

Natural Resources Conservation Service

# Wyoming Basin Outlook Report February 1, 2005



# Basin Outlook Reports And Federal - State - Private

# Cooperative Snow Surveys

For more water supply and resource management information, contact:

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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 is. 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 well below average for this time of the year. Early storms covered the state with snow, but very little snow fell during late November, December and January. SWE for the State is about 81% of average for this time of the year. SWE in the Northwest portion of the State is 73% of average. SWE in Northeast Wyoming is 65% of average, and in the Southeast part of the State is 90% of average. SWE in Southwestern Wyoming is 99% of average for this time of the year.

Precipitation for January varied from 49 to 114% of average for the State. Year-to-date precipitation is also well below average for the year and varies from 66 to 111% of average. Reservoir levels vary from above average to well below average. Reservoirs in the North Platte River basin are generally well below average. Reservoirs in the northeast have near average storage. Reservoirs in the Wind River Basin are average or above. Reservoirs on the Big Horn are slightly below average. Forecast runoff varies from 44 to 129% of average across the State.

# Snowpack

Snow water equivalent (SWE), across the State, is below average for this time of year. SWE in the NW portion of the State is now about 73% of average (77% of last year). NE Wyoming SWE is currently about 65% of average (80% of last year). The SE portion is currently about 90% of average SWE (106% of last year). And the SW SWE snowpack is about 99% of average (107% of last year).

# **Precipitation**

January's precipitation was well below average across most of the State. The Big Horn River was the lowest percentage for the month at 65% of average. The Little Snake River was 16% above average for the month. The following table displays the major river basins and their departure from average for this month.

Basin	Departure from average	Basin	Departure from average
Snake River	-40%	Upper North Platte	
Yellowstone & Madison	-36%	Lower North Platte	-23%
Wind River	-12%	Little Snake River	+16%
Big Horn	-51%	Upper Green River	-23%
Shoshone & Clarks Fork	c -47%	Lower Green River	-00%
Powder & Tongue River	-36%	Upper Bear River	-07%
Belle Fourche & Cheyer	nne -30%		

#### **Streams**

Stream flow yield is expected to be well below average across the State. Most probable yield for the State is forecast to be about 45% of average (varies from 19 to 75% of average). The northwest part of the State is expected to yield about 55% of average -- yield estimates vary from 30 to 75% of average. Yield from the northeast portion of Wyoming is expected to yield about 44% of average -- yield estimates vary from 20 to 65% of average for the various forecast points. Yield in the southeast portion of the state will be about 38% of average -- yield estimates range from 20 to 54% of average. Yield in the southwest portion of Wyoming varies from 19 to 64% of average -- mean estimated yield for the forecast points in southwest Wyoming is about 46% of average.

# Reservoirs

The only reservoir not reporting is Eden. Reservoir storage, for those reporting, varies widely across the state for this time of the year; however reservoir storage is improved from last year. See following table for further information about reservoir storage.

# **Major Reservoirs in Wyoming**

				CURRENT AS CU % AVERAGE %	
WYOMING AND SURROUNDI	NG STATES				
ALCOVA	85	85	84	101	99
ANGOSTURA	44	65	80	55	67
BELLE FOURCHE	38	52	57	68	74
BIG SANDY	29	15	49	60	191
BIGHORN LAKE	49	52	63	78	96
BOYSEN	98	57	99	98	171
BUFFALO BILL	72	65	64	113	111
BULL LAKE	68	38	57	121	181
DEERFIELD	87	99	84	103	88
EDEN			NO REPORT		
ENNIS LAKE	71	72	76	93	99
FLAMING GORGE	74	69	79	93	106
FONTENELLE	54	52	53	102	104
GLENDO	51	42	66	76	120
GRASSY LAKE	57	64	78	74	90
GUERNSEY	39	35	20	197	112
HEBGEN LAKE	82	75	71	116	108
JACKSON LAKE	16	19	58	27	83
KEYHOLE	49	57	53	92	85
PACTOLA	75	86	83	90	87
PALISADES	41	33	74	55	124
PATHFINDER	24	29	67	36	83
PILOT BUTTE	76	75	63	121	101
SEMINOE	26	24	56	47	110
SHADEHILL	59	36	60	99	165
TONGUE RIVER	50	58	29	174	86
VIVA NAUGHTON RES	76	70	71	107	109
WHEATLAND #2	30	21	46	66	144
WOODRUFF NARROWS	24	12	44	56	200
TOTAL OF 28 RESERVOI	RS 54	50	70	78	108
Raw KAF Totals Curre	nt= 7235	Last Year=	6671 Average	= 9262 Capacit	y= 13288

# **Basin Summary of Snow Course Data**

FEBRUARY 2005

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH			AVERAGE 71-00
WYOMING Snow Course and	SNOTEL St	ations				
ALBANY	9400	1/28/05	28	6.7	6.3	9.5
ASTER CREEK	7750	2/01/05	44	13.2	21.5	19.6
BALD MOUNTAIN SNOTEL		2/01/05	42	10.1	9.8	
BASE CAMP SNOTEL	7030	2/01/05		9.0	15.4	12.7
BATTLE MTN. SNOTEL			71	8.5		7.8
	4680			.0	1.9	
BEARTOOTH LAKE SNOTE					14.3	
BEAR TRAP SNOTEL	8200	2/01/05				3.5
BIG GOOSE	7760	1/31/05		.6	2.0	
BIG GOOSE SNOTEL	7760	2/01/05		4.1	4.7	
BIG SANDY SNOTEL	9080	2/01/05	46	11.5	9.1	9.5
BLACKWATER SNOTEL	9780	2/01/05	4.5	9.4	15.6	
BLIND BULL SNOTEL	8900 6870	2/01/05 2/01/05	47 15	12.8 3.3	16.0 3.6	18.4 5.2
BLIND PARK SNOTEL BLUE RIDGE	6870 9620	1/26/05	36		7.5	
BONE SPGS. SNOTEL				9.0	8.7	
BROOKLYN LAKE SNOTEL						
BUCK CREEK	7960			4.1	4.5	6.3
BURGESS JCT. SNOTEL				4.6	5.9	
BURROUGHS CRK SNOTEL		2/01/05		6.5	8.3	
CANYON SNOTEL	8090	2/01/05		6.3	9.1	8.9
CARTER MOUNTAIN	7950	1/27/05		.8	1.9	
CASPER MTN. SNOTEL	7850	2/01/05		6.7	5.8	9.0
CASTLE CREEK	8400	1/24/05	7	.6	2.6	3.3
CCC CAMP	7000	1/27/05	29	7.1	8.1	
CHALK CK #1 SNOTEL	9100	2/01/05		19.0	11.8	15.3
CHALK CK #2 SNOTEL	8200	2/01/05		12.3	7.7	9.9
CINNABAR PARK SNOTEL				11.4	11.2	
CLOUD PEAK SNOTEL				8.9	8.0	
COLE CANYON SNOTEL			4	1.5	2.9	
COLD SPRINGS SNOTEL		2/01/05	24	5.6	3.9	
COTTONWOOD CR SNOTEL		2/01/05		10.6	14.1	
CROW CREEK SNOTEL	8830	2/01/05	88	5.3	4.4	
DARBY CANYON	8250	2/02/05 2/01/05	38 60	11.0	18.5 10.9	
DEER PARK SNOTEL DITCH CREEK	9700 6870	1/27/05	60	16.8 1.5	2.6	11.7 2.8
DIVIDE PEAK SNOTEL	8860	2/01/05	52	14.5	12.1	13.0
DOME LAKE SNOTEL	8880	2/01/05	28	6.5	6.7	7.9
DU NOIR	8760	1/25/05	18	3.4	2.3	5.8
EAST RIM DIV SNOTEL	7930	2/01/05		5.7	7.5	8.5
ELBO RANCH	7100	2/01/05	22	4.6	7.9	8.0
ELKHART PARK SNOTEL	9400	2/01/05		7.8	8.1	8.8
EVENING STAR SNOTEL	9200	2/01/05	42	11.8	15.9	19.7

