

Natural Resources Conservation Service

# Wyoming Basin Outlook Report January 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 slightly below normal for this time of the year. Early storms covered the state with snow, but very little snow fell during late November and early December. This lowered the statewide average to around 70 percent until recent storms increased the percentage back into the 90's. SWE average for the State is about 90 percent of normal for this time of the year. SWE in the Northwest portion of the State is 78 of percent normal. SWE in Northeast Wyoming is 90 of percent normal, and in the southeast part of the State is 92 percent of average. SWE in Southwestern Wyoming is 99 percent of average for this time of the year.

Precipitation for December varied from 35 percent below to 3 percent above average for the State. Year-to-date precipitation is also well below average for the year (varies from 71 to 109 percent of average). Reservoir levels vary from well 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 to well below average storage. Forecast runoff varies from 51 to 126 percent of average across the State.

### **Snowpack**

Snow water equivalent (SWE), across the State, is below average for this time of year. SWE in the northwestern portion of the State is now about 78 percent of average (74 percent of last year). Northeast Wyoming SWE is currently about 90 percent of average (91 percent of last year). The southeast portion is currently about 92 percent of average SWE (91 percent of last year). And the southwest snowpack is about 99 percent of average (93 percent of last year).

### **Precipitation**

Last month's precipitation was generally below normal across most of the State. The Belle Fourche and Cheyenne River was the lowest in percentage for the month at 65 percent of average. The Wind Rivers received above average precipitation during the month. The following table displays the major river basins and their departure from normal for this month.

Basin	Departure	Basin	Departure
	from normal		from normal
Snake River	-16%	Upper North Platte River	-27%
Yellowstone & Madison	-15%	Lower North Platte	-17%
Wind River	+03%	Little Snake River	-22%
Big Horn	-15%	Upper Green River	-05%
Shoshone & Clarks Fork	-27%	Lower Green River	-17%
Powder & Tongue River	-15%	Upper Bear River	-22%
Belle Fourche & Cheyenne	-35%		

### **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 percent of average (varies from 19 to 75 percent of average). The northwest part of the State is expected to yield about 55 percent of normal -- yield estimates vary from 30 to 75 percent of normal. Yield from the northeast portion of Wyoming is expected to yield about 44 percent of average -- yield estimates vary from 20 to 65 percent of average for the various forecast points. Yield in the southeast portion of the state

will be about 38 percent of normal -- yield estimates range from 20 to 54 percent of normal. Yield in the southwest portion of Wyoming varies from 19 to 64 percent of average -- mean estimated yield for the forecast points in southwest Wyoming is about 46 percent of average.

### Reservoirs

These reservoirs did not report (Big Sandy, Eden, Wheatland, and Viva Naughton). 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**

BASIN AREA	CURRENT AS	LAST YR AS	AVERAGE AS	CURRENT AS C	URRENT AS
RESERVOIR	% CAPACITY	% CAPACITY	% CAPACITY	% AVERAGE	& LAST YR
WYOMING AND SURROUND	ING STATES				
ALCOVA	85	85	84	101	100
ANGOSTURA	42	64	79	53	66
BELLE FOURCHE	34	47	51	66	71
BIG SANDY			NO REPORT		
BIGHORN LAKE	51	56	67	76	91
BOYSEN	95	55	88	108	171
BUFFALO BILL	71	64	65	110	111
BULL LAKE	67	37	57	118	180
DEERFIELD	88	99	81	109	89
EDEN			NO REPORT		
ENNIS LAKE	83	71	77	108	116
FLAMING GORGE	73	69	81	91	105
FONTENELLE	65	58	61	108	114
GLENDO	44	36	56	78	121
GRASSY LAKE	57	63	76	74	91
GUERNSEY	35	29	16	221	119
HEBGEN LAKE	84	76	71	118	110
JACKSON LAKE	14	17	57	25	84
KEYHOLE	48	57	52	92	85
PACTOLA	75	86	83	90	87
PALISADES	35	28	74	48	124
PATHFINDER	23	28	63	37	83
PILOT BUTTE	77	76	64	120	101
SEMINOE	26	25	62	43	105
SHADEHILL	62	38	62	100	165
TONGUE RIVER	46	58	28	163	80
VIVA NAUGHTON RES			NO REPORT		
WHEATLAND #2			NO REPORT		
WOODRUFF NARROWS	21	10		51	200
TOTAL OF 25 RESERVO	IRS 54	50	70	77	107
Raw KAF Totals Curr	ent= 7037	Last Year=	6565 Average:	9180 Capaci	ty= 13108

### **Basin Summary of Snow Course Data**

### BASIN SUMMARY OF SNOW COURSE DATA

### JANUARY 2005

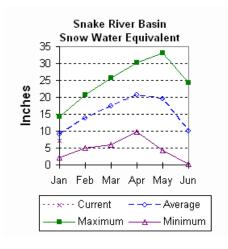
SNOW COURSE	ELEVATION	DATE		WATER CONTENT		
				CONTENT	IEAK	71-00
WYOMING Snow Course and	SNOTEL S	tations				
ASTER CREEK	7750		33	8.3	15.3	13.1
BALD MOUNTAIN SNOTEL						
	7030				11.2	
BATTLE MTN. SNOTEL		1/01/05				4.1
BEARTOOTH LK. SNOTEL		1/01/05		7.6	10.8	
BEAR TRAP SNOTEL	8200	1/01/05		1.9	3.8	
BIG GOOSE SNOTEL	7760	1/01/05	12	3.2	4.0	
BIG SANDY SNOTEL	9080	1/01/05	41	8.9	7.3	
BLACKWATER SNOTEL	9780	1/01/05		8.1	12.9	
BLIND BULL SNOTEL	8900	1/01/05		9.4	12.0	
BLIND PARK SNOTEL	6870	1/01/05		2.4		
BONE SPGS. SNOTEL		1/01/05		7.5	7.1	
BROOKLYN LK. SNOTEL		1/01/05		7.8	7.9	
BURGESS JCT. SNOTEL		1/01/05				5.5
BURROUGHS CRK SNOTEL		1/01/05		5.0		6.7
CANYON SNOTEL	8090	1/01/05		4.0	6.4	
		1/01/05		5.5	5.6	
CASPER MTN. SNOTEL CHALK CK #1 SNOTEL	7830			12.9	9.7	
CHALK CK #1 SNOTEL		1/01/05 1/01/05	42	7.3	6.9	
CINNABAR PARK SNOTEL		1/01/05	21	8.1	8.6	
CLOUD PEAK SNOTEL	0050	1/01/05	3± 27	6.8	6.6	
COLE CANYON SNOTEL		1/01/05		.9	2.5	3.0
COLE CANTON SNOTEL COLD SPRINGS SNOTEL		1/01/05				
COTTONWOOD CR SNOTEL		_,,				
CROW CREEK SNOTEL		1/01/05				3.4
DARBY CANYON	8250	12/28/04		6.3		
DEER PARK SNOTEL		1/01/05			8.9	
DIVIDE PEAK SNOTEL		1/01/05		9.5	10.1	
DOME LAKE SNOTEL	8880	1/01/05		5.2	5.6	
EAST RIM DIV SNOTEL	7930	1/01/05		3.8	5.7	
ELBO RANCH ELKHART PARK SNOTEL	7100		23	3.5	5.2	
		1/01/05		6.0	6.5	6.3
EVENING STAR SNOTEL		1/01/05		9.3	11.0	
GLADE CREEK	7040	12/29/04			14.3	
GRANITE CRK SNOTEL				6.0		
GRASSY LAKE SNOTEL	7270	1/01/05	51	11.7	20.0	14.7
GRAVE SPRINGS SNOTEL		1/01/05	12	2.9	5.4	4.0
GROS VENTRE SNOTEL	8750	1/01/05	39	6.3	6.5	6.9
HANSEN S.M. SNOTEL	8360	1/01/05	12	2.5	3.6	3.3
HAMS FORK SNOTEL	7840	1/01/05		5.6	5.5	5.5
HOBBS PARK SNOTEL	10100	1/01/05	42	8.2	5.6	7.6
HUCKLEBERRY DIVIDE	7300	12/28/04	26	5.7	10.5	9.3
	9430	1/01/05		13.0	11.5	12.5
1						

