

Natural Resources Conservation Service

# Montana Water Supply Outlook Report March 1, 2013



Picture: Madison Plateau SNOTEL Site near West Yellowstone

# Water Supply Outlook Report and Federal - State - Private Cooperative Snow Surveys

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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## Montana Water Supply Outlook Report as of March 1, 2013

The difference between weather patterns during January and February this year were significant. January experienced contrasting dry and wet spells. February on the other hand, was dominated by consistent weak disturbances distributing snow in most mountainous areas of the state. The end result of both months was near to slightly below normal snow accumulation, although the dry spells of January were too much for the wetter spells to overcome. The consistent small storms of February are an excellent example of the benefits that a generally unstable weather pattern provides. Consistent unstable weather patterns are more preferable than infrequent large snow storms as the end result of each month this year displays. Frequent small snow accumulations will typically provide more snow than inconsistent large storm for the mountains of Montana. The efficiency with which snowpack translates into runoff is an entirely different story, yet weather plays the major role in driving snowmelt. As snowpack stands currently, streamflow forecasts are predicted to range between 82 and 100 percent of normal. Statewide streamflows are forecast to be 90 percent of average.

#### **Snowpack**

February this year was quite typical, producing near normal snowfall throughout most of the month. Small accumulations each day provided steady increases to snowpack from a relatively unstable weather pattern. The St. Mary, Milk and Missouri Mainstem Basins experienced a slight increase in snow water equivalent, while most other basins across Montana watersheds saw a slight decrease. A minimal decrease in snowpack would best describe the trend this month in statewide snowpack, at only 3 percent, statewide totals rounded out at 93 percent of median. Current snowpack levels statewide are in good standing considering only 20 percent of the typical snow accumulation season remains. Although slightly below average, Montana snowpack is one of the best compared to other states across the nation, such as Colorado with 73 percent of averages snowpack. To view individual basin reports online goto: http://www.mt.nrcs.usda.gov/snow/

RIVER BASIN       MEDIAN       % LAST YEAR       % CHANGE         COLUMBIA       92       82       -1         KOOTENAI       93       84       -3         FLATHEAD       94       87       0         UPPER CLARK FORK       90       77       -3         BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7         JEFFERSON       98       101       -4
KOOTENAI       93       84       -3         FLATHEAD       94       87       0         UPPER CLARK FORK       90       77       -3         BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7
KOOTENAI       93       84       -3         FLATHEAD       94       87       0         UPPER CLARK FORK       90       77       -3         BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7
FLATHEAD       94       87       0         UPPER CLARK FORK       90       77       -3         BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7
UPPER CLARK FORK       90       77       -3         BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7
BITTERROOT       85       73       -1         LOWER CLARK FORK       89       82       -1         MISSOURI       96       94       -3         MISSOURI HEADWATERS       96       100       -7
LOWER CLARK FORK
MISSOURI
MISSOURI HEADWATERS
JEFFERSON 98 101 -4
MADISON
GALLATIN5
MISSOURI MAINSTEM
HEADWATERS MAINSTEM 100 77 +4
SMITH-JUDITH-MUSSELSHELL 101 99 +2
SUN-TETON-MARIAS 91 72 +2
MILK (Bearpaw Mtns) 119 184 +13
ST. MARY +5
ST. MARY & MILK +6
YELLOWSTONE
UPPER YELLOWSTONE
LOWER YELLOWSTONE
STATE-WIDE

#### Precipitation

Again this month statewide precipitation produced the lowest total of the year at 78 percent of the February average. SNOTEL sites reported the lack of precipitation again this month. Issues with the acquisition of valley precipitation normals caused valley data to be left out of the calculations. Last month only the Milk River basin received above average precipitation. This month several watersheds ended the month above average including the Milk, St. Mary, Smith-Judith-Musselshell, and the Mainstem Missouri mountains near Helena. The Madison saw the lowest monthly precipitation at 60 percent of normal. The Flathead was the only basin in the Columbia to experience above 74 percent of average precipitation. In spite of the last two months low readings, year-to-date precipitation has remained above normal at 103 percent of the statewide average. To view individual reports online goto: http://www.mt.nrcs.usda.gov/snow/

#### Reservoirs

State-wide reservoir storage was 105 percent of average and 88 percent of last year. Reservoir storage west of the divide was 121 percent of average and 93 percent of last year. East of the Divide, reservoir storage was 100 percent of average and 87 percent of last year.

RIVER BASIN	% OF AVE	ERAGE	% OF	LAST	YEAR
COLUMBIA KOOTENAI FLATHEAD UPPER CLARK FORK BITTERROOT LOWER CLARK FORK MISSOURI JEFFERSON MADISON GALLATIN	121 127 119 107 119 107 119 107 107 107 107 107 107 107 107 107 107	1	· · · · · · · · · · · · · · · · · · ·	. 93 . 86 . 99 . 76 . 124 . 100 . 86 . 80 . 98 . 111 . 85	YEAR
	122 178 178 110 110	2 3 7	· · · · · · · · · · · · · · · · · · ·	. 81 . 205 . 99 . 66 . 100	

#### Streamflow

State-wide, streamflows are forecast to be 90 percent of average. West of the divide streamflows are forecast to be 92 percent of average and east of the divide are forecast to be 89 percent of average.

Following are streamflow forecasts for the period April 1 through July 31. THE FIGURES IN THE TABLE BELOW ARE AN AVERAGE OF ALL FORECASTS WITHIN THE PARTICULAR BASIN AT THE 50 PERCENT EXCEEDANCE ONLY. FOR FORECASTS ABOVE AND BELOW THE 50 PERCENT EXCEEDANCE, LOOK TO THE SPECIFIC BASIN REPORTS.

