDER RIVER	4	121	72
					POWDER RIVER in WY	8	123	73

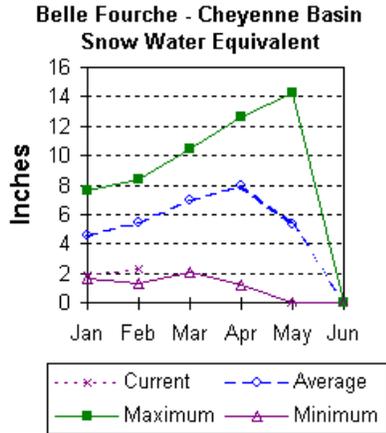
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 snow water equivalent (SWE) is much below average.. SWE is currently 42 percent of average snow pack; 28 percent of last years amount at this time. See Basin summary of Snow Course Data at the beginning of this report for a detailed listing.



storing 101 percent of average (99,500-acre feet), about 81 percent of capacity. Belle Fourche reservoir is storing 133 percent of average (134,800-acre feet), about 76 percent of capacity. Deerfield reservoir is storing 116 percent of average (14,900-acre feet), about 98 percent of capacity. Keyhole reservoir is storing 151 percent of average (154,400-acre feet), 80 percent of capacity. Pactola reservoir is storing 115 percent of average (52,800-acre feet), 96 percent of capacity. Shadehill reservoir is storing 104 percent of average (51,000-acre feet), 63 percent of capacity.

### Streamflow

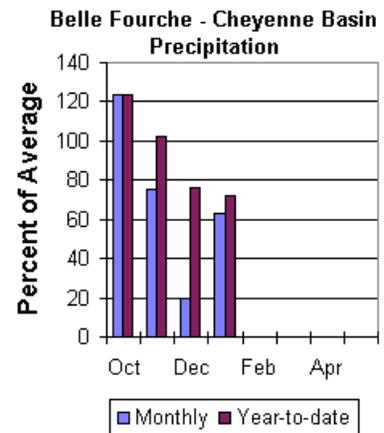
Water supply is estimated to be below normal this year. The following values reflect the 50 percent chance yields for the April through July runoff period. Deerfield Reservoir inflow is forecast at 2,630 acre feet (63 percent of average). Pactola is forecast at 9,700 acre feet (51 percent of average).

### Precipitation.

Precipitation, for the month of January was 63 percent of average in the Black Hills. Monthly percentages range from 0 to 138 percent. Year-to-date precipitation is 72 percent of average and 69 percent of last year's amount.

### Reservoir.

Usable reservoir storage is generally above average in the basin. Angostura is currently



BELLE FOURCHE & CHEYENNE RIVER BASINS  
Streamflow Forecasts - February 1, 2002

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	1.24	2.37	3.14	64	4.34	6.12	4.90
	APR-JUL	0.89	1.92	2.63	63	3.75	5.40	4.20
PACTOLA RESERVOIR Inflow	MAR-JUL	1.7	7.4	11.3	54	18.5	29	21
	APR-JUL	0.9	6.1	9.7	51	16.7	27	18.9

BELLE FOURCHE & CHEYENNE RIVER BASINS Reservoir Storage (1000 AF) - End of January				BELLE FOURCHE & CHEYENNE RIVER BASINS Watershed Snowpack Analysis - February 1, 2002				
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	99.5	87.9	98.1	BELLE FOURCHE	7	28	42
BELLE FOURCHE	178.4	134.8	144.0	101.4				
DEERFIELD	15.2	14.9	15.1	12.8				
KEYHOLE	193.8	154.4	159.1	102.3				
PACTOLA	55.0	52.8	55.0	45.8				
SHADEHILL	81.4	51.0	40.2	49.1				

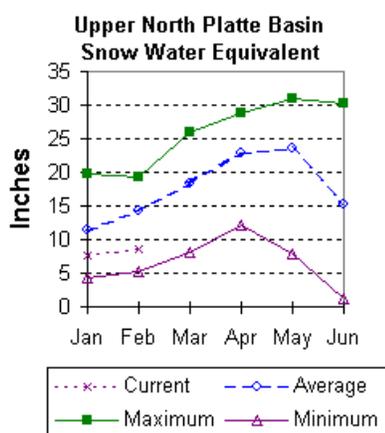
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 60 percent of average snow water equivalent (SWE) recorded for this time of the year (79 percent of last year). SWE in the drainage area above Northgate is about 59 percent of average and 76 percent of last year at this time. SWE in the Encampment River drainage is about 64 percent of normal and 88 percent of last year. Brush Creek SWE for the year is about 66 percent of normal and 79 percent of last year's SWE. Medicine Bow and Rock Creek drainage SWE is about 47 percent of average and 67 percent of last year at this time. For more information see Basin Summary of Snow Courses at the beginning of this report.