s	SNOW COURSE	ELEVATION		DEPTH		YEAR	AVERAGE 71-00
J	JACKPINE CREEK	7350					9.3
	ELLEY R.S. SNOTEL					7.6	7.6
	ENDALL R.S. SNOTEL		1/01/05		5.7		6.7
K	CIRWIN SNOTEL	9550	1/01/05				5.9
I	LAKE CAMP	7780			2.1	5.2	4.2
	A PRELE SNOTEL		1/01/05		2.9	5.2	5.3
	LEWIS LAKE SNOTEL	7850	1/01/05		11.8	18.5	
	LEWIS LAKE DIVIDE	7850	12/28/04		12.9	20.4	
I	LITTLE WARM SNOTEL	9.370	1/01/05		4.2	4.3	5.3
I	LOOMIS PARK SNOTEL	8240	1/01/05		6.5	8.8	8.0
M	IARQUETTE SNOTEL	8760	1/01/05	6	1.9	4.0	5.0
	MIDDLE POWDER SNOTE		1/01/05	15	3.5		5.5
M	IORAN	6750	12/29/04	14	2.3	7.0	5.7
N	IEW FORK SNOTEL	8340	1/01/05		5.2	5.6	5.4
N	ORRIS BASIN	7500	12/31/04	14	2.0	5.2	5.1
N	ORTH FRENCH SNOTEL	10130	1/01/05	42	10.7	10.9	13.4
	ORTH RAPID CK SNTL	6130	1/01/05		1.8	2.9	3.3
	OLD BATTLE SNOTEL		1/01/05		16.1	16.7	14.6
C	LD FAITHFUL	7400	1/01/05		5.0	9.1	6.0
	WL CREEK SNOTEL	8980	1/01/05	10	1.8	1.9	2.7
	PARKERS PEAK SNOTEL	9400	1/01/05		8.2	10.3	10.6
P	PHILLIPS BENCH SNTL	8200	1/01/05	62	11.5	13.6	12.6
P	OWDER RVR.PASS SNTI	9480	1/01/05	30	6.3	5.6	5.3
R	RENO HILL SNOTEL	8500	1/01/05	19	4.1	6.7	6.6
S	SAGE CK BASIN SNTL	7850	1/01/05	30	6.8	7.6	5.3
S	SALT RIVER SNOTEL	7600	1/01/05		5.3	6.9	5.4
S	SAND LAKE SNOTEL	10050	1/01/05	38	10.3	11.3	14.9
S	SANDSTONE RS SNOTEL	8150	1/01/05	28	4.2	6.0	5.3
	SHELL CREEK SNOTEL		1/01/05	35	7.3	7.7	7.3
S	SNAKE RIVER STATION SNAKE RV STA SNOTEL	6920	12/28/04	22	4.9	11.7	8.9
S	SNAKE RV STA SNOTEL	6920	1/01/05		5.9	11.8	7.9
S	SNIDER BASIN SNOTEL	8060	1/01/05		6.6	6.6	
	SOUTH BRUSH SNOTEL		1/01/05		3.5	4.5	5.1
	SOUTH PASS SNOTEL		1/01/05	48	11.0	9.2	
S	SPRING CRK. SNOTEL	9000	1/01/05	58	11.3	10.6	12.5
S	ST LAWRENCE ALT SNTI	L 8620	1/01/05	19	3.9	2.2	3.8
S	SUCKER CREEK SNOTEL	8880	1/01/05	24	5.3	5.3	5.2
S	SYLVAN LAKE SNOTEL	8420	1/01/05	34	7.5	8.9	10.5
	SYLVAN ROAD SNOTEL	7120	1/01/05	22	4.3	6.6	6.2
	THUMB DIVIDE SNOTEL	7980	1/01/05	38	7.1	11.1	7.6
	HUMB DIVIDE	7980	12/28/04	22	4.5	8.9	8.1
	TIE CREEK SNOTEL	6870	1/01/05	4	. 7	3.1	2.5
	IMBER CREEK SNOTEL	7950	1/01/05	6	1.0	1.9	3.0
	OGWOTEE PASS SNOTE		1/01/05	46	8.9	11.4	11.7
	OWNSEND CRK SNOTEL	8700	1/01/05	31	5.5	4.3	4.4
	RIPLE PEAK SNOTEL	8500	1/01/05		8.5	10.8	11.9
	TWO OCEAN SNOTEL	9240	1/01/05		12.6	15.6	13.5
	VEBBER SPRING SNOTE		1/01/05	43	11.0	12.7	11.5
	WHISKEY PARK SNOTEL	8950	1/01/05	41	10.8	13.4	11.1
	VILLOW CREEK SNOTEL	8450	1/01/05		11.2	14.2	14.3
	VINDY PEAK SNOTEL	7900	1/01/05	13	2.4	2.9	3.5
	VOLVERINE SNOTEL	7650	1/01/05	15	3.8	5.2	5.8
	OUNTS PEAK SNOTEL	8350	1/01/05	26	5.5	5.2	7.9
(d) d	denotes discontinue	site.					

### **Snake River Basin (1)**

### **Snow**

The Snake River basin snow water equivalent (SWE) is below average. SWE in the Snake above Jackson Lake is 74 percent of average (58% of last year at this time). Pacific Creek SWE is 80 percent of average (64% of last year at this time). Gros Ventre River SWE is 82 percent of average (85% of last year at this time). SWE in the Hoback River drainage is 77 percent of average (75% of last year at this time), SWE in the Greys River drainage is 78 percent of average (85% of last year at this time). In the Salt River area, SWE is 80 percent of average (75% of last year at this time). SWE in the Snake River Basin above Palisades is 78 percent of average (68% 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 84 percent of average (72 percent of last year). Last months percentages range from 57 to 122 percent of average. Water-year-to-date precipitation is 81 percent of average for the Snake River basin (79 percent of last year at this time). Year-to-date percentages range from 74 to 94 percent 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 percent of average (8,600 acre feet compared to 9,500 last year). Jackson Lake storage is 25 percent of average (119,600 acre feet compared to 142,900 acre feet last year). Palisades Reservoir storage is about 48 percent of average (496,200 acre feet compared to 398,900 acre feet last year).



### Streamflow.

The most probable, 50 percent chance, April through September runoff yield forecast is below average for the basin. The Snake near Moran is

expected to yield 735,000 acre-feet (81% of normal). Palisades reservoir inflow is expected to be about 2,130,000 acre feet (78% of average). The 50 percent chance yield near Heise is expected to be 3,030,000 acre-feet (73% of normal). Pacific Creek at Moran is expected to yield about 140,000 acre-feet (79% of average). Greys River above Palisades Reservoir is estimated to yield 265,000 acre-feet (67% of normal). Salt River near Etna is estimated to have a yield of 280,000 acre-feet (67% of normal).