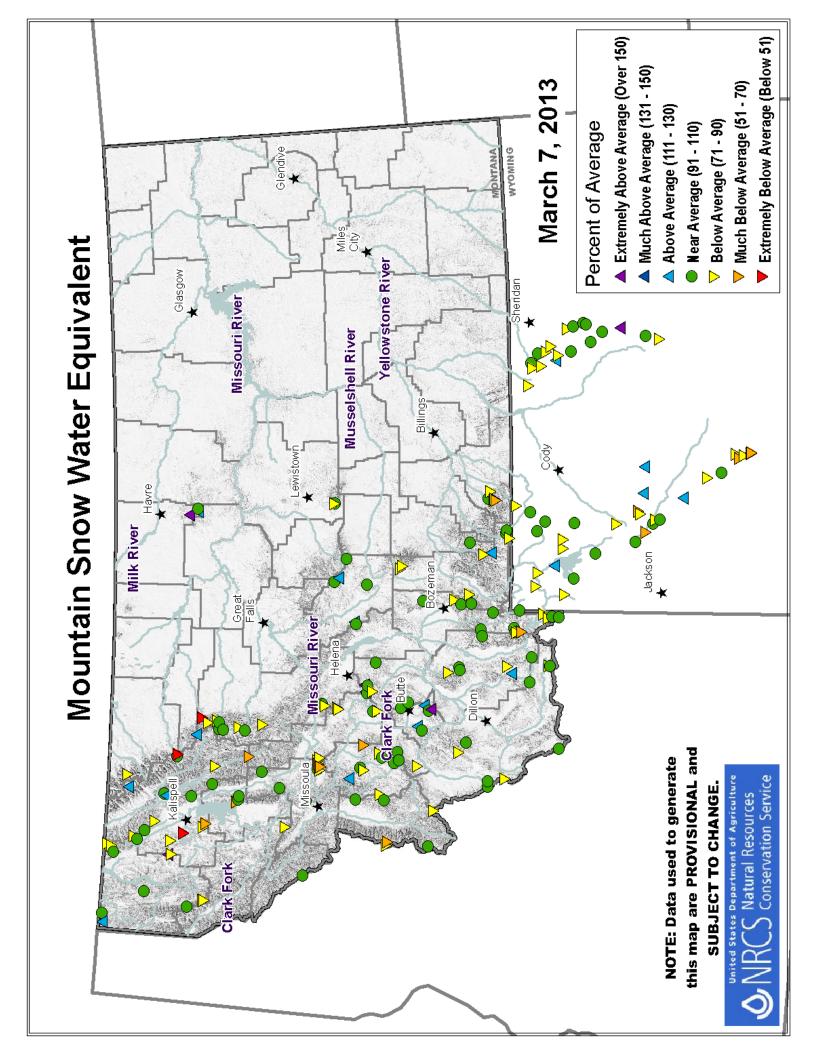
	April-July	April-July
	THIS YEAR	LAST YEAR
RIVER BASIN	% OF AVERAGE	% OF AVERAGE
		25
COLUMBIA		
KOOTENAI		
FLATHEAD	99	99
UPPER CLARK FORK	87	
BITTERROOT	83	101
LOWER CLARK FORK	87	93
MISSOURI	91	88
JEFFERSON	87	76
MADISON	89	86
GALLATIN	97	89
MISSOURI MAINSTEM	90	84
SMITH-JUDITH-MUSSELSHELI	L. 91	99
SUN-TETON-MARIAS	94	99
MILK	99	88
ST. MARY	101	99
YELLOWSTONE	84	107
UPPER YELLOWSTONE	86	96
LOWER YELLOWSTONE	82	118
STATE-WIDE	90	96

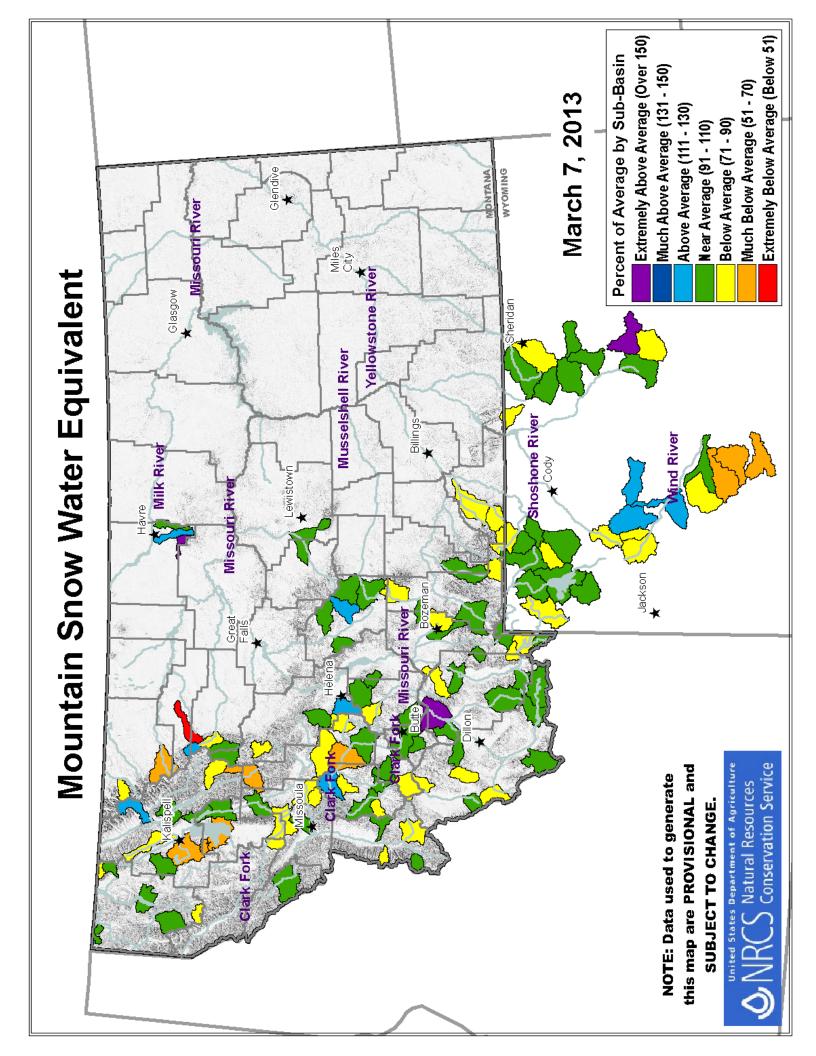
NOTE: The APRIL-JULY LAST YEAR % OF AVERAGE column above is what was forecast last year at this same time, NOT what actually occurred.