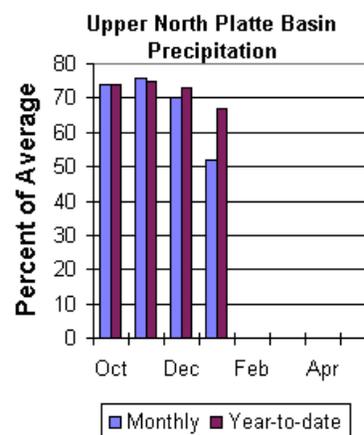


### Precipitation

Eleven reporting stations indicate last month's precipitation was 52 percent of average and about 117 percent of last year's amount. Precipitation varied from 7 to 106 percent of average. Total water-year-to-date precipitation is about 67 percent of average for the basin, which is about 92 percent of last year's amount. Year to date percentage ranges from 57 to 93 percent of average for the 11 reporting stations.

### Reservoirs

Seminoe Reservoir is currently storing about 84 percent of normal for this time of the year. Currently, the reservoir is storing 67 percent of last year's amount. Seminoe Reservoir is estimated to be storing 480,000 acre-feet (47 percent of capacity). Last year, at this time, the reservoir had 680,900 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 120,000 acre-feet (44 percent of average). Encampment River near Encampment is estimated to yield 110,000 acre-feet (67 percent of normal). Rock Creek near Arlington is estimated to yield 32,000 acre-feet (56 percent of average). Seminoe Reservoir inflow should be about (420,000 acre-feet (49 percent of normal). See the following table for more detailed information on projected runoff.

=====

UPPER NORTH PLATTE RIVER BASIN  
Streamflow Forecasts - February 1, 2002

=====

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	APR-SEP	71	100	120	44	165	232	270
Encampment River nr Encampment	APR-SEP	68	93	110	67	127	152	165
Rock Creek nr Arlington	APR-SEP	19.7	27	32	56	38	47	57
Seminoe Reservoir inflow	APR-JUL	233	324	386	48	515	706	800
	APR-SEP	278	363	420	49	537	710	860

=====

UPPER NORTH PLATTE RIVER BASIN  
Reservoir Storage (1000 AF) - End of January

=====

Reservoir	Usable Capacity	*** Usable Storage ***		
		This Year	Last Year	Avg
SEMINOE	1016.7	480.0	680.9	573.2

=====

UPPER NORTH PLATTE RIVER BASIN  
Watershed Snowpack Analysis - February 1, 2002

=====

Watershed	Number of Data Sites	This Year as % of	
		Last Yr	Average
N PLATTE above Northgate	7	76	59
ENCAMPMENT RIVER	4	88	64
BRUSH CREEK	5	83	70
MEDICINE BOW & ROCK CREEK	3	67	47
N PLATTE above Seminoe	19	80	62

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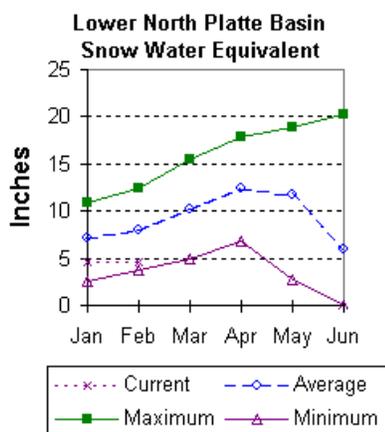
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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## Lower North Platte River Basin (9)

### Snow

SWE for the North Platte River basin in Wyoming averages 57 percent of normal (75 % of last year). The Sweetwater drainage SWE is currently 74 percent of average (133 percent of last year). Deer and LaPrele Creek SWE is 44 percent of average (43 percent of last year). SWE for the North Platte above the Laramie River drainage is 61 percent of average (80 % of last year). SWE for the Laramie River above the mouth is 46 percent of average (64 % of last year). SWE for the Laramie River above Laramie is 49 percent of average (66 % of last year). SWE for the Little Laramie River is 39 percent of average (58 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



