

Natural Resources Conservation Service

## **Wyoming Basin Outlook Report**

June 1, 2012



**Lupine Creek Snow Course (Yellowstone NP)** 

# **Basin Outlook Reports**

## And

## Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

Lee Hackleman/Water Supply Specialist or Ken Von Buettner/Hydrologic Technician 100 East "B" Street Casper, WY 82601 (307) 233-6744/6743

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

The snow water equivalent (SWE) across Wyoming is well below average for June  $1^{\rm st}$  at 39%. Monthly precipitation for the basins varied from 27-122% of average. Year-to-date precipitation for Wyoming basins varies from 70-112% of average. Forecasted runoff varies from 9-116% of average across the Wyoming basins for an overall average of 63%. Basin reservoir levels for Wyoming vary from 97-169% of average for an overall average of 108%.

## **Snowpack**

Snow water equivalent (SWE), across Wyoming is well below average for this time of year at 39%. SWE in the NW portion of Wyoming is now about 77% of average (29% of last year). NE Wyoming SWE is currently about 53% of average (10% of last year). The SE Wyoming SWE is currently about 7% of average (2% of last year). The SW Wyoming SWE is about 17% of average (4% of last year).

## **Precipitation**

Last month's precipitation was below average across Wyoming. The Upper Powder & Tongue River Basins had the highest precipitation for the month at 122% of average. The Little Snake River Basin had the lowest precipitation amount at 27% of average. The following table displays the major river basins and their departure from average for this month.

	Departure	De	Departure		
Basin	from average	Basin from	average		
Snake River	-07%	Upper North Platte River	-50%		
Yellowstone & Madison	+10%	Lower North Platte	-59%		
Wind River	-16%	Little Snake River	-73%		
Bighorn	+03%	Upper Green River	-13%		
Shoshone & Clarks Fork	+12%	Lower Green River	-21%		
Powder & Tongue River	+22%	Upper Bear River	-32%		
Belle Fourche & Cheyen	ne -01%	İ			

#### **Streams**

Stream flow yield for April to September is expected to be well below average across Wyoming. Most probable yield for the entire State of Wyoming is forecast to be about 63% (varying from 13-116% of average). The Snake River and Upper Yellowstone & Madison River Basins are expected to yield about 77% and 94% of average, respectively; 63-97% of average for the various forecast points in the basins. Yields from the Wind and Bighorn River Basins are expected to be about 22% and 25% of average, respectively; varying from 22-100% of average in the basins. Yields from the Shoshone and Clarks Fork River Basins of Wyoming are expected to yield about 87% and 116% of average, respectively; varying from 83-116% of average. Yields from the Tongue & Powder River Basins are expected to be about 67% and 72% of average, respectively; varying from 67-78% of average. Yields for the Belle Fourche & Cheyenne River Basins are expected to be about 50% and 47% of average, respectively. Yields for the Upper and Lower North Platte River of Wyoming are expected to be about 20% and 26% of average, respectively; varying from -20% to 39% of average. Yields for the Little Snake, Green River, and Little Bear of Wyoming are expected to be 9%, 41%, and 34% of average respectively; yield estimates vary from 9-66% of average.

#### Reservoirs

Reservoir storage varies widely across the state however reservoir storage is at 108% of average for the entire state. Reservoirs on the North Platte River are at 104%. Reservoirs in the northeast are above average in storage at 107%. Reservoirs in the Wind River Basin are average at 101%. Reservoirs on the Big Horn are near average at 97%. The Buffalo Bill Reservoir on the Shoshone is above average at 127%. Reservoirs on the Green River are above average at 104%. See the following table for further information about reservoir storage.

## **Major Reservoirs in Wyoming**

June 1, 2012

	NT AS	LAST YR AS	AVERAGE AS	CURRENT AS	CURRENT AS
RESERVOIR % CAP	ACITY	% CAPACITY	% CAPACITY	% AVERAGE	% LAST YR
WYOMING AND SURROU	NDING	STATES			
ALCOVA	98	98	97	101	100
ANGOSTURA	83	89	96	87	93
BELLE FOURCHE	90	98	85	106	93
BIG SANDY	96	73	77	125	132
BIGHORN LAKE	61	71	64	96	87
BOYSEN	95	71	95	100	133
BUFFALO BILL	78	49	61	127	160
BULL LAKE	74	42	63	118	177
DEERFIELD	100	103	89	112	97
FLAMING GORGE	83	83	81	102	99
FONTENELLE	66	35	53	125	190
GLENDO	77	100	99	78	77
Grassy Lake	101	99	95	107	102
GUERNSEY	63	60	79	80	105
HEBGEN LAKE	88	79	83	105	111
Jackson Lake	96	43	68	141	221
KEYHOLE	93	88	61	152	107
PACTOLA	101	107	88	114	95
Palisades	84	37	74	114	231
PATHFINDER	80	102	76	105	79
PILOT BUTTE	61	66	77	79	93
SEMINOE	81	43	65	125	190
SHADEHILL	53	107	84	63	49
TONGUE RIVER	102	103	61	169	99
VIVA NAUGHTON RE	S 104	64	92	114	163
WHEATLAND #2	63	21	60	105	306
WOODRUFF NARROWS	90	82	70	128	110
TOTAL FOR 27	81	70	75	108	117

Raw KAF Total Current=10777 Last Year=9221 Average=9992 Capacity=13247

# BASIN SUMMARY OF SNOTEL and SNOW COURSE DATA

June 2012

SNOW COURSE EI	EVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
WYON	MING Snow	Course a	nd SNOT	CEL Station	S	
BALD MOUNTAIN SNOTEL	9380	6/01/12		16.8	41.1	16.7
BASE CAMP SNOTEL	7030	6/01/12		.0	9.6	.0
BATTLE MTN. SNOTEL	7440	6/01/12		.0	.0	.0
BEARTOOTH LK. SNOTEL	9280	6/01/12		26.4	33.6	20.1
BEAR TRAP SNOTEL	8200	6/01/12		.0	7.5	.0
BIG GOOSE SNOTEL	7760	6/01/12	0	.0	13.2	2.7
BIG SANDY SNOTEL	9080	6/01/12		.0	13.9	1.4
BLACKWATER SNOTEL	9780	6/01/12		21.6	43.1	24.7
BLIND BULL SNOTEL	8900	6/01/12		12.0	41.9	17.8
BONE SPGS. SNOTEL	9350	6/01/12	20	8.3	33.2	8.2
BROOKLYN LK. SNOTEL	10220	6/01/12		.0	39.3	11.6
BURGESS JCT. SNOTEL	7880	6/01/12	0	.0	15.5	2.6
BURROUGHS CRK SNOTEL	8750	6/01/12		1.4	20.3	3.4
CANYON SNOTEL	8090	6/01/12	0	.0	13.9	1.3
CASPER MTN. SNOTEL	7850	6/01/12	0	.0	3.7	4.2
CASTLE CREEK SNOTEL	8400	6/01/12		.0	.0	
CHALK CK #1 SNOTEL	9100	6/01/12	0	.0	40.5	12.0
CHALK CK #2 SNOTEL	8200	6/01/12	0	.0	16.4	.8
CINNABAR PARK SNOTEL	9690	6/01/12		.0	27.9	1.5
CLOUD PEAK SNOTEL	9850	6/01/12	0	.0	27.7	7.7
COLE CANYON SNOTEL	5910	6/01/12	0	.0	.0	.0
COLD SPRINGS SNOTEL	9630	6/01/12	0	.0	10.5	1.1
COTTONWOOD CR SNOTEL	7700	6/01/12		.0	29.0	5.1
CROW CREEK SNOTEL	8830	6/01/12	0	.0	.0	.0
DEER PARK SNOTEL	9700	6/01/12	0	.0	25.4	8.0
DIVIDE PEAK SNOTEL	8860	5/30/12		.0e	21.1	3.7
DOME LAKE SNOTEL	8880	6/01/12	0	.0	20.4	3.2
EAST RIM DIV SNOTEL	7930	6/01/12	0	.0	.0	1.5
ELKHART PARK SNOTEL	9400	6/01/12		.0	13.0	3.3
EVENING STAR SNOTEL	9200	6/01/12	49	22.4	42.5	26.7
GRAND TARGHEE SNOTEL	9260	6/01/12	66	31.5	70.9	
GRANITE CRK SNOTEL	6770	6/01/12		.0	13.0	.8
GRASSY LAKE SNOTEL	7270	6/01/12	14	4.4	35.2	14.0
GRAVE SPRINGS SNOTEL	8550	6/01/12	0	.0	12.4	1.8
GROS VENTRE SNOTEL	8750	6/01/12	0	.0	15.3	3.7
HANSEN S.M. SNOTEL	8360	6/01/12		.0	7.4	. 2
HAMS FORK SNOTEL	7840	6/01/12	0	.0	.0	.0
HOBBS PARK SNOTEL	10100	6/01/12	0	.0	25.8	10.1
INDIAN CREEK SNOTEL	9430	6/01/12		.0	38.7	14.7
KELLEY R.S. SNOTEL	8180	6/01/12	0	.0	17.0	1.4
KENDALL R.S. SNOTEL	7740	6/01/12		.0	1.7	.0
KIRWIN SNOTEL	9550	6/01/12		. 0	18.6	5.5
LA PRELE SNOTEL	8380	6/01/12		. 0	2.3	.8
LARSEN CREEK SNOTEL	9020	6/01/12		. 0	8.0	
LEWIS LAKE SNOTEL	7850	6/01/12		10.4	44.2	17.9
LITTLE GOOSE SNOTEL	8870	6/01/12		. 0	17.7	
LITTLE WARM SNOTEL	9370	6/01/12		. 0	15.7	1.9
LOOMIS PARK SNOTEL	8240	6/01/12		. 0	14.2	2.3
MARQUETTE SNOTEL	8760	6/01/12		. 0	14.6	4.2
MIDDLE POWDER SNOTEL	7760	6/01/12	0	. 0	12.1	2.6