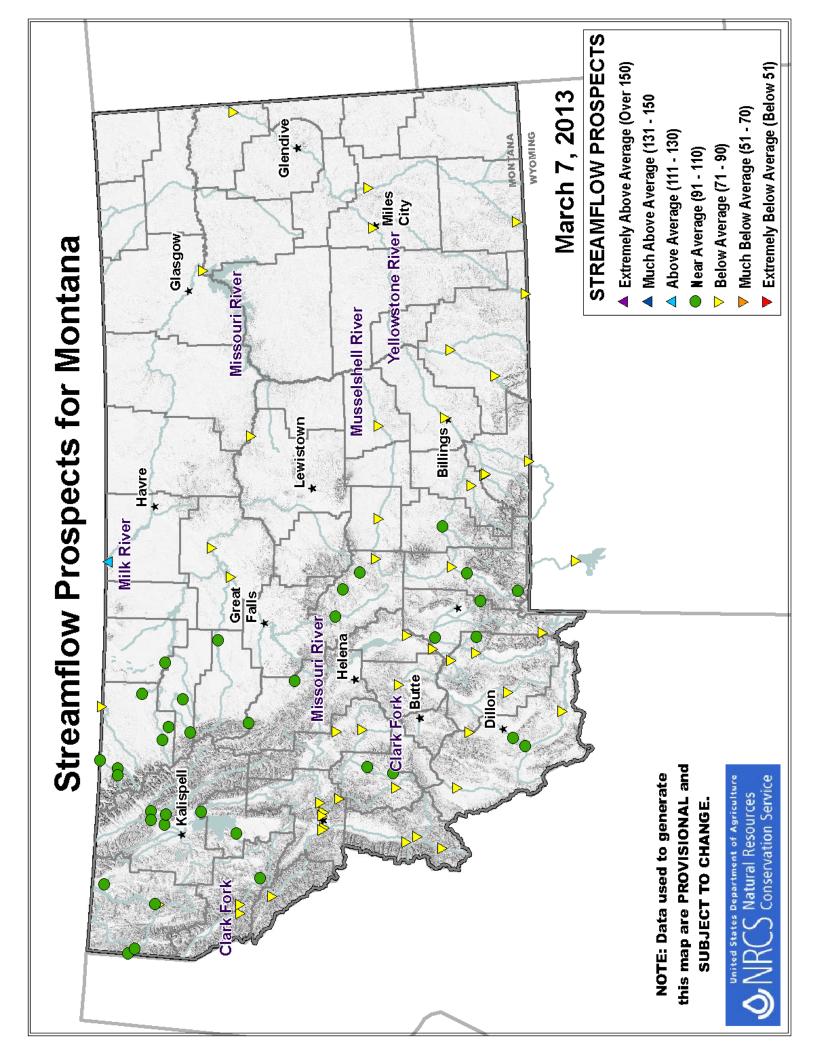
## **Surface Water Supply Index**

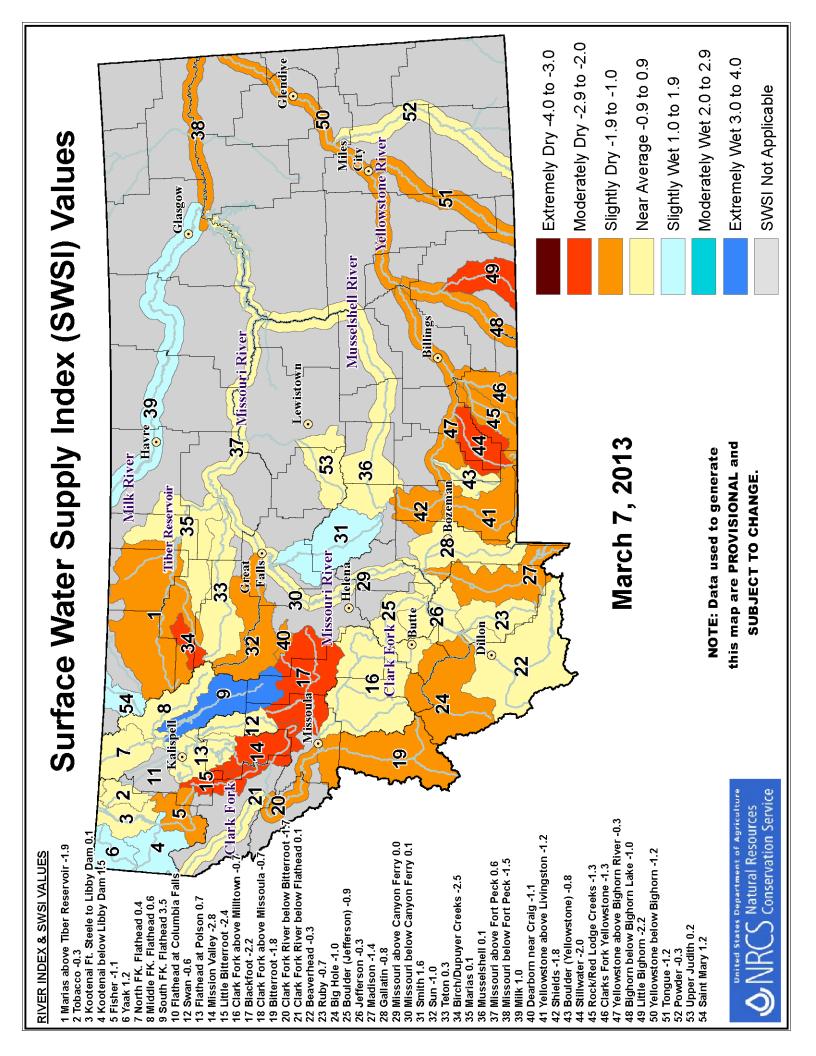
The Surface Water Supply Index (SWSI) is a measure of available surface water availability for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI accounts for mountain snowpack, mountain precipitation, streamflow, reservoir storage, and soil moisture.