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH			AVERAGE 71-00
FOUR MILE MEADOWS				5.0	7.0	8.7
FOXPARK	9060			4.0	4.1	4.9
GEYSER CREEK	8500	1/25/05		2.3	3.5	4.8
GLADE CREEK	7040		37	10.3	19.0	
GRANITE CRK SNOTE		2/01/05		9.2	12.8	12.4
GRANNIER MEADOWS	8860	1/26/05	40	9.9	8.9	9.1
GRASSY LAKE SNOTE		2/01/05		15.8	27.6	
GRAVE SPRINGS SNO		2/01/05	18	4.0	6.1	5.7
GREYS BOUNDARY	5720	1/24/05	28	6.3	9.6	8.3
GROS VENTRE SNOTE		2/01/05		7.9	8.0	
GROVER PARK DIVID		1/24/05		5.0	6.8	7.5
HAIRPIN TURN	9480	_, ,		8.7	7.0	
HANSEN S.M. SNOTE		2/01/05	15		4.2	4.2
HAMS FORK SNOTEL		2/01/05		8.0	7.4	8.4
HASKINS CREEK	8980	1/26/05	66		22.9	19.6
HOBACK GS	6640	1/24/05	22	5.2	6.4	
HOBBS PARK SNOTEL		2/01/05	43	11.3	7.4	
HUCKLEBERRY DIVID		2/01/05	37	9.6	16.3	
INDIAN CREEK SNOT		2/01/05		18.8	14.9	
JACKPINE CREEK	7350	2/02/05	33	9.8	17.6	
KELLEY R.S. SNOTE	L 8180	2/01/05		11.6	9.7	10.7
KENDALL R.S. SNOT	EL 7740	2/01/05		7.8	9.7	9.8
KIRWIN SNOTEL	9550	2/01/05	22	4.6	4.2	7.7
LAKE CAMP	7780	1/31/05	24	5.6	7.6	6.5
LA PRELE SNOTEL	8380	2/01/05	21	4.4	5.3	7.3
LARSEN CREEK	9020	1/25/05	37	10.1	8.5	8.4
LEWIS LAKE SNOTEL	7850	2/01/05	46	15.1	25.1	23.1
LIBBY LODGE	8750	1/28/05	25	6.5	4.8	7.8
LITTLE BEAR RUN	6240	1/28/05	5	1.1	2.9	2.6
LITTLE WARM SNOTE	L 9370	2/01/05	25	5.6	5.5	7.8
LOOMIS PARK SNOTE	L 8240	2/01/05		9.3	11.1	11.2
LUPINE CREEK	7380	1/27/05	15	3.5	5.9	6.4
MALLO	6420	1/26/05	13	1.9	4.6	5.2
MARQUETTE SNOTEL	8760	2/01/05	6	2.3	4.4	5.9
MEDICINE LODGE LA	KES 9340	1/30/05	29	5.8	9.7	7.5
MIDDLE FORK	7420	1/26/05	14	2.7	4.1	3.8
MIDDLE POWDER SNO	TEL 7760	2/01/05	16	4.1	6.5	7.2
MORAN	6750	1/31/05	24	5.6	9.2	9.3
MOSS LAKE	9800	1/27/05	40	11.4	10.8	15.3
NEW FORK SNOTEL	8340	2/01/05		6.8	7.0	7.7
NORRIS BASIN	7500	1/30/05	18	4.0	7.2	7.6
NORTH BARRETT CRE	EK 9400	1/27/05	44	11.8	11.3	12.8
NORTH FRENCH SNOT	EL 10130	2/01/05	55	15.8	14.7	18.4
NORTH RAPID CK SN	TL 6130	2/01/05	5	2.0	3.5	5.0
NORTH TONGUE	8450	1/30/05	24	4.7	6.4	8.4
OLD BATTLE SNOTEL		2/01/05	78	24.4	20.8	20.0
OLD FAITHFUL	7400	2/01/05	29	7.7	11.6	9.5
ONION GULCH	8780	1/29/05	13	2.4	3.8	5.2
OWL CREEK SNOTEL	8980	2/01/05	15	2.5	2.2	3.4
PARKERS PEAK SNOT		2/01/05	38	10.7	13.2	14.8

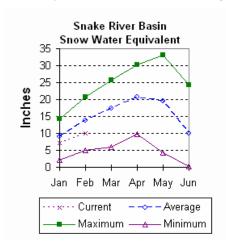
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH		LAST YEAR	AVERAGE 71-00
PHILLIPS BENCH SNTL	8200	2/01/05	51	15.7	18.2	18.5
POCKET CREEK	9350	1/25/05	39	9.8	7.2	8.6
POLE MOUNTAIN	8700	1/31/05	25	4.4	5.1	6.1
POWDER RVR.PASS SNT	9480	2/01/05	31	7.5	6.7	7.2
PURGATORY GULCH	8970	1/26/05	25	6.9	9.0	7.1
RANGER CREEK	8120	1/30/05	18	3.3	5.9	6.2
RENO HILL SNOTEL	8500	2/01/05	27	5.5	6.9	8.4
REUTER CANYON	6280	1/29/05		2.4	4.3	
ROWDY CREEK	8300	1/29/05	40	10.8	12.8	14.6
RYAN PARK	8400	1/27/05	25	5.5	6.8	7.4
SAGE CK BASIN SNTL	7850	2/01/05	45	10.8	9.2	7.5
SALT RIVER SNOTEL	7600	2/01/05		8.3	9.0	9.2
SAND LAKE SNOTEL	10050	2/01/05	51	14.3	14.1	19.9
SANDSTONE RS SNOTEL	8150	2/01/05	38	7.4	8.0	9.7
SAWMILL DIVIDE	9260	1/30/05	28	5.2	6.4	8.8
SHELL CREEK SNOTEL	9580	2/01/05	38	8.8	9.0	9.9
SHERIDAN R.S.	7750	1/24/05	13	2.4	3.7	4.1
SNAKE RIVER STATION	6920	2/01/05	31	8.2	16.2	14.1
SNAKE RV STA SNOTEL	6920	2/01/05	29	7.9	15.3	12.6
SNIDER BASIN SNOTEL	8060	2/01/05	39	9.9	9.0	9.8
SOLDIER PARK	8780	1/29/05	11	.9	2.2	3.5
SOUR DOUGH	8460	1/29/05	16	2.4	3.3	4.2
SOUTH BRUSH SNOTEL		2/01/05	27		6.0	7.4
SOUTH PASS SNOTEL	9040	2/01/05	54	14.6	11.2	11.4
SPRING CRK. SNOTEL	9000	2/01/05	56	16.3	15.0	17.4
ST LAWRENCE ALT SNT	8620	2/01/05	24	5.3	3.1	4.8
SUCKER CREEK SNOTEL	8880	2/01/05	29	6.5	6.2	7.2
SYLVAN LAKE SNOTEL	8420	2/01/05	39	10.1	12.2	15.2
SYLVAN ROAD SNOTEL	7120	2/01/05	22	5.6	8.8	8.8
T CROSS RANCH	7900	1/24/05	11	1.5	4.0	5.3
TETON PASS W.S.		2/01/05	44	14.2	18.0	18.5
THUMB DIVIDE SNOTEL	7980	2/01/05	35	9.6	14.1	11.8
THUMB DIVIDE	7980	2/01/05	32	8.5	12.7	12.2
TIE CREEK SNOTEL	6870	2/01/05	2	.1	3.4	4.0
TIMBER CREEK SNOTEL			5	1.1	2.1	3.6
TOGWOTEE PASS SNOTE	9580	2/01/05	44	11.3	14.4	16.9
TOWNSEND CRK SNOTEL	8700	2/01/05	35	7.8	5.3	5.6
TRIPLE PEAK SNOTEL	8500	2/01/05		12.1	14.3	16.6
TURPIN MEADOWS	6900	1/31/05	18	3.5	6.9	7.6
TWO OCEAN SNOTEL	9240	2/01/05		15.7	20.0	19.0
TYRELL RANGER STA.	8300	1/29/05	14	2.5	4.2	5.2
UPPER SPEARFISH	6500	1/27/05	7	1.4	3.8	4.7
WEBBER SPRING SNOTE		2/01/05	156	17.1	16.0	16.1
WHISKEY PARK SNOTEL	8950	2/01/05	54	16.9	16.0	18.5
WILLOW CREEK SNOTEL	8450	2/01/05		14.8	19.9	20.2
WINDY PEAK SNOTEL	7900	2/01/05		4.0	3.3	4.5
WOLVERINE SNOTEL	7650	2/01/05	17	5.1	7.0	8.6
WOOD ROCK G.S.	8440	1/30/05	19	2.5	3.9	6.5
YOUNTS PEAK SNOTEL	8350	2/01/05	26	7.0	6.9	12.0
YOUNTS PEAK SNOTEL	6350	Z/UI/U5	26	7.0	6.9	12.0

<sup>(</sup>d) denotes discontinued site.