### Precipitation

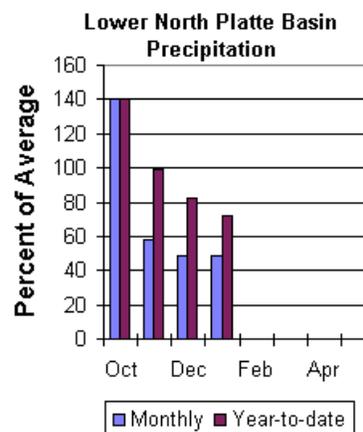
Of the 14 reporting stations, percentages for the month range from 0 to 112. January precipitation for the basin was 49 percent of average (134 percent of last year). The water year-to-date precipitation for the basin is currently 72 percent of average (99 percent of last year). Year to date percentages range from 58 to 130.

### Reservoir

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

Reservoir storage is as follows:

Alcova 156,800 acre feet (101 percent of average); Glendo 283,000 acre feet (85 percent of average); Guernsey 13,200 acre feet (145 percent of average); Pathfinder 502,700 acre feet (74 percent of average); Seminoe 480,000 acre feet (84 percent of average). Wheatland No.2 19,000 acre feet (42 percent of average). Water allocated to project use is near average with North Platte Project users at 48 percent of average, Kendrick Project users at 101 percent of average, and Glendo Project users at 112 percent of average.



### Streamflow

Yields from 17 to 58 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 38,000 acre-feet (48 percent of average). Deer Creek at Glenrock is expected to yield about 17 percent of average (7,000 acre-feet). LaPrele Creek above the reservoir is estimated to yield 17 percent of average (4,000 acre-feet). North Platte River below Guernsey Reservoir is expected to yield about 39 percent of normal (398,000 acre-feet), and below Glendo Reservoir is anticipated to yield about 40 percent of average (392,000 acre-feet). Laramie River near Woods should yield about 58 percent of average (78,000 acre-feet). The Little Laramie near Filmore should produce about 27,000 acre-feet (42 percent of average).

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>				30-Yr Avg. (1000AF)		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
Sweetwater River nr Alcova	APR-JUL	13.6	26	35	47	53	81	74
	APR-SEP	15.3	29	38	48	57	85	80
Deer Creek at Glenrock	APR-SEP	2.7	4.8	7.0	17	12.3	23	41
La Prele Creek ab La Prele Reservoir	APR-SEP	1.0	1.8	4.0	17	8.5	19.7	24
Alcova to Orin Gain	APR-JUL	4.0	9.0	12.0	8	50	107	152
	APR-SEP	5.0	10.0	13.0	8	52	110	161
North Platte River blw Glendo Reserv	APR-JUL	281	345	389	41	496	652	960
	APR-SEP	281	347	392	40	504	670	990
North Platte River blw Guernsey Resv	APR-JUL	254	330	382	39	515	710	970
	APR-SEP	265	344	398	39	536	738	1010
Laramie River nr Woods	APR-SEP	40	62	78	58	105	144	135
Little Laramie River nr Filmore	APR-SEP	18.3	24	27	42	35	48	64

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

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS  
Watershed Snowpack Analysis - February 1, 2002

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	156.8	156.6	155.0	SWEETWATER	3	133	74
GLENDO	506.4	283.0	283.5	334.9	DEER & LAPRELE CREEKS	3	43	44
GUERNSEY	45.6	13.2	12.8	9.1	N PLATTE abv Laramie R.	25	80	62
PATHFINDER	1016.5	502.7	728.1	678.3	LARAMIE RIVER abv Laramie	8	66	49
SEMINOE	1016.7	480.0	680.9	573.2	LITTLE LARAMIE RIVER	4	58	39
WHEATLAND #2	98.9	19.0	34.0	45.3	LARAMIE RIVER above mouth	11	64	46
NORTH PLATTE PROJ	1062.1	286.6	584.9	601.0	NORTH PLATTE	31	76	58
KENDRICK PROJECT	1201.7	828.6	971.2	819.1				
GLENDO PROJECT USERS	183.2	134.5	136.3	119.8				