	SWSI RATI	NG SURFACE WATER CONDITION
	+3.0 to +	4.0 Extremely Wet
	+2.0 to +	3.0 Moderately Wet
	+1.0 to +	5 1
	-1.0 to +	5
	-1.0 to -	5 1 1
	-2.0 to - -3.0 to -	1 1
	-3.0 00 -	1.0 Exclemely Diy
This Year	Last Year	
SWSI	SWSI	Basin
-0.3	0.0	Tobacco River
+0.1	+0.8	Kootenai Ft. Steele to Libby Dam
+1.5	+3.2	Kootenai River below Libby Dam
-1.1	-0.4	Fisher River
+1.2	-0.1	Yaak River
+0.4	+0.6	North Fork Flathead River
+0.6	+0.5	Middle Fork Flathead River
+3.5 +0.9	+1.8 +0.8	South Fork Flathead River Flathead River at Columbia Falls
-0.6	+0.8	Swan River
+0.7	+0.6	Flathead River at Polson
-2.8	+0.7	Mission Valley
-2.4	+2.1	Little Bitterroot River
-0.7	+0.9	Clark Fork River above Milltown
-1.7	+0.6	Clark Fork above Missoula
-2.2 -1.8	+0.4 +0.7	Blackfoot River Bitterroot River
-1.8	+0.7	Clark Fork River below Bitterroot River
-0.2	+0.6	Clark Fork River below Bitterioot River
-0.3	+0.3	Beaverhead River
-0.7	-0.6	Ruby River
-1.0	-0.8	Big Hole River
-0.9	+0.4	Boulder River (Jefferson)
+0.3 -1.4	+0.7 -0.8	Jefferson River Madison River
-0.8	-0.8	Gallatin River
0.0	+0.1	Missouri River above Canyon Ferry
+0.1	+0.2	Missouri River below Canyon Ferry
+1.6	+3.2	Smith River
-1.0	+0.4	Sun River
+0.3	+1.7	Teton River
-2.5 -0.2	+1.4 +4.0	Birch/Dupuyer Creeks Upper Judith River
-1.9	+9.1	Marias River above Tiber
+0.1	+2.0	Marias River below Tiber
-0.1	+1.4	Musselshell River
+0.6	+1.0	Missouri River above Ft. Peck
-1.5	+0.2	Missouri River below Ft. Peck
+1.2 +1.0	+0.7 +1.6	St. Mary River Milk River
-1.1	+0.5	Dearborn River near Craig
-1.2	+0.3	Yellowstone River above Livingston
-1.8	-0.2	Shields River
-0.8	+0.1	Boulder River (Yellowstone)
-2.0	-0.8	Stillwater River
-1.3	+0.2	Rock/Red Lodge Creeks
-1.3 -1.3	+1.2 +0.2	Clarks Fork River Yellowstone River above Bighorn River
-1.0	+0.2	Bighorn River below Bighorn Lake
-2.2	+2.4	Little Bighorn River
-0.7	+0.5	Yellowstone River below Bighorn River
-1.2	+2.9	Tongue River
-0.3	+2.3	Powder River









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

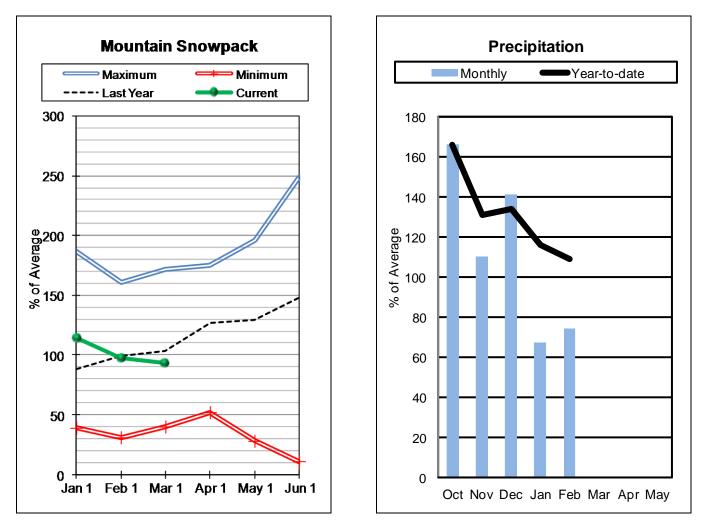
#### MARCH 2013

SNOW COURSE			DEPTH	CONTENT	YEAR	81-10
ALBRO LAKE SNOTEL	8300	3/01/13	43	11.9	11.4	13.8
AMBROSE	6480			9.6		
ARCH FALLS	7350	2/25/13	31	7.0	8.6	7.8
ASHLEY DIVIDE	4820	2/26/13	15	2.4	5.0	5.3
BADGER PASS SNOTEL	6900	3/01/13	84	26.3	29.9	23.7
BANFIELD MTN SNOTEL	5600	3/01/13	51	14.1	15.9	14.3
BAREE MIDWAY	4600	2/25/13	66	20.7	21.2	23.6
BAREE TRAIL	3800	2/25/13	25	6.8	9.9	7.8
BARKER LAKES SNOTEL	8250	3/01/13	38	10.3	9.2 4.4 5.7	10.3
BASIN CREEK SNOTEL	7180	3/01/13 3/01/13	24	5.0	4.4	5.5
BEAGLE SPGS SNOTEL	8850	3/01/13	32	6.8	5.7	6.3
BEAVER CREEK SNOTEL		3/01/13			10.7	14.0
BIG SNOWY	7150	2/26/13	47	12.4	15.4	13.8
BISSON CREEK SNOTEL	4920	3/01/13	22	5.5	9.3	8.4
BLACK BEAR SNOTEL	7950	3/01/13	95	29.8	29.2	29.6
BLACK MOUNTAIN			39	9.1		11.0
BLACK PINE SNOTEL	7100	3/01/13	30	7.2	10.6	8.2
BLACKTATL	5650	2/26/13		7.4 8.5	10.9	11.0
BLACKTAIL MTN SNOTEI	L 5650	3/01/13	32	8.5	12.1	
BLOODY DICK SNOTEL	7550	3/01/13	36	8.7		9.3
BOTS SOTS		2/26/13	26	4.4		
BOULDER MTN SNOTEL	7950	3/01/13	56	15.8	18.1	15.4
BOX CANYON SNOTEL						
BOXELDER CREEK	5100	2/26/13	22	5.2	2.6	5.6
BRACKETT CR SNOTEL		3/01/13	52	14.7	13.5	14.4
BRUSH CREEK TIMBER	5000	2/27/13	32	10.0	13.3	6.3
BULL MOUNTAIN	6600	2/25/13 3/01/13	22	5.4	5.0	4.8
BURNT MTN SNOTEL	6600 5880 5200	3/01/13	17	3.7	5.0	4.0
CABIN CREEK	5200	2/25/13	19		5.1	4.9
CALVERT CR SNOTEL		3/01/13	26	5.9		6.8
CAMP SENIA		2/26/13		3.3		3.8
CARROT BASIN SNOTEL				21.3		
CHESSMAN RESERVOIR				4.9		
CHICKEN CREEK					15.4	12.8
CLOVER MDW SNOTEL	8800	3/01/13	47			
COLE CREEK SNOTEL	7850	3/01/13		7.7	12.3	9.9
COMBINATION SNOTEL	5600	3/01/13	15	3.7	5.0	4.1
COPPER BOTTOM SNOTEI		3/01/13	14	3.4	7.7	
COPPER CAMP SNOTEL	6950	3/01/13	78	31.2	44.4	
COPPER MOUNTAIN	7700	2/23/13	32	7.8	7.0	8.0
COTTONWOOD CREEK	6400	2/28/13	23	5.7	5.5	5.2
CRYSTAL LAKE SNOTEL	6050	3/01/13	38	9.9	11.2	9.1
DAISY PEAK SNOTEL	7600	3/01/13	28	6.8	7.7	7.2
DALY CREEK SNOTEL	5780	3/01/13	32	8.2	9.9	8.4
DARKHORSE LK. SNOTEI		3/01/13	75	23.0	21.6	22.2
DEADMAN CR SNOTEL	6450	3/01/13	32	8.0	10.0	8.0
DESERT MOUNTAIN	5600	3/05/13	41	12.0	12.2	10.8
DISCOVERY BASIN	7050	3/01/13	26	6.8	8.3	7.4
DIVIDE SNOTEL	7800	3/01/13	38	8.1	6.1	8.1
DIX HILL	6400	2/24/13	25	6.6	11.6	8.2
DUPUYER CREEK SNOTEI		3/01/13	17	3.5	6.3	7.1
EL DORADO MINE	7800	2/23/13	28	7.2	10.2	12.9
ELK HORN SPRINGS	7800	2/27/13	29	6.0	5.2	6.8
ELK PEAK	8000	3/05/13	40	10.1	11.4	10.4
EMERY CREEK SNOTEL	4350	3/01/13		12.1	10.9	12.5
FATTY CREEK	5500	3/02/13	55	16.3	19.0	17.4
FISH CREEK	8000	2/28/13	31	10.6	7.0	7.0
FISHER CREEK SNOTEL	9100	3/01/13	78	25.8	28.5	25.8