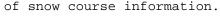
SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
NEW FORK SNOTEL	8340	6/01/12	0	.0	2.8	.0
NORTH FRENCH SNOTEL	10130	6/01/12	0	.1	64.0	23.9
OWL CREEK SNOTEL	8980	6/01/12	0	.0	1.8	.5
PARKERS PEAK SNOTEL	9400	6/01/12	36	15.1	41.6	18.5
PHILLIPS BNCH SNOTE	L 8200	6/01/12	1	1.1	37.3	14.0
POCKET CREEK SNOTEL	9350	6/01/12	0	.0	14.4	
POWDER RVR.PASS SNTI	9480	6/01/12	0	.0	22.8	2.3
RENO HILL SNOTEL	8500	6/01/12	0	.0	10.9	3.4
SALT RIVER SNOTEL	7600	6/01/12	0	.0	8.9	.0
SAND LAKE SNOTEL	10050	6/01/12	20	5.9	57.8	25.8
SANDSTONE RS SNOTEL	8150	6/01/12	5	.5	5.6	.0
SHELL CREEK SNOTEL	9580	6/01/12	43	15.8	29.5	10.4
SNAKE RV STA SNOTEL	6920	6/01/12	0	.0	3.8	.0
SNIDER BASIN SNOTEL	8060	6/01/12	0	.0	10.1	.0
SOLDIER PARK SNOTEL	8780	6/01/12	0	.0	10.9	
SOUTH BRUSH SNOTEL	8440	6/01/12	0	.0	10.5	1.7
SOUTH PASS SNOTEL	9040	6/01/12	0	.0	20.5	6.3
SPRING CRK. SNOTEL	9000	6/01/12	25	9.8	42.7	15.0
ST LAWRENCE ALT SNTI	L 8620	6/01/12	0	.0	1.7	.7
SUCKER CREEK SNOTEL	8880	6/01/12	0	.0	24.0	3.6
SYLVAN LAKE SNOTEL	8420	6/01/12	0	.0	28.1	11.4
SYLVAN ROAD SNOTEL	7120	6/01/12	0	.0	.0	.0
THUMB DIVIDE SNOTEL	7980	6/01/12	0	.0	15.7	1.9
TIE CREEK SNOTEL	6870	6/01/12	0	.0	2.9	.0
TIMBER CREEK SNOTEL	7950	6/01/12	0	.0	1.6	.5
TOGWOTEE PASS SNOTE	9580	6/01/12	44	16.5	42.5	21.9
TOWNSEND CRK SNOTEL	8700	6/01/12	0	.0	7.6	1.7
TRIPLE PEAK SNOTEL	8500	6/01/12	0	.0	33.2	4.8
TWO OCEAN SNOTEL	9240	6/01/12	49	27.7	54.8	25.2
WEBBER SPRING SNOTE	9250	6/01/12	0	.1	28.3	6.5
WHISKEY PARK SNOTEL	8950	5/31/12		.0e	39.4	13.6
WILLOW CREEK SNOTEL	8450	6/01/12	0	.0	41.8	14.3
WINDY PEAK SNOTEL	7900	6/01/12	0	.0	.0	.1
WOLVERINE SNOTEL	7650	6/01/12	0	.0	2.4	.0
YOUNTS PEAK SNOTEL	8350	6/01/12	0	.0	20.4	7.0

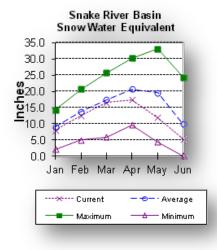
NOTE: Missing snow depth entries indicate the site has no snow depth sensor or the sensor is malfunctioning. Missing data under Average 71-00 indicates the site is relatively new.

## **Snake River Basin**

#### Snow

The Snake River Basin snow water equivalent (SWE) is 53% of average. SWE in the Snake River Basin above Jackson Lake is 72% of average. Pacific Creek Basin SWE is 110% of average. Buffalo Fork SWE is 75% of average. Gros Ventre River Basin SWE is 64% of average. SWE in the Hoback River drainage is 46% of average. SWE in the Greys River drainage is 42% of average. In the Salt River area SWE is 0% of average. SWE in the Snake River Basin above Palisades is 53% of average. See the "Basin Summary of Snow Course Data" at the beginning of this report for a detailed listing





## Precipitation

Precipitation across the basin was below average last month. Monthly precipitation for the basin was 93% of average (58% of last year). Last month's percentages range from 65-136% of average for the 16 reporting stations. Water-year-to-date precipitation is 92% of average for the Snake River Basin (71% of last year). Year-to-date percentages range from 67-107% of average.

#### Reservoir

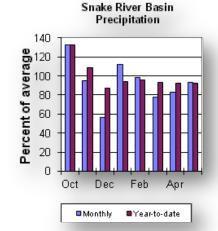
Current reservoir storage is 124% of average for the 3 storage reservoirs in the basin. Grassy Lake storage is about 107%

of average (15,400 ac-ft compared to 15,100 last year). Jackson Lake storage is 141% of average (809,100 ac-ft compared to 366,800 ac-ft last year). Palisades Reservoir storage is about

114% of average (1,180,900 ac-ft compared to 511,600 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% exceedance forecasts for June through September are below average for the basin. The Snake near Moran is 505,000 ac-ft (87% of average). Snake River above reservoir near Alpine is 1,470,000 ac-ft (80% of average). The Snake near Irwin is 1,900,000 ac-ft (76% of average). The Snake near Heise is 2,040,000 ac-ft (77% of average). Pacific Creek near Moran is 101,000 ac-ft (95% of average). Buffalo Fork above Lava near Moran is 250,000



ac-ft (93% of average). Gros Ventre River at Kelly is 158,000 ac-ft (97% of average). Greys River above Palisades Reservoir is 167,000 ac-ft (68% of average). Salt River near Etna is 151,000 ac-ft (63% of average). See the following page for detailed runoff volumes.