SNAKE RIVER BASIN

SHARE KIVER DASIN
Streamflow Forecasts - January 1, 2005

		<b>&lt;&lt;====</b>	Drier ====	== Future Co	nditions =	===== Wetter	====>>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	50		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SNAKE nr Moran (1,2)	APR-JUL	455	595	660	81	725	865	815
	APR-SEP	500	660	735	81	810	970	905
SNAKE ab resv nr Alpine (1,2)	APR-JUL	1190	1640	1850	78	2060	2510	2370
	APR-SEP	1390	1900	2130	78	2360	2870	2730
SNAKE nr Irwin (1,2)	APR-JUL	1460	2120	2420	73	2720	3380	3330
	APR-SEP	1740	2480	2820	73	3160	3900	3870
SNAKE near Heise (2)	APR-JUL	1780	2260	2580	73	2900	3380	3560
	APR-SEP	2120	2660	3030	73	3400	3940	4160
PACIFIC CREEK at Moran	APR-JUL	87	113	130	76	147	171	171
	APR-SEP	96	122	140	79	158	183	178
GREYS above Palisades	APR-JUL	125	185	225	66	265	325	340
	APR-SEP	155	220	265	67	310	375	395
SALT near Etna	APR-JUL	103	175	220	65	265	335	340
	APR-SEP	145	225	280	67	335	415	420

SNAKE RI Reservoir Storage (1000		SNAKE RIVER BASIN Watershed Snowpack Analysis - January 1, 2005						
Reservoir	Usable Capacity	*** Usab This Year	ole Stora Last Year	ge *** Avg	Watershed	Number of Data Sites	This Year  Last Yr	
GRASSY LAKE	15.2	8.6	9.5	11.6	SNAKE above Jackson La	ke 9	58	74
JACKSON LAKE	847.0	119.6	142.9	481.7	PACIFIC CREEK	3	64	80
PALISADES	1400.0	496.2	398.9	1036.5	GROS VENTRE RIVER	2	81	82
					HOBACK RIVER	5	75	77
					GREYS RIVER	4	85	78
					SALT RIVER	3	75	80
					SNAKE above Palisades	21	68	78

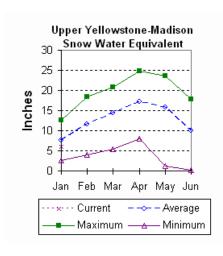
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Upper Yellowstone and Madison River Basins (2)**

### **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 82 percent of average (65 percent of last year) in the Madison drainage. SWE in the Yellowstone drainage is about 76 percent of average (72 percent of last year at this time). See the "Snow Course Basin Summary" at the beginning of this document for more details on specific sites.



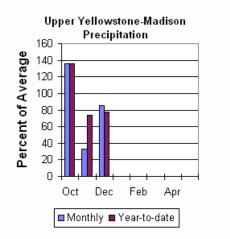
### **Precipitation**

Last month precipitation in the Madison and Yellowstone drainage was about 85 percent of average (67 percent of previous year) for the 5 reporting stations -- percentage range was from 47 to 100 percent of average. Water-year-to-date precipitation is about 78 percent of average (75 percent of last year's amount). Year to date percentage ranges from 69 to 82 percent.

### Reservoir

Ennis Lake is storing about 34,000 acre-feet of water (83 percent of capacity) - 108 percent of average or 116 % of last year's volume. Hebgen

Lake is storing about 315,700 acre-feet of water (84 percent of capacity) – 118 percent of average. Hebgen Lake is storing about 110 % of last year's volume.



### **Streamflow**

All the following forecasts are the 50 percent chance runoff for the April through September runoff period. Yellowstone at Lake Outlet is

expected to yield about 575,000 acre feet (71 percent of normal). Yellowstone at Corwin Springs will yield about 1,630,000 acre-feet (83 percent of normal). Yellowstone near Livingston will yield about 1,880,000 acre feet (83 percent of normal). Hebgen lake inflow is estimated to be 465,000 acre feet (93 percent of normal). See the following page for detailed runoff volumes.

# UPPER YELLOWSTONE & MADISON RIVER BASINS Streamflow Forecasts - January 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)		
YELLOWSTONE at Lake Outlet	APR-JUL	295	380	435	74	490	575	590		
	APR-SEP	395	500	575	71	650	755	805		
YELLOWSTONE RIVER at Corwin Springs	APR-JUL	990	1210	1360	82	1510	1730	1650		
	APR-SEP	1190	1450	1630	83	1810	2070	1970		
YELLOWSTONE RIVER near Livingston	APR-JUL	1170	1410	1570	83	1730	1970	1900		
	APR-SEP	1410	1690	1880	83	2070	2350	2280		
HEBGEN Reservoir Inflow	APR-JUL	275	325	360	92	395	445	390		
	APR-SEP	365	425	465	93	505	565	500		
				1						

Reservoir Storage (1000		Watershed Snowpack Analysis - January 1, 2005						
Reservoir	Usable Capacity	*** Usab This Year	le Storag Last Year	ge ***	Watershed	Number of Data Sites	This Year ====== Last Yr	
ENNIS LAKE	41.0	34.0	29.2	31.5	MADISON RIVER in WY	9	65	82
HEBGEN LAKE	377.5	315.7	286.2	267.6	YELLOWSTONE RIVER in W	Y 10	72	76

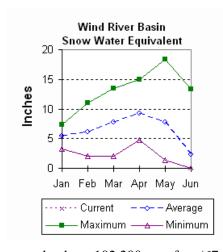
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### Wind River Basin (3)

### **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 76 percent of average (80 percent of last year at this time). The Little Wind SWE is 106 percent of average water content (155 percent of last year), and the Popo Agie drainage SWE is about 141 percent of average (135 percent of last year). The Wind River basin, above Boysen Reservoir, SWE is about 98 percent of average (about 105 percent of last year). See the Basin Summary of Snow Course Data at the front of this report for details.



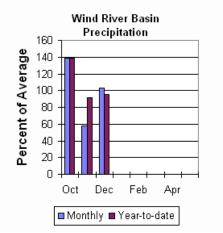
### **Precipitation**

Last months precipitation in the basin varied from 17 to 138 percent of average. Precipitation, for the basin, was about 103 percent of average for the 8 reporting stations; that is about 94 percent of last year's amount. Water year-to-date precipitation is 95 percent of normal and about 110 percent of last year at this time. Year-to-date percentages range from 65 to 135 percent of average.

### Reservoirs

Current storage varies from 67 to 95 percent of average.
Usable storage in Bull Lake is

currently about 102,200 acre feet (67 percent of capacity). Boysen Reservoir is storing about 95 percent of capacity 565,200 acre feet) -- normally the reservoir is at 108 percent of capacity at this time of the year. Pilot Butte is storing 77 percent of capacity (24,200 acre feet) -- normally the reservoir is at 120 percent of capacity at this time of the year.



### **Streamflow**

Water supply is estimated to be slightly below normal this year. The following values reflect the 50 percent chance yields for the June through September runoff period. Dinwoody Creek near Burris is estimated to yield 91,000 acre feet (97% of average). The Wind River above Bull Lake Creek is expected to yield 480,000 acre feet (90 percent of average). Bull Lake Creek near Lenore is expected to yield about 170,000 acre feet (93 percent of average). Wind River at Riverton will yield about 575,000 acre feet (90 percent of average). Little Popo Agie River near Lander is expected to yield about 59,000 acre feet (111 percent of average). South Fork of Little Wind near Fort Washakie will yield about 80,000 acre feet (95 percent of average). Little Wind River near Riverton will yield about 350,000 acre feet (111 percent of average). Boysen Reservoir inflow will yield about 770,000 acre feet (95 percent of normal).