SNOW COURSE			DEPTH	CONTENT	YEAR	81-10
 FLATTOP MTN SNOTEL	6300	3/01/13	125	39.1	37.0	33.8
FLEECER RIDGE	7500	2/25/13	31	7.7	8.0	7.7
FOUR MILE	6900	3/01/13	25	6.2	7.6	6.0
FREIGHT CREEK	6000			8.6		
FROHNER MDWS SNOTEL				5.8		
GARVER CREEK SNOTEL				7.8		
GOAT MOUNTAIN	7000	2/24/13	27	7.6	9.7	7.6
GRAVE CRK SNOTEL	4300	3/01/13	44	12.0 7.0 22.2 5.0 20.6	15.0	13.5
HAND CREEK SNOTEL HAWKINS LAKE SNOTEL		3/01/13	29 69	7.0	9.2 25.2	9.5 19.3
HEBGEN DAM	6550	2/26/13	28	5 0	2J.J 6 4	9.2
HELL ROARING DIVIDE	5770	2/26/13	75	20.6	21.8	23.9
HERRIG JUNCTION	4850	2/27/13	60	15.7	21.2	21.2
	4530			5.2		7.6
HOODOO BASIN SNOTEL	6050	3/01/13	104	29.9	36.2	32.3
KISHENEHN	3890	2/27/13	26	6.5	6.7	7.2
KRAFT CREEK SNOTEL		3/01/13	35	9.3	14.4	
LAKEVIEW CANYON LAKEVIEW RDG. SNOTE	6930	3/01/13 3/01/13 3/01/13 3/01/13	25	5.4	4.9 5.6	7.2
LAKEVIEW RDG. SNOTE	L 7400	3/01/13	34	8.8	5.6	8.5
LEMHI RIDGE SNOTEL LICK CREEK SNOTEL	8100	3/01/13 3/01/13	33	7.2 7.5	7.0	8.1
LICK CREEK SNOTEL LITTLE PARK		3/01/13	32	7.5 12.2	9.6	8.2 11.4
LOGAN CREEK				4.4		
LONE MOUNTAIN SNOTE					12.4	
LOWER TWIN SNOTEL		3/01/13		12.5		
LUBRECHT SNOTEL		3/01/13	12		7 7	4.7
LUBRECHT FOREST NO		3/01/13 2/27/13 2/27/13	14	2.9	7.7 5.4	4.4
LUBRECHT FOREST NO 4	4 4650	2/27/13	7	1.5	5.4	2.1
LUBRECHT FOREST NO		2/28/13	13	2.8		
LUBRECHT HYDROPLOT	4200		12	2.5		
MADISON PLT SNOTEL						
MANY GLACIER SNOTEL				9.3		
MARIAS PASS MINERAL CREEK	5250 4000				15.0 14.6	
MONUMENT PK SNOTEL					14.0	
MONSMENT IN SNOTEL	6780	3/01/13 3/01/13		28.4	30.5	28.1
MOULTON RESERVOIR	6850	2/28/13	25	6.6	5.9	6.0
MT LOCKHART SNOTEL	6400	3/01/13	44	14.1	19.9	15.2
MULE CREEK SNOTEL	8300	3/01/13	45	11.7	10.9	11.2
N.E. ENTRANCE SNOTE	L 7350	3/01/13	24	6.1	9.3	8.2
NEVADA RIDGE SNOTEL		3/01/13	38	9.7	16.0	10.9
NEW WORLD	6900	2/27/13	37	8.4	10.6	10.0
NEZ PERCE CMP SNOTE		3/01/13	40	10.0	12.1	10.8
N.F. ELK CR SNOTEL NF JOCKO SNOTEL	6250 6330	3/01/13 3/01/13	28 97	7.0 31.1	11.1 33.2	8.9 33.5
NOISY BASIN SNOTEL	6040	3/01/13	103	34.0	30.2	31.5
OPHIR PARK	7150	2/24/13	32	8.4	13.7	11.2
PETERSON MDW SNOTEL		3/01/13	30	7.1	7.2	7.1
PICKFOOT CRK SNOTEL		3/01/13	37	9.4	10.9	8.4
PIKE CREEK SNOTEL	5930	3/01/13		7.5	11.3	19.6
PIPESTONE PASS	7200	2/23/13	20	3.6	2.9	3.2
PLACER BASIN SNOTEL		3/01/13	48	13.0	14.8	12.8
POORMAN CR SNOTEL	5100	3/01/13	87	28.4	35.0	30.9
PORCUPINE SNOTEL	6500	3/01/13	20	3.7	5.2	5.2
POTOMAGETON PARK	7150	2/25/13	39	10.0		11.4
ROCK CREEK MEADOW	8160	2/25/13	53	14.1	13.4	14.6
ROCKER PEAK SNOTEL	8000	3/01/13	37	8.8	11.8	10.1
ROCKY BOY SNOTEL SACAJAWEA SNOTEL	4700 6550	3/01/13 3/01/13	19 41	5.1 10.6	3.2 8.9	4.0 11.9
SACAJAWŁA SNOIEL SADDLE MTN SNOTEL		3/01/13	41 56	10.8	21.0	11.9
SADDLE MIN SNOTEL S.F. SHIELDS SNOTEL		3/01/13	40	9.0	11.3	11.8
SHORT CREEK SNOTEL		3/01/13	22	5.1	4.5	4.4
SHOWER FALLS SNOTEL		3/01/13	59	15.1	16.4	15.6