#### **Snake River Basin**

Streamflow Forecasts - June 1, 2012

=========		======	=======	=======		=======	========
	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
Forecast Pt	======	======	Chance of	Exceeding	g * =====	======	
Forecast	90%	70%	5	0%	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF	)   (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Snake R nr Mo	oran (1,2)						
JUN-JUL	320	390	425	87	460	530	490
JUN-SEP	375	465	505	87	545	635	580
Snake R nr Al	lpine (1,2	)					
JUN-JUL	900	1080	1160	79	1240	1420	1470
JUN-SEP	1130	1360	1470	80	1580	1810	1840
Snake R nr I:	rwin (1,2)						
JUN-JUL	1100	1370	1490	76	1610	1880	1950
JUN-SEP	1460	1760	1900	76	2040	2340	2500
Snake R nr He	eise (2)						
JUN-JUL	1250	1440	1570	77	1700	1890	2050
JUN-SEP	1660	1890	2040	77	2190	2420	2650
Pacific Ck at	. Moran						
JUN-JUL	63	82	95	95	108	127	100
JUN-SEP	68	88	101	95	114	134	106
Buffalo Fork	ab Lava n	r Moran					
JUN-JUL	166	192	210	93	230	255	225
JUN-SEP	197	230	250	93	270	305	270
Gros Ventre F	R at Kelly						
JUN-JUL	58	92	115	97	138	172	119
JUN-SEP	91	131	158	97	185	225	163
Greys R nr Al	lpine						
JUN-JUL	105	119	128	68	137	151	188
JUN-SEP	134	154	167	68	180	200	245
Salt R nr Etr	na						
JUN-JUL	44	78	101	62	124	158	162
JUN-SEP	75	120	151	63	182	225	240

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

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

#### SNAKE RIVER BASIN

Reservoir Storage (1000AF) End of May

		========	==========	========
	Usable	******	Usable Storage	*****
Reservoir	Capacity	This Year	Last Year	Average
=======================================			==========	
Grassy Lake	15.2	15.4	15.1	14.4
Jackson Lake	847.0	809.1	366.8	572.6
Palisades	1400.0	1180.9	511.6	1033.6
=======================================		========	==========	

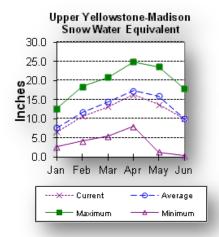
## SNAKE RIVER BASIN

	Number of	This Year as	Percent of
Watershed	Data Sites	Last Year	Average
SNAKE above Jackson Lake	5	26	72
PACIFIC CREEK	2	43	110
BUFFALO FORK	1	39	75
GROS VENTRE RIVER	3	23	64
HOBACK RIVER	5	14	46
GREYS RIVER	4	14	42
SALT RIVER	3	0	0
SNAKE above Palisades	18	17	53

#### **Yellowstone & Madison River Basins**

#### Snow

Snow water equivalent (SWE) is at 116% of average in the Madison drainage. SWE in the Yellowstone drainage is at 85% of average. See the "Basin Summary of Snow Course Data" at the front of this report for details.



#### Precipitation

Last month precipitation in the Madison and Yellowstone drainage was about 110% of average (68% of last year). The 5 reporting stations percentages range from 81-154% of average. Water-year-to-date precipitation is about 111% of average (78% of last year's amount). Year to date percentage ranges from 98-137%.

#### Reservoir

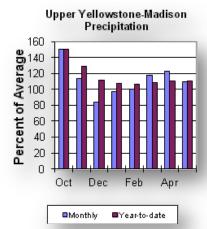
Hebgen Lake is storing about 331,100 ac-ft

of water (88% of capacity, 105% of average or 111% of last year's

volume). Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

#### Streamflow

The 50% exceedance forecasts for June through September are near average for the basins. Yellowstone at Lake Outlet is 655,000 ac-ft (94% of average). Yellowstone at Corwin Springs will yield around 1,410,000 ac-ft (97% of average). Yellowstone near Livingston will yield around 1,620,000 ac-ft (95% of average). Hebgen Reservoir inflow is 290,000 ac-ft (94% of average). See the following page for detailed runoff volumes.



## **Yellowstone & Madison River Basins**

Streamflow Forecasts - June 1, 2012

	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
						į	
Forecast Pt	======	======	Chance of	Exceeding	* =====	======	
Forecast	90%	70%	50	) 응	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========		=======	=======	=======	=======	=======	========
Yellowstone F	R at Yello						
$\mathtt{JUN}\mathtt{-JUL}$	395	440	470	97	500	545	485
JUN-SEP	545	610	655	94	700	765	695
Yellowstone F	R at Corwi	n Springs	3				
JUN-JUL	920	1040	1120	98	1210	1330	1140
JUN-SEP	1140	1300	1410	97	1520	1680	1460
Yellowstone F	R at Livin	gston					
$\mathtt{JUN}\mathtt{-JUL}$	1030	1180	1280	98	1380	1530	1310
JUN-SEP	1290	1490	1620	95	1750	1950	1700
Hebgen Reserv	oir Inflo	w (2)					
JUN-JUL	141	167	184	92	200	225	200
JUN-SEP	240	270	290	94	310	340	310

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

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

\_\_\_\_\_\_

## UPPER YELLOWSTONE & MADISON RIVER BASINS

Reservoir Storage (1000AF) End of May

	========			
	Usable	******	Usable Storage	*****
Reservoir	Capacity	This Year	Last Year	Average
=======================================	=========	:======::	==========	========
ENNIS LAKE		NO REI	PORT	
HEBGEN LAKE	377.5	331.1	297.0	314.7
=======================================	=========	.=======	==========	

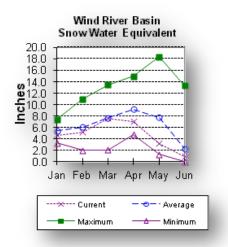
#### UPPER YELLOWSTONE & MADISON RIVER BASINS

=======================================		==========	========
	Number of	This Year as P	ercent of
Watershed	Data Sites	Last Year	Average
=======================================	===========	==========	=========
MADISON RIVER in WY	5	38	116
YELLOWSTONE RIVER in WY	8	36	85
		==========	========

#### Wind River Basin

#### Snow

The Wind River Basin above Boysen Reservoir is 41% of average for snow water equivalent at this time of the year. SWE in the Wind River above Dubois is 65% of average. The Little Wind SWE is 0% of average, and the



Popo Agie drainage SWE is about 0% of average. See the "Basin Summary of Snow Course Data" at the front of this report for details.

#### Precipitation

Last month's precipitation in the basin varied from 27-138% of average. Precipitation, for the basin, was about 84% of average from the 8 reporting stations; that is about 34% of last year's amount. Water year-to-date precipitation is 80% of average and about 65% of last year at this time. Year-to-date percentages range from 60-97% of average.

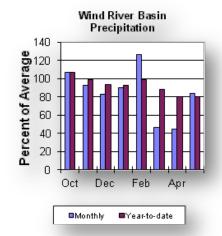
#### Reservoirs

Current storage varies from 79-118% of average. Current storage in Bull Lake is about 112,100 ac-ft (118% of average) - the reservoir is at 177%

of last year. Boysen Reservoir is storing about 100% of average (563,500 ac-ft) - the reservoir is about 133% of last year. Pilot Butte is at 79% of average (19,200 ac-ft) - the reservoir is at 93% of 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% exceedance forecasts for the June through September runoff period for the basin are well below average. Dinwoody Creek near Burris is 66,000 ac-ft (83% of average). The Wind River above Bull Lake Creek is 200,000 ac-ft (48% of average). Bull Lake Creek near Lenore is 95,000 ac-ft (63% of average). Wind River at Riverton



will yield around 189,000 ac-ft (38% of average). Little Popo Agie River near Lander is around 15,400 ac-ft (43% of average). South Fork of Little Wind near Fort Washakie will yield around 40,000 ac-ft (62% of average). Little Wind River near Riverton will yield around 78,000 ac-ft (35% of average). Boysen Reservoir inflow will yield around 131,000 ac-ft (22% of average). See the following page for detailed runoff volumes.