#### **Snake River Basin**

#### **Snow**

The Snake River basin snow water equivalent (SWE) is below average. SWE in the Snake above Jackson Lake is 69% of average (61% of last year at this time). Pacific Creek SWE is 74% of average (68% of last year at this time). Gros Ventre River SWE is 69% of average (79% of last year at this time). SWE in the Hoback River drainage is 75% of average (81% of last year at this time), SWE in the Greys River drainage is 77% of average (83% of last year at this time). In the Salt River area, SWE is 77% of average (79% of last year at this time). SWE in the Snake River Basin above Palisades is 73% of average (71% 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.



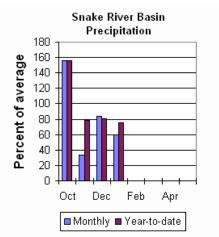
# Precipitation.

Precipitation across the basin was below average last month. Monthly precipitation, for the basin, was 60% of average (78% of last year). Last months percentages range from 41 to 90% of average. Water-year-to-date precipitation is 75% of average for the Snake River basin (79% of last year). Year-to-date percentages range from 64 to 90% of average.

#### Reservoir.

Currently, usable reservoir storage, compared to average for the three storage reservoirs in the basin, is below average.

Grassy Lake storage is about 74% of average (8,700 ac-ft compared to 9,700 last year). Jackson Lake storage is 27% of average (133,500 ac-ft compared to 160,500 ac-ft last year). Palisades Reservoir storage is about 55% of average (571,500 ac-ft compared to 459,700 ac-ft last year).



#### Streamflow.

The most probable, a 50% chance, April through September runoff yield forecast is below average for the basin. The Snake near Moran is expected to yield 630,000 ac-ft (70% of average). Snake above reservoir near Alpine is expected to be about 1,870,000 ac-ft (69% of average). The 50% chance yield of the Snake near Heise is expected to be 2,900,000 ac-ft (70% of average). Pacific Creek at Moran is expected to yield about 116,000 ac-ft (65% of average). Greys River above Palisades Reservoir is estimated to yield 280,000 ac-ft (71% of average). Salt River near Etna is estimated to have a yield of 280,000 ac-ft (67% of average). See the following page for detailed runoff volumes.

#### SNAKE RIVER BASIN

# Streamflow Forecasts - February 1, 2005

		   <<=====	Drier ====	== Future Co	nditions =	====== Wette	: =====>>	
		j					i	
Forecast Point	Forecast	======	========	= Chance Of E	xceeding *			
	Period	90%	70%	50	1%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
SNAKE nr Moran (1,2)	APR-JUL	400	515	========   570	70	=========   625	740	815
SMAKE III MOTAII (1,2)	APR-SEP	440	570	570   630	70	l 690	820	905
	AFK-SEF	440	570	630 	70	690 	820	905
SNAKE ab resv nr Alpine (1,2)	APR-JUL	1130	1480	1630	69	1780	2130	2370
	APR-SEP	1310	1690	1870	69	2050	2430	2730
				İ		İ		
SNAKE nr Irwin (1,2)	APR-JUL	1570	2100	2340	70	2580	3110	3330
	APR-SEP	1850	2450	2720	70	2990	3590	3870
SNAKE near Heise (2)	APR-JUL	1820	2210	2480	70	2750	3140	3560
	APR-SEP	2150	2600	2900	70	3200	3650	4160
						1		
PACIFIC CREEK at Moran	APR-JUL	78	98	111	65	124	144	171
	APR-SEP	82	102	116	65	130	150	178
GREYS above Palisades	APR-JUL	162	210	240	71	270	320	340
	APR-SEP	194	245	280	71	315	365	395
						ļ		
SALT near Etna	APR-JUL	143	200	240	71	280	335	340
	APR-SEP	180	250	295	70	340	410	420
						1		

SNAKE R Reservoir Storage (100	IVER BASIN O AF) - End	of Janua	ry	İ	SNAKE RIVER BASIN Watershed Snowpack Analysis - February 1, 2005				
Reservoir	Usable   Capacity	*** Usa This Year	ble Stora Last Year	age *** Avg	Watershed	Number of Data Sites	This Year ====== Last Yr	r as % of  Average	
GRASSY LAKE	15.2	8.7	9.7	11.8	SNAKE above Jackson Lak	e 9	61	69	
JACKSON LAKE	847.0	133.5	160.5	490.1	PACIFIC CREEK	3	68	74	
PALISADES	1400.0	571.5	459.7	1040.3	GROS VENTRE RIVER	3	80	69	
					HOBACK RIVER	5	81	75	
					GREYS RIVER	5	82	77	
					SALT RIVER	5	79	77	
					SNAKE above Palisades	28	71	73	

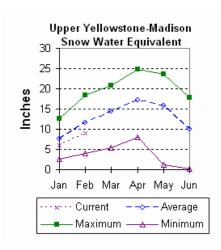
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the

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

#### **Yellowstone and Madison River Basins**

#### **Snow**

Snowfall in these basins has been mixed this year, however, SWE, in both basins, is below average this month. Snow water equivalent (SWE) is about 83% of average (72% of last year) in the Madison drainage. SWE in the Yellowstone drainage is about 72% of average (77% of last year at this time). See the "Snow Course Basin Summary" at the beginning of this document for more details on specific sites.



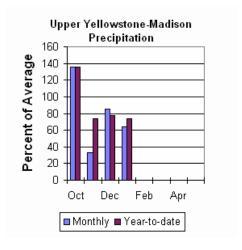
#### **Precipitation**

Last month precipitation in the Madison and Yellowstone drainage was about 64% of average (81% of last year) for the 5 reporting stations -- percentage range was from 50 to 73% of average. Water-year-to-date precipitation is about 74% of average (76% of last year's amount). Year to date percentage ranges from 70 to 79%.

#### Reservoir

Ennis Lake is storing about 29,200 ac-ft of water (71% of capacity, 93% of average or 99% of last year's volume). Hebgen Lake is storing about

307,900 ac-ft of water (82% of capacity, 116% of average or 108% of last year's volume.



#### **Streamflow**

All the following forecasts are the 50% chance runoff for the April through September runoff period. Yellowstone at Lake Outlet is expected to yield about 550,000 ac-ft (68% of average). Yellowstone at

Corwin Springs will yield about 1,520,000 acre-feet (77% of average). Yellowstone near Livingston will yield about 1,750,000 acre feet (77% of average). Hebgen reservoir inflow is estimated to be 445,000 ac-ft (93% of average). See the following page for detailed runoff volumes. See the following page for detailed runoff volumes.

UPPER YELLOWSTONE & MADISON RIVER BASINS

#### Streamflow Forecasts - February 1, 2005

		=======	.=======		.=======			
		<<=====	Drier ====	== Future Co	onditions =:	===== Wetter	====>>	
		ļ.						
Forecast Point	Forecast	======		= Chance Of E	Exceeding * :		======	
	Period	90%	70%	50	)%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
YELLOWSTONE at Lake Outlet	APR-JUL	295	365	415	70	465	535	590
	APR-SEP	395	485	550	68	615	705	805
				İ		İ		
YELLOWSTONE RIVER at Corwin Springs	APR-JUL	980	1150	1270	77	1390	1560	1650
	APR-SEP	1180	1380	1520	77	1660	1860	1970
				İ		İ		
YELLOWSTONE RIVER near Livingston	APR-JUL	1190	1350	1450	76	1550	1710	1900
	APR-SEP	1450	1630	1750	77	1870	2050	2280
				İ		Ì		
HEBGEN Reservoir Inflow	APR-JUL	270	315	345	89	375	420	390
	APR-SEP	360	410	445	89	j 480	530	500
				i		İ		

UPPER YELLOWSTONE & MADISON RIVER BASINS RESERVOIR Storage (1000 AF) - End of January					UPPER YELLOWSTONE & MADISON RIVER BASINS Watershed Snowpack Analysis - February 1, 2005				
Reservoir	Usable   Capacity	*** Usa This Year	able Stora Last Year	age *** Avg	   Watershed	Number of Data Sites	This Ye ====== Last Yr	ear as % of	
ENNIS LAKE	41.0	29.2	29.6	31.3	   MADISON RIVER in WY	8	73	83	
HEBGEN LAKE	377.5	307.9	284.0	266.5	   YELLOWSTONE RIVER in WY 	12	77	72	

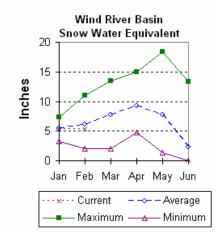
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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

#### **Snow**

The Wind River Basin has slightly below average snow water equivalent (SWE) for this time of the year. SWE in the Wind River above Dubois is 58% of average (77% of last year at this time). The Little Wind SWE is 114% of average water content (158% of last year), and the Popo Agie drainage SWE is about 125% of average (134% of last year). The Wind River basin, above Boysen Reservoir, SWE is about 87% of average (about 106% of last year). See the Basin Summary of Snow Course Data at the front of this report for details.