# 

		``	DIIGI	rucure co	-	"66661	/	
Forecast Point	Forecast			- Chance Of E	xceeding *			
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
DINWOODY CREEK nr Burris	APR-JUL	44	56	64	96	72	84	67
	APR-SEP	67	81	91	97	101	115	94
WIND RIVER abv Bull Lake Cr (2)	APR-JUL	230	330	395	91	460	560	435
	APR-SEP	300	405	480	90	555	660	535
BULL LAKE CR near Lenore (2)	APR-JUL	90	118	137	93	156	184	148
	APR-SEP	111	146	170	93	193	228	182
WIND RIVER at Riverton (2)	APR-JUL	220	380	490	90	600	760	545
1112 1121 do 112102001 (2)	APR-SEP	290	460	575	90	690	860	640
LT POPO AGIE RIVER nr Lander	APR-JUL	20	39	51	111	63	82	46
	APR-SEP	27	46	59	111	72	91	53
SF LT WIND nr Fort Washakie	APR-JUL	42	58	69	95	80	96	73
21 21 1112 11 1010 1101111110	APR-SEP	50	68	80	95	92	110	84
LT WIND RIVER or Riverton	APR-JUL	140	240	310	111	380	480	280
	APR-SEP	180	280	350	111	420	520	315
BOYSEN RESERVOIR Inflow (2)	APR-JUL	365	560	690	96	820	1020	717
2010211 122211 1211011 (2)	APR-SEP	420	630	770	95	910	1120	809

	WIND RIVER BASIN				WIND RIVER BASIN						
Reservoi	r Storage (1000 AF) - End	of December	r		Watershed Snowpack	Analysis -	January 1,	2005			
	Usable	*** Usabl	e Storage	***		Number	This Year	as % of			
Reservoir	Capacity	This	Last		Watershed	of					
		Year	Year .	Avg		Data Sites	Last Yr	Average			
				=====							
BULL LAKE		NO REPORT			WIND RIVER above Dubios	3	81	76			
BOYSEN		NO REPORT			LITTLE WIND	2	155	106			
						_					
PILOT BUTTE		NO REPORT			POPO AGIE	4	135	141			
						-	100				
					WIND above Boysen Resv	7	102	98			

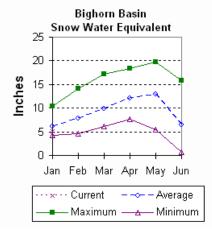
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Bighorn River Basin (4)**

### **Snow**

Snowpack in this basin is just below average for this time of year. Nowood drainage SWE is 91 percent of average (82 percent of last year). Greybull River SWE is 52 percent of average (85 percent of last year). Shell Creek SWE is 95 percent of average (101 percent of last year). The basin SWE, as a whole, is currently 85 percent of average (94 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



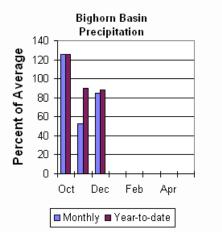
### **Precipitation**

Last month's precipitation was 85 percent of the monthly average (70 percent of last year). Sites ranged from 17 to 121 percent of average for the month. Year-to-date precipitation is 88 percent of normal; that is 99 percent of last year at this time. Year-to-date percentages, from the 10 reporting stations, range from 55 to 118.

### Reservoir

Boysen Reservoir is currently storing 565,200-acre feet (108 percent of average). Bighorn

Lake is now at 76 percent of average (688,400-acre feet). Boysen is currently storing 171 percent of last year at this time and Big Horn Lake is storing 91 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

770,000 acre feet (96 percent of average); the Greybull River nr Meeteese should yield 107,000 acre feet (54 percent of average); Shell Creek near Shell should yield 69,000 acre feet (96 percent of average) and the Bighorn River at Kane should yield 965,000 acre feet (87 percent of average).

# BIGHORN RIVER BASIN Streamflow Forecasts - January 1, 2005

		<<=====	: Drier ====:	== Future Co	onditions =:	===== Wetter	====>>	
Forecast Point	Forecast	_ ======		= Chance Of E	Exceeding * :			
	Period	90%	70%	j 50	)%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
BOYSEN RESERVOIR Inflow (2)	APR-JUL	365	560	690	96	820	1020	717
	APR-SEP	420	630	770	95	910	1120	809
GREYBULL RIVER nr Meeteetse	APR-JUL	49	64	74	50	84	99	148
	APR-SEP	75	94	107	54	120	139	200
SHELL CREEK nr Shell	APR-JUL	48	54	58	97	62	68	60
	APR-SEP	58	65	69	96	73	80	72
BIGHORN RIVER at Kane (2)	APR-JUL	610	765	870	87	980	1130	1000
BIGHORN RIVER at Raile (2)	APR-SEP	675	845	965	87	1080	1260	1110
	APR-SEP	6/5	843	965	67	1080	1260	1110
				1				

	BIGHORN RIVER BASIN Reservoir Storage (1000 AF) – End of December				BIGHORN RIVER BASIN Watershed Snowpack Analysis - January 1, 2005					
	Usable		======================================	 		Number	This Year			
Reservoir	Capacity	This Year	Last Year	Avg	Watershed	of Data Sites	Last Yr			
BOYSEN		NO REPOR	т		NOWOOD RIVER	2	82	91		
BIGHORN LAKE	1356.0	688.4	757.6	911.1	GREYBULL RIVER	2	85	52		
					SHELL CREEK	3	101	95		
					BIGHORN (Boysen-Bighorn	) 7	94	85		

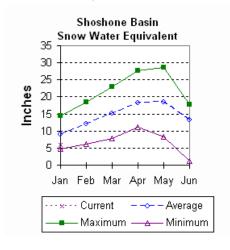
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Shoshone and Clarks Fork River Basin (5)**

### Snow.

Snow Water Equivalent (SWE) is 66 percent of average (75 percent of last year) in the Shoshone River basin. The Clarks Fork River basin SWE is 69 percent of average (76 percent of last year). For more information see the Basin Summary of Snow Course Data at the beginning of this report.



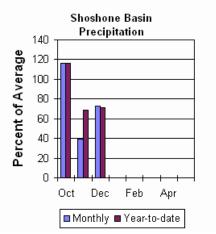
### Precipitation.

Precipitation for last month was 73 percent of average (74 percent of last year). Monthly percentages range from 0 to 100 percent of average. The basin year-to-date precipitation is now 71 percent of average (73 percent of last year). Year-to-date percentages range from 56 to 82 percent of average.

### Reservoir.

Current usable storage in Buffalo Bill Reservoir is about 110 percent of average (111

percent of last year's storage) – the reservoir is about 71 percent of capacity. Currently, about 461,000 acre-feet are stored in the reservoir compared to 416,200 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 the North Fork Shoshone River at Wapiti is expected to be 390,000 acre-feet (75 percent of average). South Fork of the Shoshone River near Valley is estimated to yield of 181,000 acre-feet (68 percent of average), and South Fork above Buffalo Bill Reservoir is expected to be 114,000 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 535,000 acre-feet (67 percent of average). The fifty-percent chance yield for the Clarks Fork of the Yellowstone near Belfry, Montana is expected to be about 410,000 acre-feet (69 percent of average).