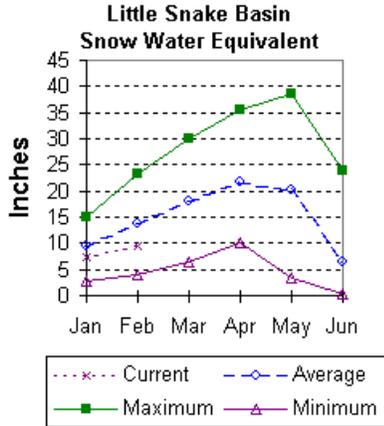
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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



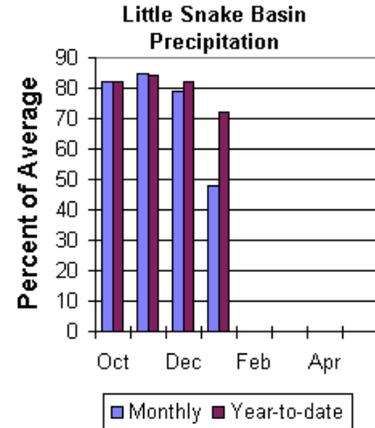
## Precipitation

Precipitation across the basin was below average this past month. January precipitation was 48 percent of average (103 percent of last year) for the 5 reporting stations. January precipitation ranged from 36 to 69 percent of average. The Little Snake River basin water-year-to-date precipitation is currently 72 percent of average (96 percent of last year). Year-to-date percentages range from 66 to 79 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 90,000 acre-feet (57 percent of normal). Little Snake River near Dixon is estimated to yield 180,000 acre-feet (55 percent of normal).

Runoff yield in the Little Snake River drainage is



LITTLE SNAKE RIVER BASIN  
Streamflow Forecasts - February 1, 2002

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)	
Little Snake River nr Slater	APR-JUL	56	75	90	57	106	132	159
LITTLE SNAKE R nr Dixon	APR-JUL	113	153	180	55	229	301	330

LITTLE SNAKE RIVER BASIN Reservoir Storage (1000 AF) - End of January				LITTLE SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 2002				
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	88	68

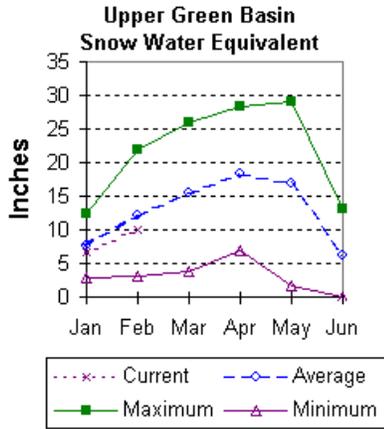
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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- (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 82 percent of average (132 percent of last year). The Green River basin SWE above Warren Bridge is 84 percent of normal (138 percent of last year). SWE on the west side of the Upper Green River basin is about 80 percent of normal, 137 percent of this time last year. Newfork River SWE is now 84 percent of normal (109 percent of last year). Big Sandy-Eden Valley SWE is about 89 percent of average (131 percent of last year). For more information see the Basin Summary of Snow Courses at the beginning of this report.



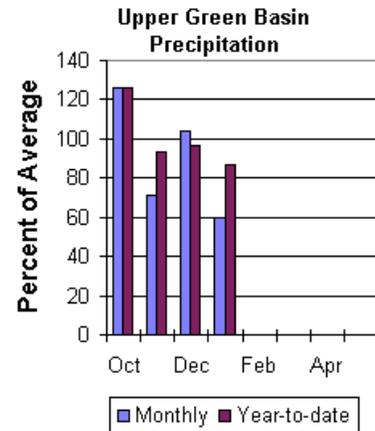
## Precipitation

The 11 reporting precipitation sites in the basin were 60 percent of last month's average. Precipitation varied from 46 to 79 percent of average. Water year-to-date precipitation is about 87 percent of average (134 percent of last year). Year to date percentage of average ranges from 79 to 95 percent for the reporting stations.

## Reservoir

Big Sandy Reservoir is currently storing 3,100 acre feet (17 percent of average) -- 14 percent of last year and 8

percent of capacity. Eden Reservoir is currently storing 480 acre feet (15 percent of average) -- 4 percent of capacity. Fontenelle Reservoir is storing 141,200 acre-feet (77 percent of average and 41 percent of the total capacity). Flaming Gorge Reservoir is currently storing 2,854,100 acre feet (96 percent of average) -- 95 percent of last year and 72 percent of capacity. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.