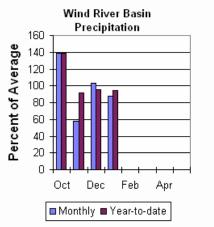
# **Precipitation**

Last months precipitation in the basin varied from 26 to 200% of average. Precipitation, for the basin, was about 88% of average for the 8 reporting stations; that is about 142% of last year's amount. Water year-to-date precipitation is 94% of average and about 116% of last year at this time. Year-to-date percentages range from 65 to 135% of average.

#### Reservoirs

Current storage varies from 68% to 98% of average.
Usable storage in Bull Lake is

currently about 103,600 ac-ft (68% of capacity). Boysen Reservoir is storing about 98% of capacity (582,400 ac-ft) – last year the reservoir was at 57% of capacity at this time. Pilot Butte is at 76% of capacity (24,100 ac-ft) – last year the reservoir was at 75% of capacity at this time.



# **Streamflow**

Water supply is estimated to be slightly below average this year. The following values reflect the 50% chance yields for the April through September runoff period. Dinwoody Creek near Burris is estimated to yield 89,000 ac-ft (95% of average). The Wind River above Bull Lake Creek is expected to yield 430,000 ac-ft (80% of average). Bull Lake Creek near Lenore is expected to yield about 177,000 ac-ft (97% of average). Wind River at Riverton will yield about 555,000 ac-ft (87% of average). Little Popo Agie River near Lander is expected to yield about 60,000 ac-ft (113% of average). South Fork of Little Wind near Fort Washakie will yield about 81,000 ac-ft (96% of average). Little Wind River near Riverton will yield about 355,000 ac-ft (113% of average). Boysen Reservoir inflow will yield about 760,000 ac-ft (94% of average). See the following page for detailed runoff volumes.

WIND RIVER BASIN

#### Streamflow Forecasts - February 1, 2005

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast	   =======		= Chance Of E	Exceeding * =		======	
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=======================================			========					
DINWOODY CREEK nr Burris	APR-JUL	43	54	62	93	70	81	67
	APR-SEP	66	80	89	95	98	112	94
			200	350	0.1	400	470	405
WIND RIVER abv Bull Lake Cr (2)	APR-JUL	230	300	350	81	400		435
	APR-SEP	300	380	430	80	480	560	535
BULL LAKE CR near Lenore (2)	APR-JUL	100	126	l   144	97	l   162	190	148
	APR-SEP	123	155	177	97	197	232	182
						i		
WIND RIVER at Riverton (2)	APR-JUL	250	385	475	87	565	700	545
	APR-SEP	320	460	555	87	650	790	640
LT POPO AGIE RIVER nr Lander	APR-JUL	23	40	52	113	64	81	46
	APR-SEP	30	48	60	113	72	90	53
SF LT WIND nr Fort Washakie	APR-JUL	46	61	   72	99	l I 83	98	73
DI DI WIND IN TOTO MADMANIC	APR-SEP	52	69	81	96	93	110	84
	AFR-BEF	32	03	01	30		110	01
LT WIND RIVER nr Riverton	APR-JUL	170	255	315	113	375	460	280
	APR-SEP	205	295	355	113	415	505	315
BOYSEN RESERVOIR Inflow (2)	APR-JUL	375	560	680	95	800	980	717
	APR-SEP	440	630	760	94	890	1080	809
						l		

Reservoir Storage (1	NIVER BASIN	of Tanua	~~~		WIND RIVER BASIN Watershed Snowpack Analysis - February 1, 2005					
Reservoir Storage (1	=======	watershed showpack Analysis - February 1, 2005								
Reservoir	Usable   Capacity	*** Usa This Year	ble Stora Last Year	ge *** Avg	   Watershed 	Number of Data Sites	This Yea: ======= Last Yr	r as % of ====== Average		
BULL LAKE	151.8	103.6	57.3	85.9	WIND RIVER above Dubio	s 7	78	58		
BOYSEN	596.0	582.4	341.2	592.0	LITTLE WIND	2	158	114		
PILOT BUTTE	31.6	24.1	23.8	20.0	POPO AGIE	7	134	125		
					   WIND above Boysen Resv 	14	104	87		

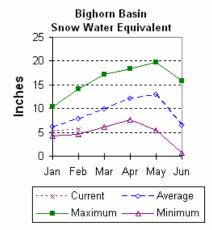
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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**

#### **Snow**

Snowpack in this basin is well below average for this time of year. Nowood drainage SWE is 69% of average (72% of last year). Greybull River SWE is 50% of average (90% of last year). Shell Creek SWE is 78% of average (93% of last year). The basin SWE, as a whole, is currently 71% of average (84% of last year). For more information see Basin Summary of Snow Courses at beginning of report.



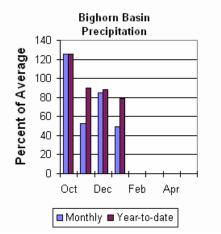
# **Precipitation**

January's precipitation was 49% of the monthly average (111% of last year). Sites ranged from 8 to 88% of average for the month. Year-to-date precipitation is 79% of average; that is 101% of last year at this time. Year-to-date percentages, from the 10 reporting stations, range from 45 to 100%.

#### Reservoir

Boysen Reservoir is currently storing 582,400 ac-ft (98% of average). Bighorn Lake is

now at 49% of average (670,600 ac-ft). Boysen is currently storing 171% of last year at this time and Big Horn Lake is storing 96% of last year's volume.



#### **Streamflow**

The 50% chance April through September runoff is anticipated to be below average. The Boysen Reservoir inflow is forecast to yield

760,000 ac-ft (94% of average); the Greybull River nr Meeteetse should yield 102,000 ac-ft (51% of average); Shell Creek near Shell should yield 69,000 ac-ft (96% of average) and the Bighorn River at Kane should yield 920,000 ac-ft (83% of average). See the following page for detailed runoff volumes.

# BIGHORN RIVER BASIN Streamflow Forecasts - February 1, 2005

							.======	
		<<=====	: Drier ====:	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast	i ======	.=======	= Chance Of E	Exceeding * =	.=======	======	
	Period	j 90%	70%	l 50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)		(% AVG.)	(1000AF)	(1000AF)	(1000AF)
		(1000AF)	(IOUOAF)	(1000AF)	(% AVG.)	(IOUAL)	(IOUOAF)	(IOUOAF)
POWGEN PEGEDVOID Inflor (2)	APR-JUL	 375	560	   680	95	800	980	717
BOYSEN RESERVOIR Inflow (2)								
	APR-SEP	440	630	760	94	890	1080	809
GREYBULL RIVER nr Meeteetse	APR-JUL	43	59	70	47	81	97	148
	APR-SEP	68	88	102	51	116	136	200
				i				
SHELL CREEK nr Shell	APR-JUL	47	54	j 58	97	62	69	60
	APR-SEP	58	64	69	96	74	80	72
	III N DEL	30	0.		,	, .	•	
DIGUODN DIVER of Kone (2)	APR-JUL	605	760	l l 865	87	970	1125	1000
BIGHORN RIVER at Kane (2)								
	APR-SEP	630	800	920	83	1035	1215	1110
=======================================								

BIGHOR		BIGHORN RIVER BASIN								
Reservoir Storage (1	000 AF) - End	of Janua	ry		Watershed Snowpack Analysis - February 1, 2005					
Reservoir	Usable   Capacity  	*** Usa This Year	ble Stora Last Year	ge ***   Avg	Watershed	Number of Data Sites		r as % of Average		
BOYSEN	596.0	582.4	341.2	592.0	NOWOOD RIVER	5	72	69		
BIGHORN LAKE	1356.0	670.6	699.3	859.5	GREYBULL RIVER	2	90	50		
					SHELL CREEK	4	93	78		
					BIGHORN (Boysen-Bighorn)	11	84	71		

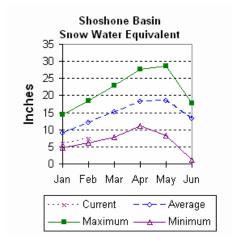
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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**

#### Snow.

Snow Water Equivalent (SWE) is 58% of average (72% of last year) in the Shoshone River basin. The Clarks Fork River basin SWE is 64% of average (75% of last year). For more information see the Basin Summary of Snow Course Data at the beginning of this report.