# SHOSHOME & CLARKS FORK RIVER BASINS Streamflow Forecasts - January 1, 2005

		<<=====	Drier ====	== Future Co	onditions =:	===== Wetter	====>>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	= Chance Of E 50 (1000AF)		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
NF SHOSHONE RIVER at Wapiti	APR-JUL	290	330	355	77	380	420	460
	APR-SEP	320	360	390	75	420	460	520
SF SHOSHONE RIVER nr Valley	APR-JUL	108	138	158	70	178	210	225
	APR-SEP	121	157	181	68	205	240	265
SF SHOSHONE RIVER abv Buffalo Bill	APR-JUL	34	81	113	53	145	192	215
	APR-SEP	28	79	114	51	149	200	225
BUFFALO BILL DAM Inflow (2)	APR-JUL	290	405	485	67	565	680	720
	APR-SEP	320	450	535	67	620	750	805
CLARKS FORK RIVER nr Belfry	APR-JUL	280	340	385	71	430	490	540
	APR-SEP	295	365	410	69	455	525	595

SHOSHONE & CLARKS FORK RIVER BASINS Reservoir Storage (1000 AF) - End of December						SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - January 1, 2005				
Reservoir	*** Avg	Watershed	Number of Data Sites		r as % of ====== Average					
BUFFALO BILL		NO REPORT			SHOSHONE RIVER	6	75	66		
					CLARKS FORK in WY	7	76	69		

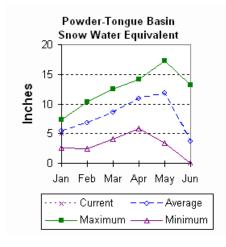
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Powder and Tongue River Basins (6)**

### **Snow**

Snow water equivalent (SWE) in the Upper Tongue River drainage is 85 percent of normal (87 percent of last year). The Goose Creek drainage SWE is 80 percent of average (87 percent of last year). SWE in the Clear Creek drainage is 103 percent of normal SWE (91 percent of last year). Crazy Woman Creek drainage SWE is 119 percent of average (113 percent of last year). Upper Powder River drainage SWE is 87 percent of average (75 percent of last year). Powder River basin SWE, in Wyoming, is about 94 percent of average (81 percent of last year). For more information see Basin Summary of Snow Courses at beginning of report.



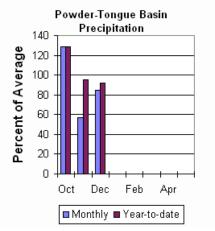
### **Precipitation**

Last month's precipitation was 85 percent of average for the 10 reporting stations (66 percent of last year). Monthly percentages range from 16 to 199 percent of average. Year-to-date precipitation is 92 percent of average in the basin; this is 101 percent of last year at this time. Precipitation for the year ranges from 71 to 128 percent of average at the reporting stations.

### Reservoir

Tongue River Reservoir is currently at 163 percent of average (80 percent of last year

and 46 percent of capacity). Current storage is 36,600 acre feet. Last year at this time the reservoir was storing about 45,800 acre feet – average storage is about 22,500 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 96,000-acre feet (88 percent of normal). Little Goose Creek near Bighorn is expected to yield about 39,000 acre feet (93 percent of average). Middle Fork of the Powder River near Barnum is estimated to yield 13,200 acre feet (71 percent of average). The North Fork of the Powder near Hazelton should yield about 10,300 acre-feet (99 percent of normal). The estimated yield for Clear Creek near Buffalo is 38,000 acre-feet (97 percent of average). Rock Creek near Buffalo will yield about 19,700 acre-feet (82 percent of normal), and Piney Creek at Kearny should yield about 43,000 acre-feet (83 percent of average).

# POWDER & TONGUE RIVER BASINS Streamflow Forecasts - January 1, 2005

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast			- Chance Of E	xceeding * =			
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
TONGUE RIVER nr Dayton (2)	APR-JUL APR-SEP	55 65	72 84	84 96	88 88	96 108	113 127	96 109
	APK-SEP	65	04	30	00	100	127	109
LITTLE GOOSE CREEK nr Big Horn	APR-JUL	20	27	31	91	35	42	34
•	APR-SEP	27	34	39	93	44	51	42
TONGUE RIVER RESERVOIR Inflow (2)	APR-JUL	98	153	190	86	225	280	220
	APR-SEP	113	171	210	84	250	305	250
MIDDLE FORK POWDER nr Barnum	APR-JUL	4.9	9.4	12.4	70	15.4	19.9	17.8
MIDDEN FOR TONDER III DUTHUM	APR-SEP	5.5	10.1	13.2	71	16.3	21	18.7
NORTH FORK POWDER nr Hazelton	APR-JUL	7.10	8.50	9.50	99	10.50	11.90	9.60
	APR-SEP	7.7	9.3	10.3	99	11.3	12.9	10.4
CLEAR CREEK nr Buffalo	APR-JUL	25	30	33	97	36	8.2	34
CLEAR CREEK DY BUITALO	APR-JUL APR-SEP	25 29	30 34	33	97 97	42	8.2 47	34 39
	APK-SEP	29	34	J 30	91	42	4/	39
ROCK CREEK nr Buffalo	APR-JUL	10.3	13.8	16.2	81	18.6	22	19.9
	APR-SEP	13.8	17.3	19.7	82	22	26	24
PINEY CREEK at Kearny	APR-JUL	15.0	30	40	82	50	65	49
	APR-SEP	17.5	33	43	83	53	69	52
POWDER RIVER at Moorehead	MAR-JUL	97	164	210	88	255	325	240
TOWNER RIVER OF MOOTENEED	MAR-SEP	116	185	230	87	275	345	265
					**			
POWDER RIVER near Locate	MAR-JUL	154	200	235	76	270	315	310
	MAR-SEP	167	220	255	76	290	345	335
				ı		1		

	POWDER & TONGUE RIVER BASINS Reservoir Storage (1000 AF) - End of December				POWDER & TONGUE RIVER BASINS Watershed Snowpack Analysis - January 1, 2005				
Reservoir	Usable Capacity	*** Usabl This Year	====== e Storage Last Year	*** Avg	Watershed	Number of Data Sites		ar as % of Average	
TONGUE RIVER	79.1	36.6	45.8	22.5	UPPER TONGUE RIVER	7	87	85	
					GOOSE CREEK	2	87	80	
					CLEAR CREEK	2	91	103	
					CRAZY WOMAN CREEK	1	113	119	
					UPPER POWDER RIVER	3	75	87	
					POWDER RIVER in WY	5	81	94	

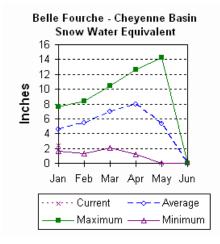
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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 (7)**

### Snow.

The Belle Fourche River Basin is currently 52 percent of average. This is 61 percent of what the Snowpack was last year on January 1. See Basin summary of Snow Course Data at the beginning of this report for a detailed listing.



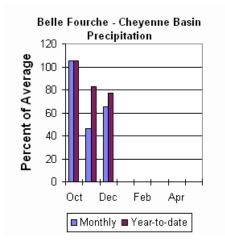
### Precipitation.

Precipitation for last month was 65 percent of average in the Black Hills. Monthly percentages range from 60 to 69 percent. Year-to-date precipitation is 77 percent of average and 88 percent of last year's amount.