## Wind River Basin

Streamflow Forecasts - June 1, 2012

=========		=======		=======	-======	=======	========
	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
Forecast Pt	1			_			
Forecast	90%	70%	50	)%	30%	10%	30 Yr Avg
			) (1000AF)				
		=======	=======	=======	======	=======	========
Dinwoody Ck 1							
JUN-JUL	33	38	42	79	46	51	53
JUN-SEP	53	61	66	83	71	79	80
Wind R ab Bul	ll Lake Ck	(2)					
JUN-JUL	37	94	133	42	172	230	315
JUN-SEP	91	156	200	48	245	310	415
Bull Lake Ck	nr Lenore	(2)					
JUN-JUL	49	63	73	62	83	97	118
JUN-SEP	63	82	95	63	108	127	152
Wind R at Riv	verton (2)						
JUN-JUL	53	109	147	37	185	240	400
JUN-SEP	74	142	189	38	235	305	500
Little Popo A	Agie R nr	Lander					
JUN-JUL	4.2	8.1	10.7	37	13.3	17.2	29
JUN-SEP	8.0	12.4	15.4	43	18.4	23	36
SF Little Win	nd R nr Fo	rt Washal	cie				
JUN-JUL	16.4	26	33	61	40	50	54
JUN-SEP	21	32	40	62	48	59	65
Little Wind H	R nr River	ton					
JUN-JUL	19.0	40	59	31	95	148	188
JUN-SEP	22	36	78	35	120	183	225
Boysen Reserv	voir Inflo	w (2)					
JUN-JUL	19.0	33	107	21	181	290	516
JUN-SEP	25	40	131	22	225	360	609
=========		:=======				=======	========

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

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

## WIND RIVER BASIN

Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	******** This Year	Usable Storage Last Year	****** Average
BULL LAKE	151.8	112.1	63.4	95.3
BOYSEN	596.0	563.5	423.2	566.0
PILOT BUTTE	31.6	19.2	20.7	24.2
		:=======:		========

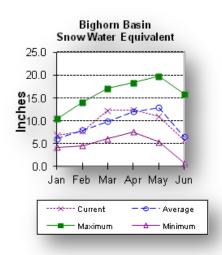
## WIND RIVER BASIN

	Number of	This Year as Pe	
Watershed	Data Sites	Last Year	Average
=======================================	===========		=========
WIND RIVER above Dubios	4	20	65
LITTLE WIND	2	0	0
POPO AGIE	4	0	0
WIND above Boysen Resv	8	12	41

## **Bighorn River Basin**

#### Snow

The Bighorn River Basin SWE above Bighorn Reservoir is at 89% of average. The Nowood River is at 0% of average. The Greybull River SWE is at 0% of average. Shell Creek SWE is 116% of average. See the "Basin Summary of Snow Course Data" at the front of this report for details.



#### Precipitation

Last month's precipitation was 103% of average (49% of last year). Sites ranged from 73-155% of average for the month. Year-to-date precipitation is 102% of average; that is 75% of last year at this time. Year-to-date percentages, from the 10 reporting stations, range from 76-119%.

#### Reservoir

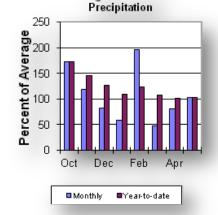
Boysen Reservoir is currently storing 563,500 ac-ft (100% of average). Bighorn Lake is now at 831,600 ac-ft (96% of

average). Boysen is currently storing 133% of last year volume at this time

and Big Horn Lake is storing 87% of last year's volume. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

### Streamflow

The 50% exceedance forecasts for the May through September runoffs are anticipated to be below average. Boysen Reservoir inflow should yield 131,000 ac-ft (22% of average); the Greybull River near Meeteetse should yield around 86,000 ac-ft (53% of average); Shell Creek near Shell should yield around 52,000 ac-ft (100% of average) and the Bighorn River at Kane should yield around



Bighorn Basin

192,000 ac-ft (25% of average). See the following page for detailed runoff volumes.

## **Bighorn River Basin**

Streamflow Forecasts - June 1, 2012

=========		=======	=======		-=======	=======	========
	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
Forecast Pt	======	======	Chance of	Exceeding	a	======	
Forecast	90%	70%	50	) 응	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
========		=======	=======	=======	=======	=======	========
Boysen Reserv							
JUN-JUL	19.0	33	107	21	181	290	516
JUN-SEP	25	40	131	22	225	360	609
Greybull R ni	r Meeteets	e					
JUN-JUL	33	48	58	53	68	83	110
JUN-SEP	53	73	86	53	99	119	163
Shell Ck nr S	Shell						
JUN-JUL	30	36	40	100	44	50	40
JUN-SEP	41	47	52	100	57	63	52
Bighorn R at	Kane (2)						
JUN-JUL	27	85	182	27	280	425	675
JUN-SEP	30	70	192	25	315	495	785

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

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

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

## BIGHORN RIVER BASIN Reservoir Storage (1000AF) End of May

BOYSEN 596.0 563.5 423.2 566.0 BIGHORN LAKE 1356.0 831.6 956.3 867.1	Reservoir	Usable Capacity	******** This Year	Usable Storage Last Year	******* Average
		370.0	505.5	123.2	566.0 867.1

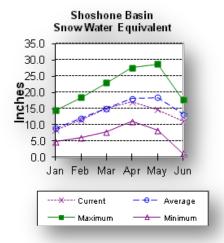
#### BIGHORN RIVER BASIN

	Number of	This Year as Pe	ercent of
Watershed	Data Sites	Last Year	Average
=======================================		=======================================	========
NOWOOD RIVER	2	0	0
GREYBULL RIVER	2	0	0
SHELL CREEK	3	39	116
BIGHORN (Boysen-Bighorn)	7	26	89
=======================================		=======================================	.=========

#### **Shoshone & Clarks Fork River Basins**

#### Snow

Snowpack in these basins is below average for this time of year. Snow Water Equivalent (SWE) is 59% of average in the Shoshone River Basin. The Clarks Fork River Basin SWE is 109% of average. See the "Basin



Summary of Snow Course Data" at the front of this report for details.

#### Precipitation

Precipitation for last month was 112% of average (65% of last year). Monthly percentages range from 67-137% of average. The basin year-to-date precipitation is now 112% of average (81% of last year). Year-to-date percentages range from 87-137% of average for the 8 reporting stations.

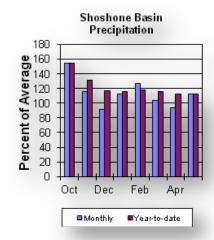
#### Reservoir

Current storage in Buffalo Bill Reservoir is about 127% of average (160% of last year's storage) - the reservoir is at

about 78% of capacity. Currently, about 502,900 ac-ft are stored in the reservoir compared to 313,900 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% exceedance forecasts for the June through September period are expected to be below average for the basin. The North Fork Shoshone River at Wapiti is 370,000 ac-ft (101% of average). The South Fork of the Shoshone River near Valley is 182,000 ac-ft (87% of average), and the South Fork above Buffalo Bill Reservoir runoff is 145,000 ac-ft (83% of average). The Buffalo Bill Reservoir inflow is expected to yield around 520,000 ac-ft (87% of



average). The Clarks Fork of the Yellowstone near Belfry is expected to yield 515,000 ac-ft (116% of average). See the following page for detailed runoff volumes.

## **Shoshone & Clarks Fork River Basins**

Streamflow Forecasts - June 1, 2012

=========		=======	=======	=======	=======	=======	========
	<=== Dr	ier ===	Future Co	nditions	=== Wett	er ===>	
Forecast Pt	!		Chance of	_			
Forecast	90%	70%	50		30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=======================================	=======	=======	=======	=======	======	=======	========
NF Shoshone I	-		215	100	225	250	205
JUN-JUL	255	290	315	103	335	370	305
JUN-SEP	295	340	370	101	395	440	365
SF Shoshone I	nr valle	· ·					
SF Shoshone I	124	y 140	150	87	160	176	172
JUN-SEP	148	168	182	87	196	215	210
JUN-SEP	140	100	102	0 /	190	215	210
SF Shoshone I	R ah Buffa	lo Bill R	- A				
JUN-JUL	95	121	138	85	155	181	163
JUN-SEP	95	125	145	83	165	195	174
0011 021	, ,	123	113	03	103	173	1,1
Buffalo Bill	Reservoir	Inflow (	2)				
JUN-JUL	345	410	450	87	490	555	515
JUN-SEP	390	465	520	87	575	650	595
Clarks Fk Ye	llowstone	R nr Belf	ry				
JUN-JUL	390	430	455	117	480	520	390
JUN-SEP	430	480	515	116	550	600	445

<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.