SNOW COURSE	ELEVATION	DATE		WATER CONTENT		
SKALKAHO SNOTEL	7260	3/01/13	52	15.1	20.0	17.5
SLEEPING WOMAN SNTI	<b>6150</b>	3/01/13	38	9.9	15.4	12.2
SLIDE ROCK MOUNTAIN	J 7100	2/24/13	36	11.2	14.2	10.1
SPOTTED BEAR MTN.	7000	2/28/13	30	7.8	12.2	10.7
SPUR PARK SNOTEL	8100	3/01/13	61	17.4	20.6	15.5
STAHL PEAK SNOTEL	6030	3/01/13	86	25.2	27.6	27.5
STEMPLE PASS	6600	2/27/13	28	6.4	10.3	7.0
STORM LAKE	7780	3/01/13	35	9.4	10.3	9.5
STRYKER BASIN	6180	2/27/13	79	24.6	25.4	25.0
STUART MOUNTAIN SNI	TL 7400	3/01/13	74	24.4	27.2	25.9
TAYLOR ROAD	4080	2/26/13	23	5.4	1.6	3.0
TEN MILE LOWER	6600	2/25/13	28	6.8	7.8	5.4
TEN MILE MIDDLE	6800	2/25/13	31	7.2	9.1	7.5
TEPEE CREEK SNOTEL	8000	3/01/13	41	10.3	8.6	10.6
TIMBERLINE CREEK	8850	2/26/13	37	6.1	12.7	9.2
TIZER BASIN SNOTEL	6840	3/01/13	30	7.1	7.7	7.3
TRINKUS LAKE	6100	3/02/13	97	33.6	34.0	32.4
TRUMAN CREEK	4060	2/27/13	13	2.9	5.2	4.0
TWELVEMILE SNOTEL		3/01/13	43	8.7	18.9	13.8
TWENTY-ONE MILE	7150	3/01/13	44	13.4	11.6	12.4
TWIN LAKES SNOTEL	6400	3/01/13	84	25.7	36.5	30.2
UPPER HOLLAND LAKE	6200	3/02/13	71	24.1	22.6	26.0
WALDRON SNOTEL	5600	3/01/13	28	7.1	11.6	8.9
WARM SPRINGS SNOTEI	5 7800	3/01/13	46	13.0	17.7	14.8
WEASEL DIVIDE	5450	2/28/13	78		27.9	26.2
WEST YELL'ST SNOTEI	6700	3/01/13	28	7.1	9.8	9.0
WHISKEY CREEK SNOTH	EL 6800	3/01/13	38	8.8	12.8	12.0
WHITE MILL SNOTEL	8700	3/01/13			18.7	18.3
WOOD CREEK SNOTEL	5960	3/01/13	24	5.5	8.6	7.5
WRONG CREEK	5700	2/25/13	31	8.2	12.2	8.8
WRONG RIDGE	6800	3/01/13		12.0	17.8	12.4

### Kootenai River Basin in Montana



Snowpack conditions in the Kootenai River Basin as of March 1 were near normal. Snow water content was 93 percent of median and 84 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 74 percent of average and 66 percent of last year. Water year precipitation, beginning October 1, 2012, was 109 percent of average and 108 percent of last year.

Lake Koocanusa storage at the end of February was 127 percent of average and 86 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 95 percent.

KOOTENAI RIVER BASIN in Montana

Streamflow Forecasts - March 1, 2013

		<<======	Drier ====	== Future Co	onditions ==	===== Wetter	:====>>		
Forecast Point	Forecast	========		= Chance Of H	Exceeding * :				
	Period	90%	70%	50	)	30%	10%	30-Yr Avg.	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)	
				============		= = = = = = = = = = = = = = = = = = =			
Tobacco R nr Eureka	APR-JUL	83	104	119	94	134	155	126	
	APR-SEP	90	114	131	94	148	172	140	
Libby Reservoir Inflow (1,2)	APR-JUL	4480	5060	5320	100	5580	6160	5340	
	APR-SEP	5380	5940	6200	99	6460	7020	6250	
Fisher River nr Libby	APR-JUL	110	146	171	83	196	230	205	
	APR-SEP	121	158	183	83	210	245	220	
Yaak River nr Troy	APR-JUL	295	370	420	100	470	545	420	
	APR-SEP	310	385	440	100	495	570	440	
				Ì		ĺ			
Kootenai R at Leonia (1,2)	APR-JUL	5480	6220	6560	99	6900	7640	6600	
	APR-SEP	6440	7180	7510	99	7840	8580	7590	
				i .		i			

Reservoir Storage (1000 AF) - End of February					Watershed Showpack Analysis - March 1, 2013			
Reservoir	Usable   Capacity  		able Stora Last Year	age *** Avg	Watershed	Number of Data Sites		======= r as % of ======= Median
LAKE KOOCANUSA	5748.0	3171.4	3709.0	2501.0	KOOTENAY in CANADA	11	85	100
					KOOTENAI MAINTSTEM	3	86	91
					TOBACCO	3	84	88
					FISHER	4	83	94
					YAAK	2	84	110
					KOOTENAI in MONTANA	12	84	93
					KOOTENAI ab BONNERS FER	RRY 23	84	96

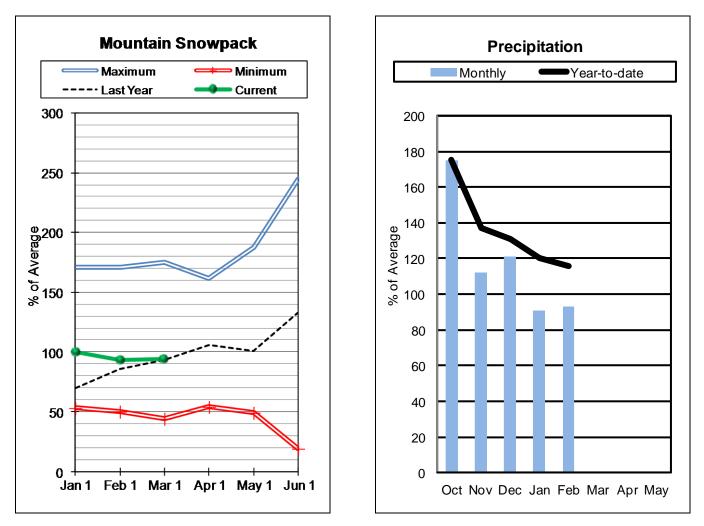
. \* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 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.