### Reservoir.

Usable reservoir storage is generally near average in the basin. Angostura is currently storing 53 percent of average

(51,300-acre feet), about 42 percent of capacity. Belle Fourche reservoir is storing 66 percent of average (59,800-acre feet), about 34 percent of capacity. Deerfield reservoir is storing 109 percent of average (13,400-acre feet), about 88 percent of capacity. Keyhole reservoir is storing 92 percent of average (93,600-acre feet), 48 percent of capacity. Pactola reservoir is storing 90 percent of average (41,000-acre feet), 75 percent



of capacity. Shadehill reservoir is storing 100 percent of average (50,500-acre feet), 62 percent of capacity.

### **Streamflow**

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

BELLE FOURCHE & CHEYENNE RIVER BASINS Streamflow Forecasts - January 1, 2005									
	=======	   <<====:	== Drier :	======= ==============================	Future Conditions ==	====== Wetter =====			
Forecast Point	Forecast Period	90% (1000AF)	70% (1000A)	F)	ance Of Exceeding * = 50% (1000AF) (% AVG.)	30% 10% (1000AF) (1000	30-Yr Avg. AF) (1000AF)		
NO REPORT									
BELLE FOURCHE & CHEYENNE RIVER BASINS   BELLE FOURCHE & CHEYENNE RIVER BASINS Reservoir Storage (1000 AF) - End of December   Watershed Snowpack Analysis - January 1, 2005									
Reservoir	Usable Capacity	This Year	ole Storag Last Year	Avg	Watershed	of Data Sites	This Year as % of ======= Last Yr Average		
ReservoirANGOSTURA		This Year	Last Year	Avg	Watershed BELLE FOURCHE	of	Last Yr Average		
	Capacity	This Year	Last Year	Avg		of Data Sites	Last Yr Average		
ANGOSTURA	Capacity 122.1	This Year ====================================	Last Year 77.8	Avg ====== 96.4		of Data Sites	Last Yr Average		
ANGOSTURA BELLE FOURCHE	122.1 178.4	This Year 51.3	Last Year 77.8	Avg ====== 96.4 90.6		of Data Sites	Last Yr Average		
ANGOSTURA BELLE FOURCHE DEERFIELD	122.1 178.4 15.2	This Year 51.3 59.8 13.4	Tast Year 77.8 84.7	Avg ======= 96.4 90.6 12.3		of Data Sites	Last Yr Average		

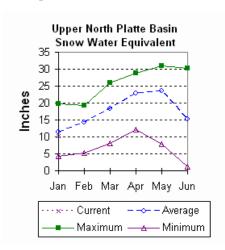
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

<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.

### **Upper North Platte River Basin (8)**

### **Snow**

The snow courses above Seminoe Reservoir have about 90 percent of average snow water equivalent (SWE) recorded for this time of the year (93 percent of last year). SWE in the drainage area above Northgate is about 94 percent of average and 97 percent of last year at this time. SWE in the Encampment River drainage is about 102 percent of normal and 89 percent of last year. Brush Creek SWE for the year is about 77 percent of average and 92 percent of last year's SWE. Medicine Bow and Rock Creek drainage SWE is about 70 percent of average and 94 percent of last year at this time. For more information see Basin Summary of Snow Courses at the beginning of this report.



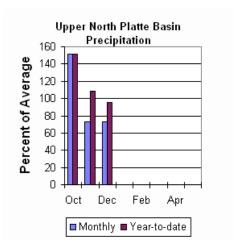
### **Precipitation**

Eight reporting stations indicate last month's precipitation was 73 percent of average and about 76 percent of last year's amount. Precipitation varied from 57 to 91 percent of average last month. Total water-year-to-date precipitation is about 95 percent of average for the basin, which is about 98 percent of last year's amount. Year to date percentage ranges from 70 to 120 percent of average.

### Reservoirs

Seminoe Reservoir is currently

storing about 43 percent of average for this time of the year. Currently, the reservoir is storing 105 percent of last year's amount. Seminoe Reservoir is estimated to be storing 269,400 acre-feet (26 percent of capacity). Last year, at this time, the reservoir had 257,600 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 205,000 acre-feet (76 percent of

average). Encampment River near Encampment is estimated to yield 170,000 acre-feet (103 percent of normal). Rock Creek near Arlington is estimated to yield 50,000 acre-feet (88 percent of average). Sweetwater River near Alcova is estimated to yield 99,000 acre-feet (124 percent of average). Seminoe Reservoir inflow should be about (760,000 acre-feet (88 percent of normal). See the following table for more detailed information on projected runoff.

# UPPER NORTH PLATTE RIVER BASIN Streamflow Forecasts - January 1, 2005

		<<=====	Drier ====	== Future Co	onditions =:	===== Wetter	====>>	
Forecast Point	Forecast	1						
	Period	90% (1000AF)	70% (1000AF)	(1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
NORTH PLATTE RIVER nr Northgate	APR-JUL	82	137	183	75	235	323	245
_	APR-SEP	59	146	205	76	265	350	270
ENCAMPMENT RIVER nr Encampment	APR-JUL	96	136	163	105	189	229	156
	APR-SEP	98	141	170	103	197	242	165
ROCK CREEK nr Arlington	APR-JUL	28	39	47	89	56	71	53
	APR-SEP	30	42	50	88	59	75	57
SWEETWATER RIVER nr Alcova	APR-JUL	52	77	93	126	109	134	74
	APR-SEP	57	82	99	124	116	141	80
SEMINOE RESERVOIR Inflow	APR-JUL	290	540	705	88	870	1120	800
DEMINOR REPRESENTATION	APR-SEP	385	610	760	88	910	1140	860
	MEN-DEP	303	010	, , ,	30	1 910	1140	860

	UPPER NORTH PLATTE RIVER BASIN Reservoir Storage (1000 AF) - End of December					UPPER NORTH PLATTE RIVER BASIN Watershed Snowpack Analysis - January 1, 2005				
Reservoir		Usable Capacity	*** Usabl This Year	e Storage Last Year	*** Avg	Watershed	Number of ta Sites	This Year ====== Last Yr		
SEMINOE			NO REPORT	•		N PLATTE above Northgate	5	97	94	
						ENCAMPMENT RIVER	3	89	102	
						BRUSH CREEK	2	92	77	
						MEDICINE BOW & ROCK CREEK	2	94	70	
						N PLATTE above Seminoe	13	93	90	

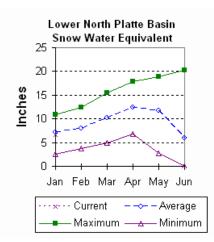
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Lower North Platte River Basin (9)**

### **Snow**

SWE for the North Platte River basin in Wyoming averages 91 percent of normal (95 % of last year). The Sweetwater drainage SWE is currently 162 percent (133 percent of last year). Deer and LaPrele Creek SWE is 59 percent of average (59 percent of last year). SWE for the North Platte above the Laramie River drainage is 94 percent of average (95 % of last year). SWE for the Laramie River above Laramie is 105 percent of average (112 % of last year). SWE for the Little Laramie River is 88 percent of average (96 percent of last year). The Laramie River above mouth, SWE is 97 percent of average (110% of last year). For more information see Basin Summary of Snow Courses at beginning of report.



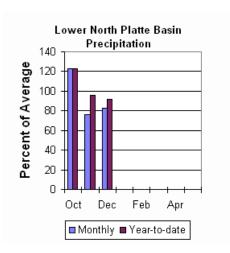
### **Precipitation**

Of the 7 reporting stations, percentages for the month range from 15 to 138. Last month's precipitation for the basin was 83 percent of average (79 percent of last year). The water year-to-date precipitation for the basin is currently 92 percent of average (105 percent of last year). Year-to-date percentages range from 70 to 127.