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

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

SHOSHONE & CLARKS FORK RIVER BASINS

Reservoir Storage (1000AF) End of May

Reservoir	Usable	********	Usable Storage	*******
	Capacity	This Year	Last Year	Average
BUFFALO BILL	646.6	502.9	313.9	395.7

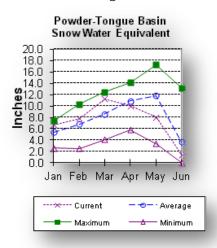
SHOSHONE & CLARKS FORK RIVER BASINS Watershed Snowpack Analysis - June 1, 2012

		:=========	========
	Number of	This Year as Per	rcent of
Watershed	Data Sites	Last Year	Average
	================	:========::	========
SHOSHONE RIVER	6	30	59
CLARKS FORK in WY	7	59	109
=======================================	=======================================	:==========	========

## **Powder and Tongue River Basins**

#### Snow

Snow water equivalent (SWE) in the Upper Tongue River drainage is 79% of average. The Goose Creek drainage is 0% of average. SWE in the Clear Creek drainage is 0% of average. Crazy Woman Creek drainage is 0% of



average. Upper Powder River drainage SWE is 0% of average. Powder River Basin SWE in Wyoming is 0% of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

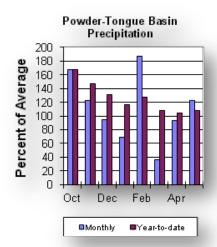
Last month's precipitation was 122% of average for the 9 reporting stations (55% of last year). Monthly percentages range from 83-161% of average. Year-to-date precipitation is 108% of average in the basin; this is 78% of last year at this time. Precipitation for the year ranges from 94-119% of average.

#### Reservoir

The Tongue River Reservoir currently is storing 169% of average (81,000 ac-ft) compared to 99% of last year's storage.

#### Streamflow

The 50% exceedance forecasts for the June through September period are expected to be well below average for the basins. The yield for Tongue River near Dayton is 50,000 ac-ft (70% of average). Big Goose Creek near Sheridan is 35,000 ac-ft (80% of average). Little Goose Creek near Bighorn is 22,000 ac-ft (76% of average). The Tongue River Reservoir Inflow is 102,000 ac-ft (67% of average). The Middle Fork of the Powder River near Barnum is 4,800 ac-ft (70% of average). The North Fork of the Powder River near Hazelton should yield around 4,600 ac-ft (78% of average). Rock Creek near Buffalo will yield about 12,500 acft (79% of average), and Piney Creek at Kearny should yield about 25,000 ac-ft (78% of average). The Powder River at Moorehead is 92,000 ac-ft (72% of average). The Powder River near Locate is 101,000 ac-ft (72% of



average). See the following page for detailed runoff volumes.

## **Powder & Tongue River Basins**

Streamflow Forecasts - June 1, 2012

=========	~ ========	=======	========	=======	:=======	_	========
	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
Forecast Pt	=======	======	Chance of	Exceeding	g * =====	======	
Forecast	90%	70%	50	)%	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF	') (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Tongue R nr I	Dayton (2)						<u>.</u>
JUN-JUL	28	38	44	76	50	60	58
JUN-SEP	31	42	50	70	58	69	71
Big Goose Ck	nr Sherid	.an					
JUN-JUL	17.8	23	27	77	31	36	35
JUN-SEP	25	31	35	80	39	45	44
Little Goose	_						
JUN-JUL	10.4	13.2	15.1	72	17.0	19.8	21
JUN-SEP	15.5	19.4	22	76	25	28	29
Tongue River	Reservoir	Inflow	(2)				
JUN-JUL	44	71	89	71	107	134	126
JUN-SEP	46	80	102	67	124	158	153
MF Powder R 1							
JUN-JUL	1.2	2.2	3.9	66	5.7	8.2	5.9
JUN-SEP	1.7	3.0	4.8	70	6.6	9.2	6.9
NF Powder R 1							
JUN-JUL	1.8	3.1	4.0	78	4.8	6.1	5.1
JUN-SEP	2.2	3.7	4.6	78	5.6	7.0	5.9
Rock Ck nr Bı							
JUN-JUL	5.0	7.6	9.3	78	11.0	13.6	12.0
JUN-SEP	7.4	10.4	12.5	79	14.6	17.6	15.9
Piney Ck at B	-						
JUN-JUL	10.6	17.4	22	76	27	33	29
JUN-SEP	11.6	19.6	25	78	30	38	32
Powder R at 1							
JUN-JUL	19.0	51	73	70	95	127	105
JUN-SEP	26	65	92	72	119	158	128
Powder R nr 1							
JUN-JUL	9.0	52	81	70	110	153	116
JUN-SEP	10.0	64	101	72	138	192	141

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

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

#### POWDER & TONGUE RIVER BASINS Reservoir Storage (1000AF) End of May

Usable \*\*\*\*\*\*\*\*\* Usable Storage \*\*\*\*\*\*\*\*
Reservoir Capacity This Year Last Year Average
TONGUE RIVER 79.1 81.2 81.6 48.0

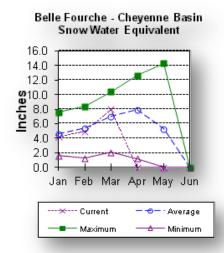
POWDER & TONGUE RIVER BASINS

	Number of	This Year as	Percent of
Watershed	Data Sites	Last Year	Average
UPPER TONGUE RIVER	7	17	79
GOOSE CREEK	2	0	0
CLEAR CREEK	2	0	0
CRAZY WOMAN CREEK	1	0	0
UPPER POWDER RIVER	3	0	0
POWDER RIVER in WY	5	0	0

## **Belle Fourche and Cheyenne River Basins**

#### Snow

The Belle Fourche & Cheyenne River Basins are melted out so the SWE is 0%



of average at this time. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

Precipitation for last month was 99% of average or 49% of last year in the Black Hills. There were 2 reporting stations. Monthly percentages range from 70-146%. Year-to-date precipitation is 94% of average and 57% of last year's amount. Yearly percentages range from 88-101% of average.

#### Reservoir

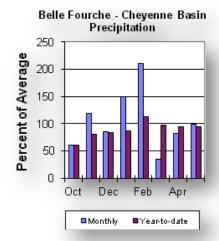
Current reservoir storage is about 107% of average in the basin. Angostura is currently storing 87% of average (101,900

ac-ft), about 83% of capacity. Belle Fourche reservoir is storing 106% of average (161,400 ac-ft), about 90% of capacity. Deerfield reservoir is storing 112% of average (15,200 ac-ft), about 100% of capacity. Keyhole reservoir is storing 152% of average (180,800 ac-ft), about 93%

of capacity. Pactola reservoir is storing 114% of average (55,500 ac-ft), about 101% of capacity. Shadehill reservoir is storing 63% of average (43,000 ac-ft), about 53% of capacity. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

#### Streamflow

The following runoff values are the 50% exceedance forecasts for the June through July period. The Deerfield Reservoir Inflow is expected to be 1,150 ac-ft (50% of average). Pactola Reservoir Inflow is expected to yield around 5,100 ac-ft (47% of average). See the following page for detailed runoff volumes.



## **Belle Fourche & Cheyenne River Basins**

Streamflow Forecasts - June 1, 2012

=========	========		=======	=======	=======	========	========
	<=== Dri	ler === F	uture Co	nditions	=== Wett	er ===>	
Forecast Pt	'   ========	====== (	hance of	Exceeding	r * =====	======	
Forecast	90%		50	7	•	!	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========	========	:======	=======	=======	=======	=======	========
Deerfield Res	servoir Inf	flow (2)					
JUN-JUL	0.5	0.9	1.1	50	2.4	4.4	2.3
Pactola Reser	rvoir Inflo	ow (2)					
JUN-JUL	1.7	3.1	5.1	47	11.7	21	10.8

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

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

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BELLE FOURCHE & CHEYENNE RIVER BASINS

Reservoir Storage (1000AF) End of May

=======================================		========	==========	
	Usable	******	Usable Storage	*****
Reservoir	Capacity	This Year	Last Year	Average
=======================================	========	========	==========	========
ANGOSTURA	122.1	101.9	109.0	117.2
BELLE FOURCHE	178.4	161.4	174.2	152.3
DEERFIELD	15.2	15.2	15.7	13.6
KEYHOLE	193.8	180.8	169.6	118.9
PACTOLA	55.0	55.5	58.6	48.6
SHADEHILL	81.4	43.0	87.5	68.7

BELLE FOURCHE & CHEYENNE RIVER BASINS

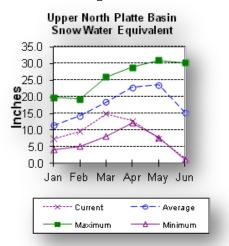
Watershed	Number of Data Sites	This Year as P Last Year	Percent of Average
BELLE FOURCHE	2	0	0

<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 SNOTELS above Seminoe Reservoir are showing about 10% of average (SWE) for this time of the year. SWE in the drainage area above Northgate is 14% of average at this time. SWE in the Encampment River drainage is about 0% of average. Brush Creek SWE for the year is about 0% of average. Medicine Bow and Rock Creek drainages SWE are about 16%



of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

Seven reporting stations show last month's precipitation at 50% of average or 39% of last year's amount. Precipitation varied from 36-63% of average last month. Total water-year-to-date precipitation is about 76% of average for the basin, which is about 49% of last year's amount. Year to date percentage ranges from 61-91% of average.