#### **Flathead River Basin**



Snowpack conditions in the Flathead River Basin were near normal on March 1. Snow water content was 94 percent of median and 87 percent of last year.

Mountain precipitation during February was 93 percent of average and 66 percent of last year. Water year precipitation, beginning October 1, 2012, was 116 percent of average and 108 percent of last year.

Hungry Horse Reservoir storage at the end of February was 131 percent of average and 104 percent of last year. Flathead Lake storage at the end of February was 89 percent of average and 86 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 99 percent.

FLATHEAD RIVER BASIN

Streamflow Forecasts - March 1, 2013

		===========						
		<<===== Drier ===== Future Conditions ====== Wetter ====>>						
		i						
Forecast Point	Forecast	========		= Chance Of E	xceeding * :			
	Period	90%	70%	50	8	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
				======================================		===============		
NF Flathead R nr Columbia Falls	APR-JUL	1370	1490	1580	103	1670	1790	1540
	APR-SEP	1510	1650	1740	102	1830	1970	1700
MF Flathead R nr West Glacier	APR-JUL	1360	1510	1610	107	1710	1860	1500
	APR-SEP	1490	1640	1750	107	1860	2010	1630
SF Flathead R nr Hungry Horse	APR-JUL	1070	1180	1250	106	1320	1430	1180
	APR-SEP	1140	1250	1330	106	1410	1520	1260
Hungry Horse Reservoir Inflow (1,2)		1640	1890	2000	108	2110	2360	1860
	APR-SEP	1740	2010	2130	108	2250	2520	1980
Plathand D at Galambia Dalla (0)	100 THE	4610	5030	   5310	106	   5590	6010	5020
Flathead R at Columbia Falls (2)	APR-JUL APR-SEP	4610 5000	5450	5310	106	6070	6520	5020
	APR-SEP	5000	5450	1 5760	100	0070	0520	5450
Ashley Ck nr Marion (2)	APR-JUL	3.9	5.3	6.3	97	7.3	8.7	6.5
ASITEY CK III MALIOII (2)	MARCH	0.4	0.9	1.2	103	1.5	2.0	1.2
	MARCH	0.4	0.9	1 1.2	105	1 1.5	2.0	1.2
Swan R nr Bigfork	APR-JUL	415	465	I 500	96	535	585	520
Swall K III BIGIOLK	APR-SEP	470	530	570	96	610	670	595
	11110 0001	1,0	550	370	20	010	0,0	555
Flathead Lake Inflow (1,2)	APR-JUL	5010	5790	6140	106	6490	7270	5810
	APR-SEP	5390	6240	6630	106	7020	7870	6270
Mill Ck ab Bassoo Ck nr Niarada	APR-JUL	1.6	2.5	3.1	78	3.7	4.6	4.0
	APR-SEP	1.8	2.8	3.4	77	4.0	5.0	4.4
				İ		ĺ		
South Crow Ck nr Ronan	APR-JUL	7.2	8.8	9.8	97	10.8	12.4	10.1
	APR-SEP	8.3	10.0	11.2	97	12.4	14.1	11.6
Mission Ck nr St. Ignatius	APR-JUL	21	23	25	100	27	29	25
	APR-SEP	24	27	29	97	31	34	30
Sf Jocko R nr Arlee	APR-JUL	21	26	29	88	32	37	33
	APR-SEP	24	29	33	89	37	42	37
NF Jocko R bl Tabor Feeder Canal	APR-JUL	24	27	29	94	31	34	31
	APR-SEP	25	28	30	91	32	35	33

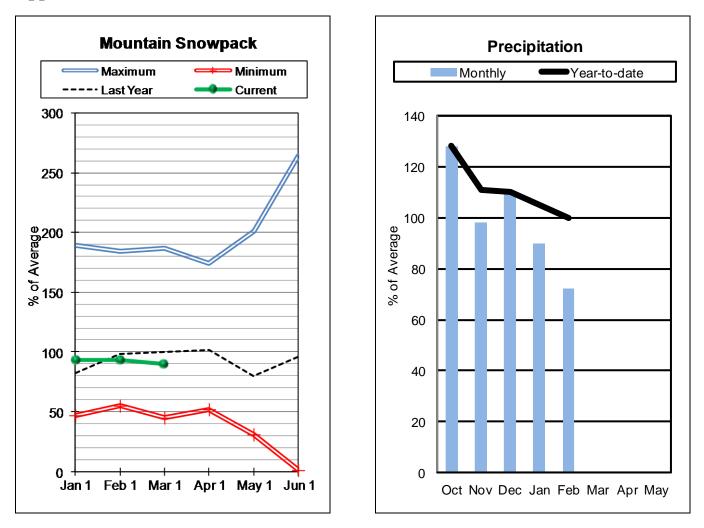
FLATHEAD RIVER BASIN									
Reservoir Storage (1000 AF) - End of February					Watershed Snowpack			2013	
		========					===========		
	Usable	*** Usa	able Stora	age ***		Number	This Year	r as % of	
Reservoir	Capacity	This	Last		Watershed	of	========		
		Year	Year	Avg	I	Data Sites	Last Yr	Median	
CAMAS (4)	45.2	29.0	26.1	19.5	NF FLATHEAD in CANADA	3	91	85	
LOWER JOCKO LAKE	6.4	0.0	0.0	0.0	NF FLATHEAD in MONTANA	9	88	91	
MISSION VALLEY (8)	100.0	22.5	32.8	32.0	MIDDLE FORK FLATHEAD	6	94	97	
HUNGRY HORSE	3451.0	2889.0	2788.0	2209.0	SOUTH FORK FLATHEAD	6	102	97	
FLATHEAD LAKE	1791.0	725.3	845.0	812.8	STILLWATER-WHITEFISH	8	83	88	
	1,91.0	/2010	01010	01210		0	00	00	
					SWAN	6	96	99	
					MISSION VALLEY	4	81	89	
					LITTLE BITTERROOT-ASHLE	¥ 3	64	63	
					JOCKO	3	86	91	
					FLATHEAD in MONTANA	33	87	92	
					FLATHEAD RIVER BASIN	36	88	91	

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

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 - Median value used in place of average.

#### **Upper Clark Fork River Basin**



Snowpack conditions in the Upper Clark Fork River Basin were near normal on March 1. Snow water content was 90 percent of median and 77 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 72 percent of average and 60 percent of last year. Water year precipitation, beginning October 1, 2012, was 100 percent of average and 89 percent of last year.

East Fork Rock Creek storage was 117 percent of average and 82 percent of last year; and Nevada Creek storage was 93 percent of average and 68 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 87 percent.