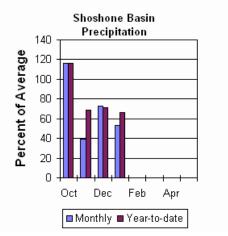
#### Precipitation.

Precipitation for last month was 53% of average (70% of last year). Monthly percentages range from 16 to 72% of average. The basin year-to-date precipitation is now 66% of average (73% of last year). Year-to-date percentages range from 54 to 75% of average.

#### Reservoir.

Current storage in Buffalo Bill Reservoir is about 113% of average (111% of last year's storage) – the reservoir is about 72% of capacity.

Currently, about 466,900 ac-ft are stored in the reservoir compared to 422,000 ac-ft 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 50% yield for the April through September period for the North Fork Shoshone River at Wapiti is expected to be 395,000 ac-ft (76% of average). South Fork of the Shoshone River near Valley is estimated to yield of 171,000 ac-ft (65% of average), and South Fork above Buffalo Bill Reservoir is expected to be 100,000 ac-ft (44% of average). At the Buffalo Bill Reservoir, the 50% chance yield for the Shoshone River is expected to be about 510,000 ac-ft (63% of average). The 50% chance yield for the Clarks Fork of the Yellowstone near Belfry, Montana is expected to be about 400,000 ac-ft (67% of average). See the following page for detailed runoff volumes.

SHOSHONE & CLARKS FORK RIVER BASINS

#### Streamflow Forecasts - February 1, 2005

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
		ļ						
Forecast Point	Forecast							
	Period	90%	70%	50	)%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
			========	=======		========	========	========
NF SHOSHONE RIVER at Wapiti	APR-JUL	270	320	355	77	390	440	460
	APR-SEP	305	360	395	76	430	485	520
				İ		į		
SF SHOSHONE RIVER nr Valley	APR-JUL	103	132	151	67	170	200	225
<u>-</u>	APR-SEP	116	149	j 171	65	192	227	265
				i				
SF SHOSHONE RIVER aby Buffalo Bill	APR-JUL	28	71	101	47	131	174	215
	APR-SEP	22	68	100	44	132	180	225
						1	200	
BUFFALO BILL DAM Inflow (2)	APR-JUL	280	390	460	64	530	640	720
	APR-SEP	315	430	j 510	63	590	705	805
						1		
CLARKS FORK RIVER nr Belfry	APR-JUL	275	335	375	69	415	475	540
··	APR-SEP	300	360	400	67	440	500	595
			.=======	' =========		' 		
SHOSHONE & CLARK	S FORK RIVE	R BASTNS		1	SHOSHONE	& CLARKS FORK	RIVER BASI	'NS
Reservoir Storage (100			,			nowpack Analys		
bedruge (100	, <u>Dina</u>			' 				
	Usable	*** Usabl	e Storage *	**		Numbe	r This	Year as % of
Reservoir	Capacity	This	Last	Water	rshed	of		
VESELACIT	capacity	Year		va   warei	anea	Data Si		
		iear	rear A	vg		Data Si	tes Last	ir Average

\_\_\_\_\_\_ \* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

414.3

422.0

SHOSHONE RIVER

CLARKS FORK in WY

The average is computed for the 1971-2000 base period.

BUFFALO BILL

- (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.

646.6 466.9

72

75

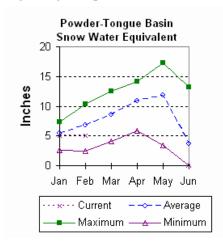
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# **Powder and Tongue River Basins**

#### **Snow**

Snow water equivalent (SWE) in the Upper Tongue River drainage is 68% of average (85% of last year). The Goose Creek drainage SWE is 70% of average (89% of last year). SWE in the Clear Creek drainage is 78% of average (89% of last year). Crazy Woman Creek drainage SWE is 74% of average (89% of last year). Upper Powder River drainage SWE is 72% of average (79% of last year). Powder River basin SWE, in Wyoming, is about 75% of average (84% of last year). For more information see Basin Summary of Snow Courses at beginning of report.



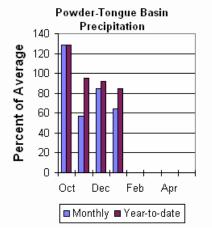
# **Precipitation**

Last month's precipitation was 64% of average for the 9 reporting stations (130% of last year). Monthly percentages range from 25 to 110% of average. Year-to-date precipitation is 85% of average in the basin; this is 105% of last year at this time. Precipitation for the year ranges from 63 to 100% of average at the reporting stations.

#### Reservoir

Tongue River Reservoir is currently at 174% of average (86% of last year and 50% of capacity). Current storage is

39,500 ac-ft. Last year at this time the reservoir was storing about 45,800 ac-ft (average storage is about 22,700 ac-ft at this time). 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% probability during the April through September forecast period. The estimated yield for Tongue River near Dayton is 87,000 ac-ft (80% of average). Little Goose Creek near Bighorn is expected to yield about 37,000 ac-ft (88% of average). The Tongue River Inflow is expected to be 191,000 ac-ft (76% of average). Middle Fork of the Powder River near Barnum is estimated to yield 12,400 ac-ft (66% of average). The North Fork of the Powder near Hazelton should yield about 9,400 ac-ft (90% of average). The estimated yield for Clear Creek near Buffalo is 38,000 ac-ft (97% of average). Rock Creek near Buffalo will yield about 20,000 ac-ft (83% of average), and Piney Creek at Kearny should yield about 42,000 ac-ft (81% of average). The Powder River at Moorehead is expected to yield 220,000 ac-ft (83% of average). The Powder River near Locate is expected to yield 245,000 ac-ft (73% of average). See the following page for detailed runoff volumes.

#### \_\_\_\_\_\_ POWDER & TONGUE RIVER BASINS

#### Streamflow Forecasts - February 1, 2005

=======================================					, 2005 			
						===== Wetter		
Forecast Point	Forecast	======		= Chance Of 1	Exceeding * :			
	Period	90%	70%	5	0%	30%	10%	30-Yr Avg.
		(1000AF)			(% AVG.)		(1000AF)	(1000AF)
TONGUE RIVER nr Dayton (2)	APR-JUL	47	======== 64	75	78	=========   86	103	96
-	APR-SEP	56	75	87	80	99	118	109
LITTLE GOOSE CREEK nr Big Horn	APR-JUL	19.0	25	]   30	88	l l 35	41	34
-	APR-SEP	24	32	37	88	42	50	42
TONGUE RIVER RESERVOIR Inflow (2)	APR-JUL	79	134	172	78	   212	267	220
,	APR-SEP	93	151	191	76	231	291	250
MIDDLE FORK POWDER nr Barnum	APR-JUL	4.2	8.6	11.6	65	   14.6	19.0	17.8
	APR-SEP	4.8	9.3	12.4	66	15.5	20	18.7
NORTH FORK POWDER nr Hazelton	APR-JUL	6.70	8.10	9.10	95	   10.10	11.50	9.60
	APR-SEP	6.8	8.3	9.4	90	10.5	12.0	10.4
CLEAR CREEK nr Buffalo	APR-JUL	25	29	32	94	   35	39	34
	APR-SEP	30	35	38	97	41	46	39
ROCK CREEK nr Buffalo	APR-JUL	11.3	14.4	16.5	83	18.6	22	19.9
	APR-SEP	14.7	17.9	20	83	22	25	24
PINEY CREEK at Kearny	APR-JUL	12.9	28	39	80	   50	65	49
	APR-SEP	15.6	31	42	81	53	68	52
POWDER RIVER at Moorehead	MAR-JUL	91	159	205	85	   250	320	240
	MAR-SEP	105	175	220	83	265	335	265
POWDER RIVER near Locate	MAR-JUL	149	195	230	74	   265	310	310
	MAR-SEP	157	210	245	73	280	335	335
				==========				
POWDER & TONG			_	ļ		R & TONGUE RIV		1 200E
Reservoir Storage (100				 ========		nowpack Analys		
Reservoir	Usable	*** Usab This	le Storage * Last		rshed	Number of		Year as % of
VEDET AOTT	Capacity	Year		.vg   wate.	r stred	Data Si		

Reservoir Storage (100	Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 2005					
Reservoir	Usable   Capacity  	*** Usable Storage ***   This Last Year Year Avg		Watershed	Number of Data Sites		r as % of Average				
TONGUE RIVER	79.1	39.5	45.8	22.7	UPPER TONGUE RIVER	10	85	68			
					GOOSE CREEK	3	89	70			
					CLEAR CREEK	4	89	78			
				İ	CRAZY WOMAN CREEK	3	89	74			
				İ	UPPER POWDER RIVER	4	79	72			
					POWDER RIVER in WY	8	84	75			

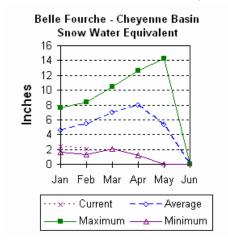
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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

# **Belle Fourche and Cheyenne River Basins**

#### Snow.

The Belle Fourche River Basin is currently at 39% of average. This is 47% of what the Snowpack was last year at this time. See the Basin summary of Snow Course Data at the beginning of this report for a detailed listing.