## Streamflow

The following forecast is based on the fifty-percent chance April through July runoff in the Upper Green River basin. Runoff is forecast to be 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 82,000 acre-feet (79 percent of normal). New Fork River near Big Piney is expected to yield about 290,000 acre-feet (73 percent of normal). Fontenelle Reservoir Inflow is estimated to be 590,000 acre-feet (69 percent of average), and Big Sandy near Farson is expected to be about 46,000 acre-feet (79 percent of normal).

UPPER GREEN RIVER BASIN  
Streamflow Forecasts - February 1, 2002

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	154	190	215	81	240	276	265
Pine Creek abv Fremont Lake	APR-JUL	64	75	82	79	89	100	104
New Fork River nr Big Piney	APR-JUL	166	240	290	73	340	414	395
Fontenelle Reservoir Inflow	APR-JUL	418	517	590	69	668	792	860
Big Sandy River nr Farson	APR-JUL	28	39	46	79	53	64	58

UPPER GREEN RIVER BASIN  
Reservoir Storage (1000 AF) - End of January

UPPER GREEN RIVER BASIN  
Watershed Snowpack Analysis - February 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BIG SANDY	38.3	3.1	5.5	18.6	GREEN above Warren Bridge	4	140	84
EDEN	11.8	0.5	---	3.2	UPPER GREEN (West Side)	7	137	80
FLAMING GORGE	3749.0	2854.1	2992.0	2966.0	NEW FORK RIVER	3	109	84
FONTENELLE	344.8	141.2	120.4	182.2	BIG SANDY/EDEN VALLEY	1	131	89
					GREEN above Fontenelle	14	132	82

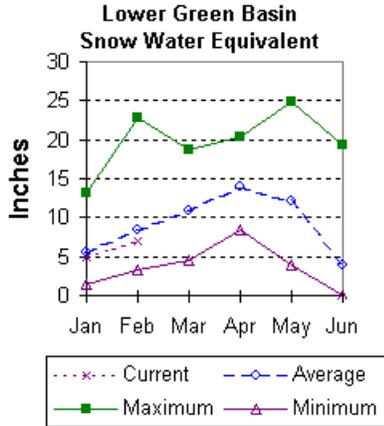
\* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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# Lower Green River Basin (12)

## Snow

The Blacks Fork and Henrys Fork drainage's are below average. SWE in the Hams Fork, as of February 1, is 84 percent of average (131% of last year). Blacks Fork SWE is currently 71 percent of average (90 percent of last year). The basin, as a whole, is 81 percent of average (125 percent of last year). For more information see Basin Summary of Snow Courses at beginning of this report.

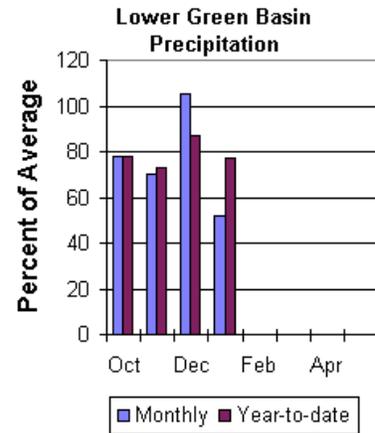


## Precipitation

Precipitation was below average for the month (52 percent) for the 3 reporting stations during January. Precipitation ranged from 47 to 58 percent of average for the month. The basin year-to-date precipitation is currently 77 percent of average (131 percent of last year). Year to date percentages range from 74 to 79.

## Reservoir

Fontenelle Reservoir is currently storing 141,200 acre feet; this is 77 percent of average (117 percent of last year). Flaming Gorge is currently storing 2,854,100 acre feet, this is 96 percent of average (95 percent of last year). Viva Naughton is currently storing 28,300 acre feet; this is 93 percent of average.



## Streamflow

Expected yields vary from 61 to 69 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 600,000-acre feet (69 percent of average). Blacks Fork near Robertson is forecast to yield 62,000-acre feet (65 percent of average). East Fork of Smiths Fork near Robertson is estimated to yield 19,000 acre-feet (61 percent of average). The estimated yield for Hams Fork near Frontier is 45,000-acre feet (69 percent of average). Viva Naughton Reservoir inflow will be about 58,000-acre feet (65 percent of average). Flaming Gorge Reservoir inflow will be about 770,000-acre feet (65 percent of average).