### 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 156,000 acre feet (101 percent of average); Glendo 220,800 acre feet (78 percent of average); Guernsey 15,900 acre feet (221 percent of average); Pathfinder 234,500 acre feet (37 percent of average); Seminoe 269,400 acre feet (43 percent of average), and Wheatland No.2? acre feet (? percent of average).



### **Streamflow**

Yields from 54 to 124 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 99,000 acre-feet (124% of average). Deer Creek at Glenrock is expected to yield about 26,000 acre feet (63% of average). LaPrele Creek above the reservoir is estimated to yield 15,200 acre-feet (63% of average). North Platte River below Guernsey Reservoir is expected to yield about 930,000 acre-feet (92% of normal), and below Glendo Reservoir is anticipated to yield about 900,000 acre-feet (91% of average). Laramie River near Woods Landing should yield about 118,000 acre-feet (87% of average). The Little Laramie near Filmore should produce about 52,000 acre-feet (81 percent of average).

### LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS Streamflow Forecasts - January 1, 2005 <<===== Drier ===== Future Conditions ====== Wetter ====>> ============ Chance Of Exceeding Forecast Point Forecast 50% (1000AF) (% AVG.) Period 90% (1000AF) (1000AF) (1000AF) (1000AF) 93 99 126 124 SWEETWATER RIVER nr Alcova APR-JUL 52 57 77 82 109 116 74 80 12.5 13.3 20 21 25 26 67 63 37 39 DEER CREEK at Glenrock 30 31 38 41 LaPRELE CREEK abv Reservoir NORTH PLATTE - Alcova to Orin Gain 765 790 870 900 1130 1175 960 990 NORTH PLATTE RIVER blw Glendo Res APR-JUL 970 1010 560 755 890 92 92 1020 1065 1220 1265 NORTH PLATTE RIVER blw Guernsey Res APR-JUL 172 188 LARAMIE RIVER nr Woods 82 90 88 87 123 135 44 48 108 118 LITTLE LARAMIE RIVER nr Filmore

	LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS Reservoir Storage (1000 AF) - End of December				LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS Watershed Snowpack Analysis - January 1, 2005				
		***		======================================					
Reservoir	Usable Capacity	*** Usable Stora This Last	ge ***	Watershed	Number of		Tear as % of		
Keselvoii	capacity	Year Year	Ava		Data Sites				
ALCOVA		NO REPORT		SWEETWATER	2	133	162		
					_				
GLENDO		NO REPORT		DEER & LaPRELE CREEKS	2	59	59		
GUERNSEY		NO REPORT		N PLATTE abv Laramie R.	17	95	94		
PATHFINDER		NO REPORT		LARAMIE RIVER aby Larami	e 5	112	105		
SEMINOE		NO REPORT		LITTLE LARAMIE RIVER	2	96	88		
WHEATLAND #2		NO REPORT		LARAMIE RIVER above mout	h 6	110	97		
				NORTH PLATTE	17	95	91		

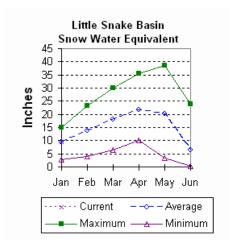
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Little Snake River Basin (10)**

### **Snow**

Currently, snow water equivalent (SWE) in the Little Snake River drainage is 100 percent of average (81 percent of last year at this time). For more information see Basin Summary of Snow Courses at beginning of this report.



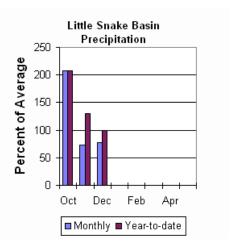
### **Precipitation**

Precipitation across the basin was below average this past month. Last Month's precipitation was 78 percent of average (71 percent of last year) for the 5 reporting stations. Last month's precipitation ranged from 67 to 91 percent of average. The Little Snake River basin water-year-to-date precipitation is currently 109 percent of average (96 percent of last year). Year-to-date percentages range from 99 to 120 percent of average.

### **Streamflow**

Runoff yield in the Little

Snake River drainage is expected to be just 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 145,000 acre-feet (91 percent of normal). Little Snake River near Dixon is estimated to yield 305,000 acre-feet (92 percent of normal).



			LE SNAKE RIV	ER BASIN January 1,	2005			
								========
		<<=====	Drier ====	= Future Co	onditions ===	==== Wetter =	:===>>	
Forecast Point	Forecast			Chance Of E	Exceeding * =:			
	Period	90% (1000AF)	70% (1000AF)		)% (% AVG.)	30% (1000AF) (	10% (1000AF)	30-Yr Avg. (1000AF)
					-			
Little Snake River nr Slater	APR-JUL	78	116	145	91	178	232	159
LITTLE SNAKE R nr Dixon	APR-JUL	188	260	305	92	350	420	330
				.=======	·			
LITTLE SNAKE						LE SNAKE RIVER		
Reservoir Storage (1000	AF) - End	of Decembe	r	l	Watershed Sno	owpack Analysis	- Januar	y 1, 2005
				:======== :+		Number		Year as % of
Reservoir	Usable		e Storage *; Last	Water		of		rear as % or
Reservoir	Capacity	Year	Year A		rsnea	Data Site		Yr Average
			rear A	' <sup>y</sup>		Data Site	s Last	II Myerage
				LITTI	LE SNAKE RIVE	R 6	81	100

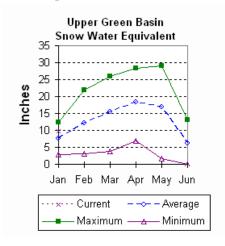
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Upper Green River Basin (11)**

### Snow.

Snow water equivalent (SWE) is below normal in the upper Green River drainage this year. The Green River basin SWE above Warren Bridge is 81 percent of normal (79 percent of last year). SWE on the west side of the Upper Green River basin is about 81 percent of normal, 79 percent of this time last year. Newfork River SWE is now about 96 percent of normal (93 percent of last year). Big Sandy-Eden Valley SWE is about 129 percent of average (122 percent of last year). SWE in the Green River above Fontenelle Reservoir is about 86 percent of average (89 percent of last year). For more information see the Basin Summary of Snow Courses at the beginning of this report.



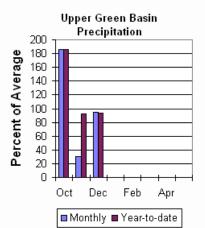
### Precipitation.

The 11 reporting precipitation sites in the basin were 95 percent of average last month (90 percent of last year at this time). Last month's precipitation varied from 38 to 131 percent of average. Water year-to-date precipitation is about 93 percent of average (96 percent of last year). Year to date percentage of average ranges from 78 to 134 percent for the reporting stations.

### Reservoir.

Storage in Big Sandy Reservoir is currently unavailable. Eden Reservoir is

unavailable. Fontenelle Reservoir is storing 225,800 acre-feet (108 percent of average and 65 percent 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 fifty-percent 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 240,000 acre-feet (91 percent of normal). Pine Creek above Fremont Lake is expected to yield 99,000 acre-feet (95 percent of normal). New Fork River near Big Piney is expected to yield about 395,000 acre-feet (100 percent of normal). Fontenelle Reservoir Inflow is estimated to be 760,000 acre-feet (88 percent of average), and Big Sandy near Farson is expected to be about 64,000 acre-feet 110 percent of normal).