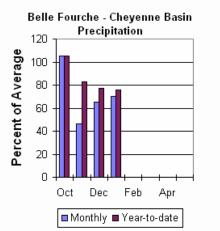
# Precipitation.

Precipitation for last month was 70% of average in the Black Hills. There are currently 2 reporting stations. Monthly percentages range from 62 to 80%. Year-to-date precipitation is 76% of average and 90% of last year's amount.

#### Reservoir.

Current reservoir storage is around 78% in the basin. Angostura is currently storing 55% of average (53,600 ac-ft), about 44% of capacity. Belle

Fourche reservoir is storing 68% of average (68,600 ac-ft), about 38% of capacity. Deerfield reservoir is storing 103% of average (13,200 ac-ft), about 87% of capacity. Keyhole reservoir is storing 92% of average (94,000 ac-ft), 49% of capacity. Pactola reservoir is storing 90% of average (41,100 ac-ft), 75% of capacity. Shadehill reservoir is storing 99% of average (48,400 ac-ft), 59% of capacity.



#### **Streamflow**

There is no stream flow forecast for this basin this month.

BELLE FOURCHE & CHEYENNE RIVER BASINS Streamflow Forecasts - February 1, 2005 \_\_\_\_\_\_ <<===== Drier ===== Future Conditions ====== Wetter ====>> Forecast Point Forecast ============ Chance Of Exceeding \* =============== 70% 90% Period 50% (1000AF) (% AVG.) 30% 10% 30-Yr Avg. (1000AF) (1000AF) (1000AF) (1000AF) (1000AF) BELLE FOURCHE & CHEYEN E RIVER BASINS BELLE FOURCHE & CHEYENNE RIVER BASINS BELLE FOURCHE & CHEYENNE RIVER BASINS Reservoir Storage (1000 AF) - End of January Watershed Snowpack Analysis - February 1, 2005 \_\_\_\_\_\_\_ \*\*\* Usable Storage \*\*\* Usable Number This Year as % of This of Capacity Last Year Data Sites Last Yr Average ANGOSTURA 122.1 53.6 79.7 98.1 BELLE FOURCHE 8 47 40 BELLE FOURCHE 93.0 DEERFIELD 15.2 13.2 15.0 12.8 110.5 102.3 KEYHOLE 193.8 PACTOLA 55.0 41.1 47.4 45.8

49.1

29.4

The average is computed for the 1971-2000 base period.

SHADEHILL

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

48.4

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

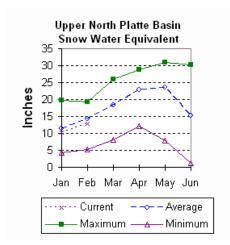
81.4

<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

# **Upper North Platte River Basin**

#### **Snow**

The snow courses above Seminoe Reservoir have about 90% of average snow water equivalent (SWE) recorded for this time of the year (108% of last year). SWE in the drainage area above Northgate is about 89% of average and 113% of last year at this time. SWE in the Encampment River drainage is about 106% of average and 106% of last year. Brush Creek SWE for the year is about 83% of average and 102% of last year's SWE. Medicine Bow and Rock Creek drainage SWE is about 73% of average and 105% of last year at this time. For more information see Basin Summary of Snow Courses at the beginning of this report.



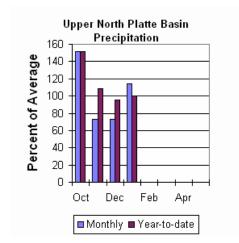
# **Precipitation**

Eight reporting stations indicate last month's precipitation was 114% of average and about 185% of last year's amount. Precipitation varied from 51 to 186% of average last month. Total water-year-to-date precipitation is about 100% of average for the basin, which is about 115% of last year's amount. Year to date percentage ranges from 65 to 126% of average.

#### Reservoirs

Seminoe Reservoir is estimated to be storing

267,900 ac-ft or 26% of capacity. Seminoe Reservoir is also storing about 47% of average for this time of the year. Seminoe Reservoir is storing 243,300 ac-ft or 110% of last year.



#### **Streamflow**

All the following yields are based on the 50% chance April through September yield. Yield for the North Platte River near Northgate is expected to be about 220,000 ac-ft (82% of average). Encampment River near Encampment is estimated to yield 181,000 ac-ft (110% of

average). Rock Creek near Arlington is estimated to yield 43,000 ac-ft (75% of average). Sweetwater River near Alcova is estimated to yield 103,000 ac-ft (129% of average). Seminoe Reservoir inflow should be about 770,000 ac-ft (90% of average). See the following table for more detailed information on projected runoff.

\_\_\_\_\_\_\_ UPPER NORTH PLATTE RIVER BASIN

#### Streamflow Forecasts - February 1, 2005

=======================================								
		<<=====	= Drier ====	== Future C	onditions =	===== Wette	r ====>>	
		!						!
Forecast Point	Forecast							
	Period	90%	70%	1 -	0%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
				=======				
NORTH PLATTE RIVER nr Northgate	APR-JUL	116	161	196	80	234	297	245
	APR-SEP	108	175	220	82	265	330	270
ENCAMPMENT RIVER nr Encampment	APR-JUL	131	156	172	110	190	215	156
	APR-SEP	139	164	181	110	199	224	165
ROCK CREEK nr Arlington	APR-JUL	27	35	   41	77	l I 48	58	53
	APR-SEP	28	37	43	75	50	61	57
SWEETWATER RIVER nr Alcova	APR-JUL	50	78	   96	130	   114	142	74
511221111211 1121 112 112001Q	APR-SEP	56	84	103	129	122	150	80
SEMINOE RESERVOIR Inflow	APR-JUL	395	585	   715	89	   845	1030	800
<u> </u>	APR-SEP	480	655	770	90	885	1060	860
	.======	========		 =======		 ========	.=======	=========
UPPER NORTH F	LATTE RIVER	BASIN		Í.	UPPER	NORTH PLATTE	RIVER BASIN	
Reservoir Storage (10			7	i		nowpack Analy		ary 1, 2005
	========	=======					========	
	Usable	*** Usabl	le Storage *	**		Numb	er This	Year as % of
Reservoir	Capacity	This	Last	Wate	rshed	of	====	
	į	Year	Year A	vg		Data S	ites Last	Yr Average
SEMINOE	1016.7	267.9	243.3 57	==== ====== 3.2   N PL	ATTE above N	========= orthgate 7	113	89

ENCAMPMENT RIVER 106 BRUSH CREEK 102 83 MEDICINE BOW & ROCK CREEK 3 105 73 N PLATTE above Seminoe 19 108 90

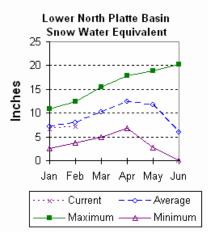
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

<sup>(1) -</sup> 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**

#### **Snow**

SWE for the North Platte River Basin above Seminoe is at 90% of average (108% of last year). The Sweetwater drainage SWE is currently 127% (130% of last year). Deer and LaPrele Creek SWE is 64% of average (84% of last year). SWE for the North Platte above the Laramie River drainage is 93% of average (110% of last year). SWE for the Laramie River above Laramie is 87% of average (113% of last year). SWE for the Little Laramie River is 84% of average (113% of last year). The Laramie River above mouth, SWE is 85% of average (115% of last year). For more information see Basin Summary of Snow Courses at beginning of report.



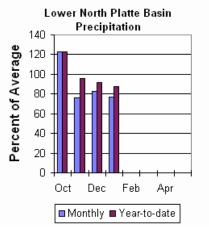
# **Precipitation**

Of the 7 reporting stations, percentages for the month range from 46 to 117%. Last month's precipitation for the basin was 77% of average (198% of last year). The water year-to-date precipitation for the basin is currently 88% of average (117% of last year). Year-to-date percentages range from 65 to 125%.