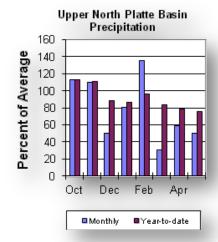
#### Reservoirs

Seminoe Reservoir is estimated to be

storing 824,200 ac-ft or 81% of capacity. Seminoe Reservoir is also storing about 125% of average for this time of the year and 190% of 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 following yields are the 50% exceedance forecasts for the June through September period and are expected to be extremely low for the Upper North Platte River Basin. Yield for the North Platte River near Northgate will be around 36,000 ac-ft (23% of average). The Encampment River near Encampment is 31,000 ac-ft (29% of average). Rock Creek near Arlington is 15,100 ac-ft (37% of average). Seminoe Reservoir inflow should be around 100,000 ac-ft (20% of average). See the following table for more detailed information on projected runoff.



## **Upper North Platte River Basin**

Streamflow Forecasts - June 1, 2012

=========		======			======	=======	========
	<=== Dr	ier ===	Future Co	nditions	=== Wett	er ===>	
Forecast Pt	======	======	Chance of	_	* =====		
Forecast	90%	70%	50	* 1	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF	r) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========			=======	=======	=======	=======	========
North Platte		_					
JUN-JUL	6.0	11.0	29	22	47	73	133
JUN-SEP	10.0	14.0	36	23	58	90	159
	_						
Encampment R	_		0.0	0.0	20	<b>5</b> 4	0.0
JUN-JUL	4.2	19.0	29	29	39	54	99
JUN-SEP	4.0	20	31	29	42	58	108
Rock Ck nr Aı	clington						
JUN-JUL	6.1	10.4	13.3	35	16.2	21	38
JUN-SEP	7.2	11.9	15.1	37	18.3	23	41
Sweetwater R	nr Alcova	L					
JUN-JUL	0.8	1.7	5.6	17	10.4	17.4	33
JUN-SEP	1.0	2.4	8.2	21	14.0	22	39
	63	(0)					
Seminoe Reser		( )					
JUN-JUL	22	36	80	18	138	225	435
JUN-SEP	29	46	100	20	171	275	500

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

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

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## UPPER NORTH PLATTE RIVER BASIN

Reservoir Storage (1000AF) End of May

******	Storage ****	***
s Year Last	Year Ave	erage
324.2 4	33.6 65	8.3
: :	s Year Last	=======================================

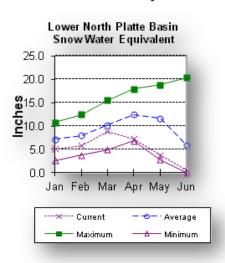
#### UPPER NORTH PLATTE RIVER BASIN

Watershed	Number of	This Year as P	ercent of
	Data Sites	Last Year	Average
N PLATTE above Northgate	5 2	4	11
ENCAMPMENT RIVER BRUSH CREEK	3	4	11
	2	0	0
MEDICINE BOW & ROCK CREEKS N PLATTE above Seminoe	2	6	16
	13	4	10

## Lower North Platte, Sweetwater & Laramie River Basins

#### Snow

SWE for the North Platte River Basin is at 9% of average. The Sweetwater drainage SWE is currently at 0% of average. Deer and LaPrele Creek SWE are at 0% of average. SWE for the North Platte above the Laramie River drainage is 9% of average. SWE for the Laramie River above Laramie is 5% of average. SWE for the Little Laramie River is 0% of average. The Laramie River above mouth, SWE is 4% of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.



#### Precipitation

Last month's precipitation was 41% of average or 28% of last year's amount. Of the 8 reporting stations, percentages for the month range from 25-75%. The water year-to-date precipitation for the basin is currently 81% of average (64% of last year). Year-to-date percentages range from 60-111% of average.

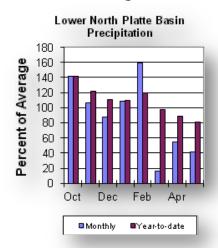
#### Reservoir

The Lower North Platte & Laramie River Basins reservoir storage is above average at 104%. Reservoir storage is as follows: Alcova 180,400 ac-ft (101% of average); Glendo 391,100 ac-ft (78% of average); Guernsey 28,800 ac-ft (80% of average);

Pathfinder 815,200 ac-ft (105% of average); Seminoe 824,200 ac-ft (125% of average); and Wheatland #2 62,200 ac-ft (105% of average):

#### Streamflow

The 50% exceedance forecasts for the June through September period are expected to be very low. The Sweetwater River near Pathfinder is forecast to yield about 8,200 ac-ft (21% of average). Deer Creek at Glenrock is forecast to yield 2,400 ac-ft (39% of average). LaPrele Creek above the reservoir is forecast to yield 1,240 ac-ft (24% of average). North Platte - Alcova to Orin Gain is forecast to yield -5,000 ac-ft (-20% of average). North Platte River below Glendo Reservoir is 103,000 ac-ft (22% of average), and below Guernsey Reservoir is anticipated to yield around 129,000 ac-ft (26%



of average). Laramie River near Woods Landing should yield around 30,000 ac-ft (34% of average). The Little Laramie near Filmore should produce about 12,000 ac-ft (26% of average). See the following table for more detailed information on projected runoff.

## Lower North Platte, Sweetwater & Laramie River Basins

Streamflow Forecasts - June 1, 2012

=========	=======	======	========	=======	=======	=======	========
	<=== Dr	rier ===	Future Co	nditions	=== Wett	er ===>	
Forecast Pt	======		Chance of	Exceeding	* =====	======	
Forecast	90%	70%	50	)왕	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF	) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========	=======	======	========	=======	=======	========	
Sweetwater R	nr Alcova	ı					
JUN-JUL	0.8	1.7	5.6	17	10.4	17.4	33
JUN-SEP	1.0	2.4	8.2	21	14.0	22	39
Deer Ck at G	lenrock						
JUN-JUL	0.3	0.8	2.0	36	4.9	9.2	5.5
JUN-SEP	0.3	1.0	2.4	39	5.1	9.1	6.1
La Prele Ck a	ab La Prel	e Reserv	oir				
JUN-JUL	0.2	0.4	1.1	22	2.8	5.3	4.9
JUN-SEP	0.2	0.4	1.2	24	2.9	5.4	5.2
North Platte	R-Alcova	to Orin	Gain				
JUN-JUL	-24.0	-16.0	-5.0	-20	9.6	31	25
North Platte	R bl Gler	ndo Res (	2)				
JUN-JUL	19.0	32	77	18	122	189	440
JUN-SEP	20	55	103	22	151	220	470
North Platte	R bl Guer	nsey Res	(2)				
JUN-JUL	-45.0	35	89	20	143	225	450
JUN-SEP	-18.0	70	129	26	188	275	500
Laramie R nr	Woods						
JUN-JUL	3.1	16.1	25	33	34	47	77
JUN-SEP	4.9	19.8	30	34	40	55	89
Little Laram:	ie R nr Fi	lmore					
JUN-JUL	4.0	6.3	10.0	24	13.7	19.1	42
JUN-SEP	1.3	7.7	12.0	26	16.3	23	47
JUN-SEP							

<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.
- (3) Median value used in place of average.