### \_\_\_\_\_\_ UPPER GREEN RIVER BASIN

### Streamflow Forecasts - January 1, 2005

<<===== Drier ===== Future Conditions ====== Wetter =====>> ======= Chance Of Exceeding \* ========= Forecast Point Forecast 50% (1000AF) (% AVG.) Period (1000AF) (1000AF) (1000AF) (1000AF) (1000AF) Green River at Warren Bridge APR-JUL 157 205 240 91 275 325 265 Pine Creek abv Fremont Lake APR-JUL 74 89 99 95 109 124 104 New Fork River nr Big Piney APR-JUL 250 335 395 100 455 540 395 660 1039 Fontenelle Reservoir Inflow APR-JUL Big Sandy River nr Farson APR-JUL 42 110 55 64 86 58

UPPER GREE	N RIVER BAS	IN			UPPER GREEN RIVER BASIN						
Reservoir Storage (100	0 AF) - End	of Decembe	r		Watershed Snowpack Analysis - January 1, 2005						
	Usable	*** Usabl	e Storage	***		Number	This Year	as % of			
Reservoir	Capacity	This	Last		Watershed	of					
	I	Year	Year	Avg	D	ata Sites	Last Yr	Average			
BIG SANDY		NO REPORT			GREEN above Warren Bridg	re 4	79	81			
EDEN		NO REPORT			UPPER GREEN (West Side)	5	95	86			
FONTENELLE		NO REPORT			NEWFORK RIVER	2	93	96			
					BIG SANDY/EDEN VALLEY	1	122	129			
					GREEN above Fontenelle	11	89	86			

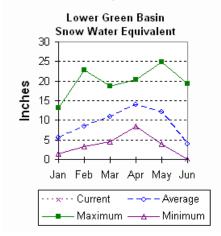
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

<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 Green River Basin (12)**

### **Snow**

The Henrys Fork drainage SWE is currently 148 percent of average (138% of last year). SWE in the Hams Fork is 105 percent of average (109% of last year). Blacks Fork SWE is currently 105 percent of average (115 percent of last year). SWE in the basin, as a whole, is 94 percent of average (97 percent of last year). For more information see Basin Summary of Snow Courses at beginning of this report.



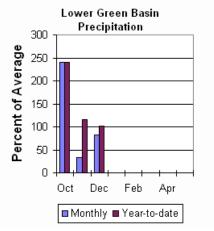
### **Precipitation**

Precipitation was above average for the 3 reporting stations during last month (83 percent of average). Precipitation ranged from 75 to 90 percent of average for the month. The basin year-to-date precipitation is currently 102 percent of average (119 percent of last year). Year-to-date percentages range from 97 to 116.

### Reservoir

Fontenelle Reservoir is currently storing 225,800 acre feet; this is 108 percent of

average (114 percent of last year). Flaming Gorge is currently storing 2,741,000 acre feet; this is 91 percent of average (105 percent of last year). Viva Naughton did not report this month.



### **Streamflow**

Expected yields vary from 90 to 101 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 790,000-acre feet (90 percent of average). Blacks Fork near Robertson is forecast to yield 96,000-acre feet (101 percent of average). East Fork of Smiths Fork near Robertson is estimated to yield 30,000 acre-feet (97 percent of average). The estimated yield for Hams Fork near Frontier is 63,000-acre feet (97 percent of average). Flaming Gorge Reservoir inflow will be about 1,100,000-acre feet (92 percent of average).

# LOWER GREEN RIVER BASIN Streamflow Forecasts - January 1, 2005

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	====>>	
Forecast Point	Forecast Period	90%	70%	50	)%	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Green River nr Green River, WY	APR-JUL	480	665	790	90	915	1100	875
Blacks Fork nr Robertson	APR-JUL	65	83	96	101	109	127	95
EF of Smiths Fork nr Robertson	APR-JUL	22	27	30	97	34	41	31
Hams Fk blw Pole Ck nr Frontier	APR-JUL	39	53	63	97	74	92	65
Hams Fk Inflow to Viva Naughton Res	APR-JUL	40	66	83	93	100	126	89
Flaming Gorge Reservoir Inflow	APR-JUL	675	930	1100	92	1270	1530	1190

LOWER GREEN RIVER BASIN Reservoir Storage (1000 AF) - End of December				LOWER GREEN RIVER BASIN Watershed Snowpack Analysis - January 1, 2005					
Reservoir	Usable Capacity		able Stora Last Year	age *** Avg	Watershed	Number of ata Sites	This Year		
FONTENELLE		NO REPO	ORT		HAMS FORK RIVER	3	109	105	
FLAMING GORGE	3749.0	2741.0	2605.0	3027.0	BLACKS FORK	2	115	105	
VIVA NAUGHTON RES	NO REPORT			HENRYS FORK	2	138	148		
					GREEN above Flaming Gorge	e 18	97	94	

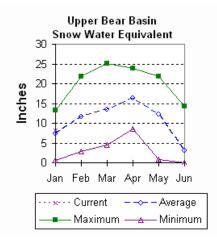
<sup>\* 90%, 70%, 50%, 30%,</sup> and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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.

### **Upper Bear River Basin (13)**

### **Snow**

Snow water equivalent (SWE) in the upper Bear River basin in Utah is estimated to be 125 percent of average; that is about 126 percent of last year at this time. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is estimated at 104 percent of average (102 percent of last year at this time.). Bear River basin SWE, above the Idaho State line, is 111 percent of average (107 percent of last year). See the Basin Summary of Snow Course Data at the beginning of this report for more detailed information.

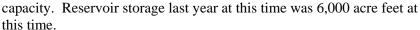


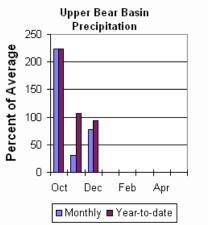
### **Precipitation**

Precipitation for last month was 78 percent of average for the 2 reporting stations; this is 81 percent of the precipitation received last year. The year-to-date precipitation, for the basin, is 94 percent of average; this is 111 percent of last year's amount.

### Reservoir

Usable storage, in Woodruff Narrows reservoir, is about 12,000 acre feet (51 percent of average). Current reservoir storage is about 21 percent of





### **Streamflow**

The following 50 percent chance stream flow yields are for the June through September period. Smiths Fork near Border is estimated to yield 30,000 acre-feet (39 percent of normal. Bear River above the Utah-Wyoming State Line is expected to yield about 20,000 acre feet (24 percent of average)

UPPER BEAR RIVER BASIN Streamflow Forecasts - January 1, 2005													
				tions ======	Wetter ===	===>>							
Forecast Point Foreca	90%	70% (1000AF)	50% (1000AF) (%	AVG.) (1		0%	30-Yr Avg. (1000AF)						
UPPER BEAR RIV IR BASIN													
				l									
UPPER BEAR RIVER I	1	UPPER BEAR RIVER BASIN Watershed Snowpack Analysis - January 1, 2005											
Reservoir Storage (1000 AF) -	End of Decembe			ersned snowpack		January	1, 2005 ======						
Reservoir Capaci		le Storage ** Last Year Av	Watershe		Number of Data Sites		ar as % of						
		=========	- 1		EEEEEEEE								
WOODRUFF NARROWS 57.	3 12.0	6.0 23	.6 UPPER BE	AR RIVER in Uta	ıh 5	126	125						
			SMITHS &	THOMAS FORKS	3	102	104						
			BEAR RIV	ER abv ID line	6	107	111						
			NORTHWES	T	56	74	78						
			NORTHEST	!	11	91	90						
			SOUTHEAS	T	20	91	92						
			SOUTHWES	T	25	93	99						

<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.