#### Reservoir

The Lower North Platte River basin reservoir storage is well below average, except for Alcova and Guernsey

reservoirs. Reservoir storage is as follows: Alcova 155,800 ac-ft (101% of average); Glendo 256,100 ac-ft (76% of average); Guernsey 17,900 ac-ft (197% of average); Pathfinder 241,600 ac-ft (36% of average); Seminoe 267,900 ac-ft (47% of average), and Wheatland #2 30,000 ac-ft (66% of average).



#### **Streamflow**

Yields from 54% to 130% are expected in the basin during the forecast period. The following yields are based on the 50% chance probability runoff for the April through September forecast period. The Sweetwater near Alcova is forecast to yield about 103,000 ac-ft (129% of average). Deer Creek at Glenrock is expected to yield about 26,000 ac-ft (63% of average). LaPrele Creek above the reservoir is estimated to yield 15,200 ac-ft (63% of average). North Platte River below Guernsey Reservoir is expected to yield about 955,000 ac-ft (95% of average), and below Glendo Reservoir is anticipated to yield about 920,000 ac-ft (93% of average). Laramie River near Woods Landing should yield about 114,000 ac-ft (84% of average). The Little Laramie near Filmore should produce about 47,000 ac-ft (73% of average). See the following table for more detailed information on projected runoff.

# \_\_\_\_\_\_

# LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS Streamflow Forecasts - February 1, 2005

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
		ļ						
Forecast Point	Forecast	1						
	Period	90%	70%		0%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)		(% AVG.)	(1000AF)	(1000AF)	(1000AF)
_				1		=========		
SWEETWATER RIVER nr Alcova	APR-JUL	50	78	96	130	114	142	74
	APR-SEP	56	84	103	129	122	150	80
DEER CREEK at Glenrock	APR-JUL	11.6	19.0	   24	64	29	36	38
DEER CREEK at Glenrock				l 24 l 26		31	39	
	APR-SEP	13.3	21	] 26 i	63	31	39	41
LaPRELE CREEK abv Reservoir	APR-JUL	1.2	7.5	   14.4	60	21	32	24
	APR-SEP	1.2	8.6	15.6	65	23	33	24
			•••	-5.0				
NORTH PLATTE - Alcova to Orin Gain	APR-JUL	11.0	47	85	56	123	180	152
	APR-SEP	11.0	48	87	54	126	184	161
NORTH PLATTE RIVER blw Glendo Res	APR-JUL	620	780	885	92	990	1150	960
	APR-SEP	640	810	920	93	1030	1200	990
NORTH PLATTE RIVER blw Guernsey Res	APR-JUL	575	770	   905	93	1040	1230	970
NORTH FEMTLE RIVER DIW Guernsey Res	APR-SEP	615	815	l 955	95	1090	1290	1010
	APR-SEP	615	913	<b>9</b> 55 	95	1090	1290	1010
LARAMIE RIVER nr Woods	APR-JUL	44	80	104	85	128	164	123
	APR-SEP	48	87	114	84	141	180	135
					Ī			
LITTLE LARAMIE RIVER nr Filmore	APR-JUL	28	38	45	76	52	62	59
	APR-SEP	26	39	47	73	55	68	64
				l 				
LOWER NORTH PLATTE, SWEETV	VATER & LAR	AMIE RIVER	BASINS	LOWER	NORTH PLATTE	E, SWEETWATER	& LARAMIE E	RIVER BASINS
Reservoir Storage (1000						nowpack Analys		

Reservoir Storage (1			Watershed Snowpack Analysis - February 1, 2005					
Reservoir	Usable   Capacity	*** Usa This Year	ble Stora Last Year	ge ***	Watershed		This Year	r as % of  Average
ALCOVA	184.3	155.8	156.6	155.0	SWEETWATER	4	130	127
GLENDO	506.4	256.1	213.2	334.9	   DEER & LaPRELE CREEKS	3	84	64
GUERNSEY	45.6	17.9	16.0	9.1	N PLATTE abv Laramie R.	26	110	93
PATHFINDER	1016.5	241.6	290.6	678.3	   LARAMIE RIVER abv Laram: 	ie 10	113	87
SEMINOE	1016.7	267.9	243.3	573.2	   LITTLE LARAMIE RIVER	5	113	84
WHEATLAND #2	98.9	30.0	20.8	45.3	   LARAMIE RIVER above mou	th 13	115	85
					   NORTH PLATTE	32	109	89
					I			

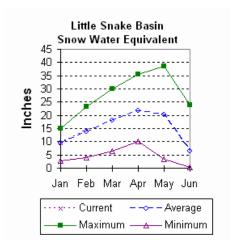
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the

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

# Little Snake River Basin

#### **Snow**

Currently, snow water equivalent (SWE) in the Little Snake River drainage is 104% of average (104% 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. Last Month's precipitation was 116% of average (198% of last year) for the 5 reporting stations. Last month's precipitation ranged from 80 to 149% of average. The Little Snake River basin water-year-to-date precipitation is currently 111% of average (113% of last year). Year-to-date percentages range from 93 to 126% of average.

#### **Streamflow**

Runoff yield in the Little Snake River drainage is

expected to be just below average this year. Stream yield is based on the 50% probability for the April through July forecast period. The Little Snake River near Slater should yield about 145,000 ac-ft (91% of average). Little Snake River near Dixon is estimated to yield 305,000 ac-ft (92% of average). See the following table for more detailed information on projected runoff.



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#### LITTLE SNAKE RIVER BASIN Streamflow Forecasts - February 1, 2005

		StreamIlow	rorecasts ·	- February I,	2005			
	   	<<=====	Drier ====	== Future Co	nditions ===	===== Wetter	=====>>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	= Chance Of E   50   (1000AF)		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Little Snake River nr Slater	APR-JUL	101	126	========   145	91	165	197	159
LITTLE SNAKE R nr Dixon	APR-JUL	185	255	   305	92	355	425	330
LITTLE SNAKE RIVER BASIN   LITTLE SNAKE RIVER BASIN  Reservoir Storage (1000 AF) - End of January   Watershed Snowpack Analysis - February 1								
Reservoir	Usable   Capacity	*** Usabl This	e Storage *; Last	**     Water	shed	Numbe of		Year as % of

Reservoir	Storage (1000 AF) - End	d of January			Watershed Snowpa	ck Analysis -	February 1	, 2005
Reservoir	Usable Capacity	*** Usable   This   Year	e Storage Last Year	*** Avg	   Watershed	Number of Data Sites	This Year ======= Last Yr	
					   LITTLE SNAKE RIVER 	8	104	104

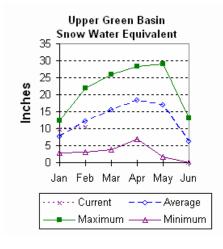
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 Green River Basin**

#### Snow.

Snow water equivalent (SWE) is below average in the upper Green River drainage this year. The Green River basin SWE above Warren Bridge is 79% of average (85% of last year). SWE on the west side of the Upper Green River basin is about 85% of average (98% of last year). Newfork River SWE is now about 97% of average (109% of last year). Big Sandy-Eden Valley SWE is about 121% of average (123% of last year). SWE in the Green River above Fontenelle Reservoir is about 86% of average (97% of last year). For more information see the Basin Summary of Snow Courses at the beginning of this report.



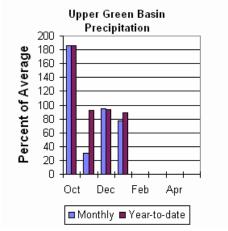
# Precipitation.

The 11 reporting precipitation sites in the basin were 77% of average last month (105% of last year). Last month's precipitation varied from 27 to 99% of average. Water year-to-date precipitation is about 89% of average (98% of last year). Year to date percentage of average ranges from 73 to 124% for the reporting stations.

#### Reservoir.

Storage in Big Sandy Reservoir is 11,100 ac-ft. Eden Reservoir is unavailable. Fontenelle Reservoir is storing

186,900 acre-feet (102% of average and 54% of the total capacity). Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.



#### **Streamflow**

The 50% chance April through September runoff in the Upper Green

River basin is forecast slightly below average. Green River at Warren Bridge is expected to yield about 235,000 ac-ft (89% of average). Pine Creek above Fremont Lake is expected to yield 97,000 ac-ft (93% of average). New Fork River near Big Piney is expected to yield about 360,000 ac-ft (91% of average). Fontenelle Reservoir Inflow is estimated to be 800,000 ac-ft (93% of average), and Big Sandy near Farson is expected to be about 62,000 ac-ft (107% of average). See the following table for more detailed information on projected runoff.