LOWER GREEN RIVER BASIN  
Streamflow Forecasts - February 1, 2002

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	338	494	600	69	706	862	875
Blacks Fork nr Robertson	APR-JUL	43	54	62	65	74	92	95
EF of Smiths Fork nr Robertson	APR-JUL	14.2	16.9	19.0	61	21	25	31
Hams Fk blw Pole Ck nr Frontier	APR-JUL	25	36	45	69	55	70	65
Hams Fk Inflow to Viva Naughton Res	APR-JUL	21	43	58	65	73	95	89
Flaming Gorge Reservoir Inflow	APR-JUL	403	622	770	65	918	1137	1190

LOWER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of January					LOWER GREEN RIVER BASIN Watershed Snowpack Analysis - February 1, 2002			
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	141.2	120.4	182.2	HAMS FORK RIVER	4	131	84
FLAMING GORGE	3749.0	2854.1	2992.0	2966.0	BLACKS FORK	2	90	71
VIVA NAUGHTON RES	42.4	28.3	---	30.3	HENRYS FORK	2	70	69
					GREEN above Flaming Gorge	21	125	81

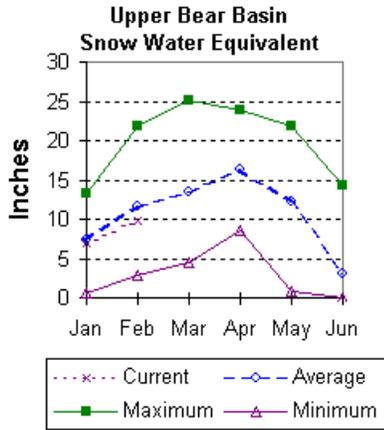
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# Upper Bear River Basin (13)

## Snow

Snow water equivalent (SWE), at snow courses in the Bear River above the Idaho State line, is 83 percent of average (130 percent of last year). SWE for the Bear River in Utah is estimated to be 81 percent of average; that is about 116 percent of last year at this time. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is estimated at 83 percent of average (135 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.



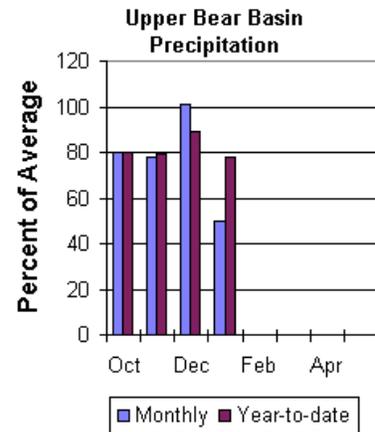
Current storage is 16 percent of average, and 14 percent of last year's amount.

## Precipitation

Precipitation for last month was 50 percent of average for the 2 reporting stations. The year-to-date precipitation, for the basin, is 78 percent of average; this is 119 percent of last year's amount.

## Reservoir

Woodruff Narrows reservoir is currently storing 4,000 acre feet (7 percent of capacity). Normally, the reservoir is storing 44 percent of capacity at this time of the year.



## Streamflow

The following is based on the 50 percent chance stream flow yields are for the April through September period. Smiths Fork near Border is estimated to yield 91,000 acre-feet (77 percent of normal), and Thomas Fork drainage near the Idaho-Wyoming state line is much below average. Bear River above the Utah-Wyoming State Line is expected to yield about 100,000 acre feet ( 80 percent of average), The Bear River near Woodruff is expected to yield about 118,000 acre-feet (about 77 percent of normal).

UPPER BEAR RIVER BASIN  
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		Drier		Wetter				
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	30% (1000AF)	10% (1000AF)	(% AVG.)	
SMITHS FK nr Border, WY	APR-SEP	62	78	91	77	107	134	118
Bear R nr UT-WY State Line	APR-SEP	72	88	100	80	114	139	125
BEAR R nr Woodruff, UT	APR-SEP	63	92	118	77	152	220	154

UPPER BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January					UPPER BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 2002			
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	4.0	8.0	25.2	UPPER BEAR RIVER in Utah	5	116	81
					SMITHS & THOMAS FORKS	4	135	83
					BEAR RIVER abv ID line	7	130	83
					NORTHWEST	76	155	79
					NORTHEAST	21	86	67
					SOUTHEAST	34	78	61
					SOUTHWEST	30	112	76

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

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