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

=======================================	=========			
	Usable	******	Usable Storage	*****
Reservoir	Capacity	This Year	Last Year	Average
	=========		==========	
ALCOVA	184.3	180.4	180.6	178.8
GLENDO	506.4	391.1	505.3	503.4
GUERNSEY	45.6	28.8	27.4	36.2
PATHFINDER	1016.5	815.2	1037.8	775.1
SEMINOE	1016.7	824.2	433.6	658.3
WHEATLAND #2	98.9	62.2	20.3	59.0
	=========		==========	

LOWER NORTH PLATTE, SWEETWATER & LARAMIE RIVER BASINS
Watershed Snowpack Analysis - June 1, 2012

Number of This Year as Percent of Data Sites Last Year Watershed SWEETWATER 0 2 0 DEER & Laprele Creeks 2 0 N PLATTE abv Laramie R. 17 3 9 LARAMIE RIVER abv Laramie 5 0 0 2 LITTLE LARAMIE RIVER Ω 0 LARAMIE RIVER above mouth 6 0 0

17

NORTH PLATTE

3

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

#### Little Snake River Basin

#### Snow

Currently, snow water equivalent (SWE) in the Little Snake River drainage

Little Snake Basin Snow Water Equivalent 45.0 40.0 35.0 **3**0.0 **2**25.0 <u>ਹ</u>20.0 15.0 10.0 5.0 0.0 Jan Feb Mar Apr May Jun ---\*--- Current - - Average Maximum Minimum is 3% of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

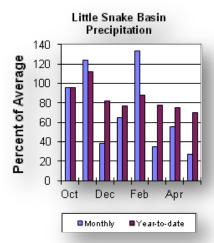
Precipitation across the basin was 27% of average (19% of last year) for the 4 reporting stations. Last month's precipitation ranged from 3-44% of average. The Little Snake River basin water-year-to-date precipitation is currently 70% of average (47% of last year). Year-to-date percentages range from 56-79% of average.

#### Reservoir

High Savery Dam - 17,500 ac-ft

#### Streamflow

The 50% exceedance forecast for the June through July time frame on the Little Snake River drainage is expected to be extremely low maybe historically below average this year. The Little Snake River near Slater should yield around 9,000 ac-ft (13% of average). The Little Snake River at Savery is estimated to yield around 12,000 ac-ft (9% of average). See the following table for more detailed information on projected runoff.



## Little Snake River Basin

Streamflow Forecasts - June 1, 2012

=========	========	=======	========	=======	=======	========	=========
	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
Forecast Pt	ı   =======	======	Chance of	Exceeding	* =====	=======	
Forecast	90%	70%		0%	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF)	(% AVG.)		(1000AF)	_
=========	=======	=======	:======	=======	=======	=======	========
Little Snake	R nr Slat	er (2)					
APR-JUL	67	70	73	46	77	83	159
JUN-JUL	2.7	6.0	9.0	13	12.6	18.9	71
Little Snake	R nr Save	ry (2)					
APR-JUL	98	103	109	33	117	132	330
JUN-JUL	1.0	6.0	12.0	9	20	35	133

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

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

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

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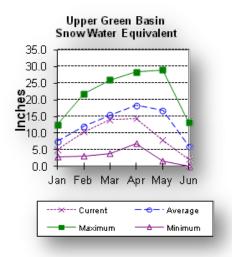
LITTLE SNAKE RIVER BASIN

Watershed	Number of Data Sites	This Year as I	Percent of Average
LITTLE SNAKE RIVER	6	4	11

## **Upper Green River Basin**

#### Snow

SWE in the Green River Basin above Warren Bridge is about 23% of average.



SWE for the West Side of Upper Green River Basin is about 42% of average. Newfork River Basin SWE is now about 0% of average. Big Sandy-Eden Valley Basin is 0% of average. SWE in the Green River Basin above Fontenelle Reservoir is about 35% of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

The 11 reporting precipitation sites in the basin were 87% of average last month (60% of last year). Last month's precipitation varied from 62-136% of average. Water year-to-date precipitation is about 88% of average (69% of last year). Year to date percentage of average ranges from 74-98%

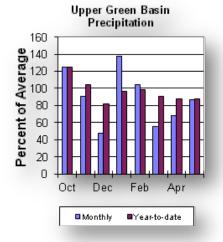
for the reporting stations.

#### Reservoir

Storage in Big Sandy Reservoir is 36,800 ac-ft or 96% of capacity. This is 125% of average. Fontenelle Reservoir is 226,800 ac-ft or 66% of capacity; 125% of average. This is 125% of average for the Upper Green River basin. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

#### Streamflow

The 50% exceedance forecasts for the June through July runoff period in the Upper Green River Basin are forecast to be well below average. The yield on the Green River at Warren Bridge is 105,000 ac-ft (57% of average). Pine Creek



above Fremont Lake is 55,000 ac-ft (66% of average). New Fork River near Big Piney is 150,000 ac-ft (51% of average). Fontenelle Reservoir Inflow is estimated to be 260,000 ac-ft (46% of average), and Big Sandy near Farson is expected to be around 19,000 ac-ft (49% of average). See the following table for more detailed information on projected runoff.

## **Upper Green River Basin**

Streamflow Forecasts - June 1, 2012

=========		======		:=======	======	=======	=======
	<=== Dr	ier ===	Future Co	nditions	=== Wett	er ===>	
						ļ	
Forecast Pt	======		Chance of	~		!	
Forecast	90%	70%	50		30%		30 Yr Avg
Period	(1000AF)	(1000AF)	) (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Green R at Wa	erren Brid	ae =======	=======	=======	======	=======	=======
APR-JUL	162	174	183	69	192	220	265
JUN-JUL		96	105	57	114	140	186
001. 002	0 -	20	100	3,			100
Pine Ck ab Fr	remont Lak	е					
APR-JUL	68	76	82	79	88	98	104
JUN-JUL	41	49	55	66	61	71	84
New Fork R ni	Big Pine	У					
APR-JUL	220	245	265	67	280	315	395
JUN-JUL	107	132	150	51	169	200	293
Fontenelle Re	eservoir I	nflow (2)	)				
APR-JUL	390	445	490	57	535	615	860
JUN-JUL	160	215	260	46	305	385	570
Big Sandy R r	nr Farson						
APR-JUL	34	38	42	72	46	52	58
JUN-JUL	11.1	15.5	19.0	49	23	29	39

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

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

## UPPER GREEN RIVER BASIN

## Reservoir Storage (1000AF) End of May

=======================================	:=======	========	=========	========
	Usable	******	Usable Storage	*****
Reservoir	Capacity	This Year	Last Year	Average
=======================================		========	=========	========
BIG SANDY	38.3	36.8	27.9	29.4
FONTENELLE	344.8	226.8	119.4	181.9
=======================================	=========	========	==========	========

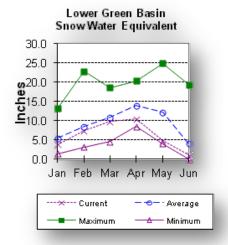
#### UPPER GREEN RIVER BASIN

=======================================	:===========	.============	========
	Number of	This Year as P	ercent of
Watershed	Data Sites	Last Year	Average
	:==========		========
GREEN above Warren Bridge	5	5	23
UPPER GREEN (West Side)	5	13	42
NEWFORK RIVER	2	0	0
BIG SANDY/EDEN VALLEY	1	0	0
GREEN above Fontenelle	11	10	35

#### **Lower Green River Basin**

#### Snow

SWE in the Green River Basin above Flaming Gorge is 28% of average. SWE in the Hams Fork Basin is 0% of average. Blacks Fork Basin SWE is currently 0% of average. In the Henrys Fork drainage SWE is 0%. For



more information see "Basin Summary of Snow Course Data" at the beginning of this report.

### Precipitation

Precipitation for the 3 reporting stations during last month was at 79% of average or 50% of last year. Precipitation ranged from 64-92% of average for the month. The basin year-to-date precipitation is currently 73% of average (58% of last year). Year-to-date percentages range from 71-77% of average.