HIPPER GREEN RIVER BASIN

#### Streamflow Forecasts - February 1, 2005

		Dereamerow		T CDI GGI T I				
Forecast Point	Forecast Period	j		== Future Co = Chance Of I   50	Exceeding * =	===== Wetter ==================================	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Green River at Warren Bridge	APR-JUL	174	210	========   235 	89	260	295	265
Pine Creek abv Fremont Lake	APR-JUL	79	90	   97 	93	104	115	104
New Fork River nr Big Piney	APR-JUL	236	310	   360	91	410	485	395
Fontenelle Reservoir Inflow	APR-JUL	597	714	800	93	891	1033	860
Big Sandy River nr Farson	APR-JUL	44	55	62	107	69	80	58

UPPER GREEN RIVER BASIN   Reservoir Storage (1000 AF) - End of January				UPPER GREEN RIVER BASIN   Watershed Snowpack Analysis - February 1, 2005					
Reservoir		Usable   Capacity	*** Usab This Year	le Storaç Last Year	ge *** Avg	Watershed	Number of a Sites	This Year ====== Last Yr	
BIG SANDY		38.3	11.1	5.8	18.6		4	84	79
EDEN			NO REPOR	T		   UPPER GREEN (West Side)	6	98	85
FONTENELLE		344.8	186.3	179.0	182.2	   NEWFORK RIVER	3	109	97
						   BIG SANDY/EDEN VALLEY	2	123	121
						   GREEN above Fontenelle	13	97	86

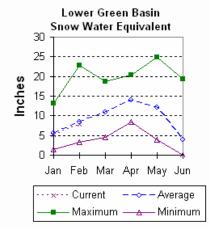
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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.

#### Lower Green River Basin

#### **Snow**

SWE in the Hams Fork is 105% of average (120% of last year). Blacks Fork SWE is currently 106% of average (138% of last year). The Henrys Fork drainage SWE is currently 134% of average (165% of last year). SWE in the Green above Flaming Gorge is 93% of average (106% of last year). For more information see Basin Summary of Snow Courses at beginning of this report.



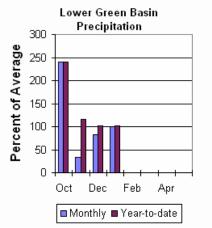
# **Precipitation**

Precipitation was above average for the 3 reporting stations during last month (100% of average). Precipitation ranged from 95 to 105% of average for the month. The basin year-to-date precipitation is currently 101% of average (129% of last year). Year-to-date percentages range from 97 to 112%.

#### Reservoir

Fontenelle Reservoir is currently storing 186,900 ac-ft; this is 102% of average (104%)

of last year). Flaming Gorge is currently storing 2,765,000 ac-ft; this is 93% of average (106% of last year). Viva Naughton is storing 32,300 ac-ft or 71.5% of capacity.



#### **Streamflow**

Expected yields vary from 91 to 100% of average across the basin. The following forecast values are based on a 50% chance probability for the

April through July forecast period. Green River near Green River is forecast to yield about 830,000 ac-ft (95% of average). Blacks Fork near Robertson is forecast to yield 95,000 ac-ft (100% of average). East Fork of Smiths Fork near Robertson is estimated to yield 31,000 ac-ft (100% of average). The estimated yield for Hams Fork near Frontier is 62,000 ac-ft (95% of average). Hams Fork Inflow to Viva Naughton Reservoir is estimated to yield 81,000 ac-ft (91% of average). Flaming Gorge Reservoir inflow will be about 1,150,000 ac-ft (97% of average). See the following table for more detailed information on projected runoff.

LOWER GREEN RIVER BASIN

#### Streamflow Forecasts - February 1, 2005

		<<=====	Drier ====	== Future Co	onditions =:	===== Wetter	: ====>>	
Forecast Point	Forecast	   ======		= Chance Of E	Exceeding * :			
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
				=======		========		
Green River nr Green River, WY	APR-JUL	570	725	830	95	935	1090	875
				ļ				
Blacks Fork nr Robertson	APR-JUL	65	83	95	100	107	125	95
EF of Smiths Fork nr Robertson	APR-JUL	23	28	31	100	35	42	31
vene De blee Dele de en Decebier	1 DD 7111	20		[	0.5		0.1	65
Hams Fk blw Pole Ck nr Frontier	APR-JUL	38	52	62	95	73	91	65
Hams Fk Inflow to Viva Naughton Res	APR-JUL	44	66	l l 81	91	l l 96	118	89
hams it initiow to viva Naughton Res	AFK-UUL	77	00	i 61	91	] 30 	110	69
Flaming Gorge Reservoir Inflow	APR-JUL	785	1000	1 1150	97	l 1295	1515	1190
			3 0		٠,			2250

			'					
LOWER GREEN RIVER BASIN				LOWER GREEN RIVER BASIN				
Reservoir Storage (1000	Watershed Snowpack Analysis - February 1, 2005							
Reservoir	Capacity Th	*** Usable Storage ***   This Last		Watershed	Number of	This Year as % of		
	Ye	ear Year 	Avg		ata Sites	Last Yr	Average	
FONTENELLE	344.8 18	86.3 179.0	182.2	HAMS FORK RIVER	3	120	105	
FLAMING GORGE	3749.0 276	65.0 2601.0	2966.0	BLACKS FORK	2	138	106	
VIVA NAUGHTON RES	42.4 3	32.3 29.7	30.3	HENRYS FORK	2	165	134	
			İ	GREEN above Flaming Gorg	ge 21	106	93	

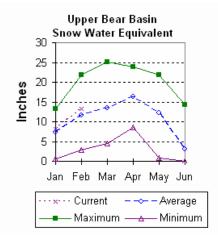
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

- (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 Bear River Basin**

#### **Snow**

Snow water equivalent (SWE) in the upper Bear River basin in Utah is estimated to be 130% of average; that is about 163% of last year at this time. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is estimated at 103% of average (115% of last year). Bear River basin SWE, above the Idaho State line, is 114% of average (129% of last year). See the Basin Summary of Snow Course Data at the beginning of this report for more detailed information.

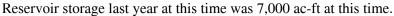


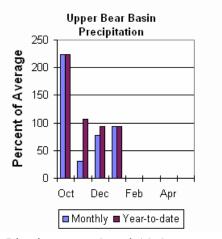
# **Precipitation**

Precipitation for last month was 93% of average for the 2 reporting stations; this is 144% of the precipitation received last year. The year-to-date precipitation, for the basin, is 94% of average; this is 119% of last year's amount.

#### Reservoir

Usable storage, in Woodruff Narrows reservoir, is about 14,000 ac-ft (51% of average). Current reservoir storage is about 24% of capacity.





#### **Streamflow**

The following 50% chance stream flow yields are for the April through September period. Smiths Fork near Border is estimated to yield

110,000 ac-ft (91% of average). Bear River above the Utah-Wyoming State Line is expected to yield about 145,000 ac-ft (116% of average). Bear River above Reservoir near Woodruff is estimated to yield 150,000 ac-ft (106% of average). See the following table for more detailed information on projected runoff.

UPPER BEAR RIVER BASIN

#### Streamflow Forecasts - February 1, 2005

		<<===== 	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast	======================================						
	Period !		70%	50%		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
		========		=======		========		
Bear River nr UT-WY State Line	APR-JUL	96	116	130	115	144	164	113
	APR-SEP	106	129	145	116	161	184	125
Bear River ab Reservoir nr Woodruff	APR-JUL	91	123	145	107	167	200	136
	APR-SEP	94	127	150	106	175	205	142
Smiths Fork nr Border	APR-JUL	65	83	   95	92	   107	125	103
	APR-SEP	76	96	110	91	124	144	121

Reservoir Storage (1000 AF) - End of January				Watershed Snowpack Analysis - February 1, 2005				
Reservoir	Usable   Capacity  	*** Usable Storage ***   This Last Year Year Avg			Watershed	Number of Data Sites	This Year as % of  Last Yr Average	
WOODRUFF NARROWS	57.3	14.0	7.0	25.2	UPPER BEAR RIVER in Uta	ah 5	163	130
					SMITHS & THOMAS FORKS	3	115	103
					BEAR RIVER abv ID line	6	129	114
					NORTHWEST	76	77	73
					NORTHEST	23	80	65
					SOUTHEAST	36	106	90
					SOUTHWEST	30	107	99

\_\_\_\_\_\_\_ \* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the

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