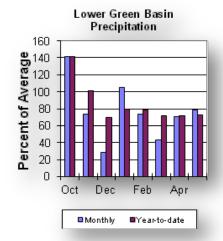
#### Reservoirs

Fontenelle Reservoir is currently storing 226,800 ac-ft; this is 125% of average (190% of last year). Flaming Gorge is

currently storing 3,110,600 ac-ft; this is 102% of average (99% of last year). Viva Naughton is currently storing 44,300 ac-ft, 114% of average or 104% of capacity. Detailed reservoir data is shown on the following page and on the reservoir storage summary at the beginning of this report.

#### Streamflow

The 50% exceedance forecasts for the June through July runoff period in the Lower Green River Basin are forecast to be extremely low. The Green River near Green River is forecast to yield about 250,000 ac-ft (43% of average). The Blacks Fork near Robertson is forecast to yield 9,000 ac-ft (13% of average). East Fork of Smiths Fork near Robertson is forecast to yield 3,000 ac-ft (14% of average). Hams Fork



below Pole Creek near Frontier is forecast to be 5,000 ac-ft (15% of average). The Hams Fork Inflow to Viva Naughton Reservoir is forecast to be 5,000 ac-ft (14% of average). The Flaming Gorge Reservoir inflow will be about 270,000 ac-ft (37% of average). See the following table for more detailed information on projected runoff.

## **Lower Green River Basin**

Streamflow Forecasts - June 1, 2012

========	=======	======	=======	=======	======	=======	========
	<=== Dr:	ier ===	Future C	onditions	=== Wett	er ===>	
Forecast Pt	=======	======	Chance of	Exceeding	* =====		
Forecast	I	70%		0%	30%	1	30 Yr Avg
Period	(1000AF)	(1000AF	)   (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========	=======		=======	=======	======	=======	=======
Green R nr G							
APR-JUL	375	430	475	54	520	600	875
JUN-JUL	152	205	250	43	295	375	580
Blacks Fk nr	Robertson						
APR-JUL	40	43	45	47	48	52	95
JUN-JUL	3.9	6.7	9.0	13	11.6	16.2	67
EF of Smiths	Fork nr Ro	obertson	(2)				
APR-JUL	10.6	11.8	12.8	44	14.0	16.2	29
JUN-JUL	0.9	2.0	3.0	14	4.2	6.4	21
Hams Fk bl Po	ole Ck nr 1	Frontier					
APR-JUL	30	32	33	51	34	37	65
JUN-JUL	2.1	3.7	5.0	15	6.5	9.2	33
Viva Naughton	n Reservoi	r Inflow	(2)				
APR-JUL	32	34	36	40	38	43	89
JUN-JUL	1.0	3.0	5.0	14	7.5	12.0	37
Flaming Gorge	e Reservoi:	r Inflow	(2)				
APR-JUL	450	515	560	47	610	695	1190
JUN-JUL	161	225	270	37	320	405	730
=========			=======	=======	======	========	========

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

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

\_\_\_\_\_\_

# LOWER GREEN RIVER BASIN Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********* This Year	Usable Storage Last Year	******* Average
FONTENELLE FLAMING GORGE VIVA NAUGHTON RES	344.8 3749.0 42.4	226.8 3110.6 44.3	119.4 3130.0 27.2	181.9 3040.0 39.0
		=========		

#### LOWER GREEN RIVER BASIN

Watershed	Number of	This Year as Pe	rcent of
	Data Sites	Last Year	Average
HAMS FORK RIVER BLACKS FORK	3 2	0	0
HENRYS FORK GREEN above Flaming Gorge	2	0	0
	18	7	28

## **Upper Bear River Basin**

#### Snow

Snow water equivalent (SWE) in the Upper Bear River Basin in Utah is



estimated to be 0% of average. SWE in the Wyoming portion of the Bear River drainage (Smiths and Thomas Forks) is at 0% of average. Bear River Basin SWE, above the Idaho State line, is 0% of average. For more information see "Basin Summary of Snow Course Data" at the beginning of this report.

#### Precipitation

Precipitation for last month was 68% of average for the 2 reporting stations; this is 52% of the precipitation received last year. The year-to-date precipitation, for the basin, is

70% of average; this is 56% of last

year's amount.

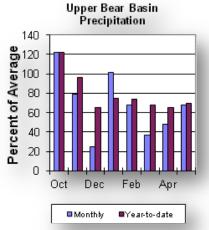
#### Reservoir

Storage in Woodruff Narrows reservoir is 51,600 ac-ft (128% of average). Current reservoir storage is about 90% of capacity. Reservoir storage last year at this time was 47,000 ac-ft.

#### Streamflow

The following 50% exceedance forecasts are extremely low for the June through September period. The Bear River near the Utah-Wyoming State Line is 28,000 ac-ft (34% of average).

The Bear River above Reservoir near Woodruff is 11,000 ac-ft (16% of average). The Smiths Fork River near Border is 28,000 ac-ft (36% of average). See the following table for more detailed information on projected runoff.



## **Upper Bear River Basin**

Streamflow Forecasts - June 1, 2012

	<=== Dr	ier ===	Future Co	onditions	=== Wett	er ===>	
	İ					j	
Forecast Pt	======	======	Chance of	Exceeding	* =====	======	
Forecast	90%	70%	50	) 응	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF	)   (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
=========	=======	======	========	=======	=======	=======	========
Bear R nr UT-	-WY State	Line					
APR-JUL	43	55	63	56	71	83	113
APR-SEP	46	60	70	56	80	94	125
JUN-JUL	4.5	14.3	21	30	28	38	70
JUN-SEP	9.0	20	28	34	36	47	82
Bear R ab Res nr Woodruff							
APR-JUL	7.0	25	38	28	51	69	136
APR-SEP	9.0	27	40	28	53	71	142
JUN-JUL	0.6	4.5	9.0	14	17.5	30	64
JUN-SEP	0.7	3.6	11.0	16	20	33	71
Smiths Fk nr	Border						
APR-JUL	37	45	51	50	57	65	103
APR-SEP	42	52	59	49	66	76	121
JUN-JUL	5.6	14.2	20	33	26	34	61
JUN-SEP	10.8	21	28	36	35	45	77

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

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

# UPPER BEAR RIVER BASIN Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	********* This Year	Usable Storage Last Year	******* Average
WOODRUFF NARROWS	57.3	51.6	47.0	40.3

### UPPER BEAR RIVER BASIN

Watershed	Number of Data Sites	This Year as P Last Year	ercent of Average
=======================================			=========
UPPER BEAR RIVER in Utah	5	0	0
SMITHS & THOMAS FORKS	3	0	0
BEAR RIVER abv ID line	6	0	0
NORTHWEST	48	29	77
NORTHEST	11	10	53
SOUTHEAST	20	2	7
SOUTHWEST	26	4	17

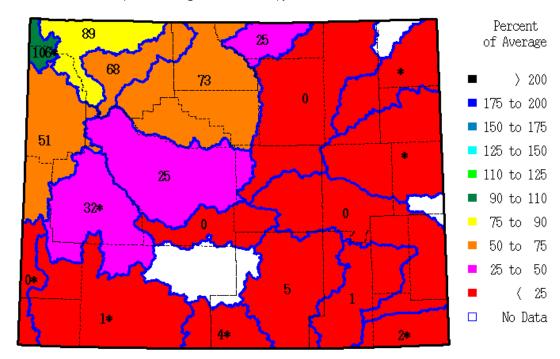
Issued by

Dave White (Chief)
U.S.D.A.
Natural Resources Conservation Service
Washington D.C.

Released by

Astrid Martinez State Con. N R C S Casper, Wyoming

SWE % of Average as of Monday, 04 June 2012



🗶 = Data may not provide a valid measure of conditions

The Following Agencies and Organizations Cooperate with the Natural Resources Conservation Service on the Snow Survey Work.

#### **FEDERAL:**

United States Department of the Interior (National Park Service)

United States Department of Agriculture (Forest Service)

United States Department of the Interior (Bureau of Reclamation)

United States Department of Commerce NOAA (National Weather Service)

#### **State:**

The Wyoming State Engineer's Office

The University of Wyoming

#### Local:

The City of Cheyenne

The City of Rawlins



# Wyoming Basin Outlook Report

Natural Resources Conservation Service Casper, WY





Natural Resources Conservation Service 100 East B Street Box 33124 Casper, WY 82601

«Name»

«Title»

«Address1»

«Address2»

«City», «State» «PostalCode»

«MailingListID»