UPPER CLARK FORK RIVER BASIN Streamflow Forecasts - March 1, 2013

Streamflow Forecasts - March 1, 2013									
					Conditions ==				
		<<=====	= Drier ====	== Fucure	conditions ==	===== weller	====>>		
Forecast Point	Forecast			= Chance O	f Exceeding * =				
Forecast Forne	Period	90%	 70%	- chance o	50%	30%	10%	30-Yr Avg.	
	101100		(1000AF)	(1000A	F) (% AVG.)		(1000AF)	(1000AF)	
		1 4 4 4 4 7							
Little Blackfoot R nr Garrison	APR-JUL	30	49	62	89	75	94	70	
	APR-SEP	34	55	69	90	83	104	77	
				i		İ			
Flint Ck nr Southern Cross	APR-JUL	5.3	9.1	11.6	94	14.1	17.9	12.4	
	APR-SEP	5.7	10.4	13.6	93	16.8	22	14.6	
Flint Ck bl Boulder Ck	APR-JUL	24	39	49	94	59	74	52	
	APR-SEP	33	51	63	96	75	93	66	
			= 0						
Lower Willow Ck Reservoir Inflow (2)		2.5 3.4	5.0	6.6		8.2	10.7 16.4	7.3	
	APR-JUL	3.4	7.3	9.9	93	12.5	16.4	10.6	
MF Rock Ck nr Philipsburg	APR-JUL	35	44	51	88	58	67	58	
MF ROCK CK III PHILIPSDurg	APR-SEP	40	51	51 58	89	65	76	65	
	AFR SEF	40	51	1 50	0,5	05	70	05	
Rock Ck nr Clinton	APR-JUL	126	179	215	86	250	305	250	
	APR-SEP	153	210	250	89	290	345	280	
Clark Fork R ab Milltown	APR-JUL	200	350	455	86	560	710	530	
	APR-SEP	265	430	545	89	660	825	615	
				i		ĺ			
Nevada Ck nr Helmville	APR-MAY	1.1	4.3	6.5	77	8.7	11.9	8.4	
	APR-JUL	2.0	7.5	11.3	80	15.1	21	14.2	
Blackfoot R nr Bonner	APR-JUL	385	500	580	81	660	775	720	
	APR-SEP	440	565	650	81	735	860	800	
		500	0.50	1040	0.2	1000	1 4 6 6	1050	
Clark Fork R ab Missoula	APR-JUL	590	860	1040	83	1220	1490	1250	
	APR-SEP	715	1000	1200	85	1400	1680	1420	
				<u> </u>		 			
UPPER CLARK FC						CLARK FORK RI			
Reservoir Storage (1000			rv			nowpack Analys		1. 2013	
			-						
	Usable		le Storage *			Numbe		Year as % of	
Reservoir	Capacity	This	Last		tershed	of	=====		
	Ī	Year	Year A	vg		Data Si	tes Last	Yr Median	

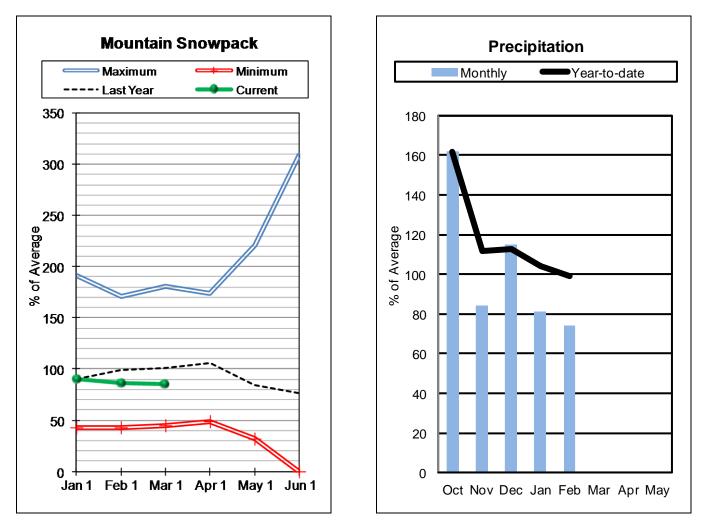
		Year	Year	Avg	Dat	ta Sites	Last Yr	Median
EAST FORK ROCK CREEK	15.6	9.7	11.9	8.3	CLARK FORK ab FLINT CREEK	14	79	89
GEORGETOWN LAKE		NO REPOR	Г		FLINT CREEK	5	83	94
LOWER WILLOW CREEK		NO REPOR	г	I	ROCK CREEK	5	84	98
NEVADA CREEK	12.6	5.2	7.7	5.6	CLARK FORK ab BLACKFOOT	22	80	91
					BLACKFOOT	12	69	86
					UPPER CLARK FORK BASIN	31	77	90

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

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 - Median value used in place of average.

#### **Bitterroot River Basin**



Snowpack conditions in the Bitterroot River Basin were below normal on March 1. Snow water content was 85 percent of median and 73 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 74 percent of average and 64 percent of last year. Water year precipitation, beginning October 1, 2012, was 99 percent of average and 87 percent of last year.

Como storage was 115 percent of average and 124 percent of last year.

Assuming near average precipitation, April through July streamflows are forecast to average 83 percent.

				EEEEEEEEEEEEE						
BITTERROOT RIVER BASIN Streamflow Forecasts - March 1, 2013										
Streamliow Forecasts - March 1, 2015										
		<<=====	Drier ====	== Future	Conditions =	====== Wetter	=====>>			
Forecast Point	Forecast	========		= Chance Of	Exceeding *					
	Period	90%						30-Yr Avg.		
		(1000AF)	(1000AF)	(1000AF	) (% AVG.)	(1000AF)	(1000AF)	(1000AF)		
				==========		======================================				
WF Bitterroot R nr Conner (2)	APR-JUL	55	83	102	80	121	149	128		
	APR-SEP	58	90	111	80	132	164	139		
Bitterroot R nr Darby	APR-JUL	192	275	330	81	385	470	410		
	APR-SEP	255	335	390	83	445	525	470		
Como Reservoir Inflow (2)	APR-JUL	55	62	67	88	72	79	76		
COMO RESELVOIT INFIOW (2)	APR-SEP	57	65	70	89	72	83	70		
	AFR SEF	57	05	1 70	05	1 15	05	15		
Bitterroot R nr Missoula	APR-JUL	670	840	955	83	1070	1240	1150		
	APR-SEP	740	925	1050	84	1180	1360	1250		
				İ		İ				
	OOT RIVER BASI					TTERROOT RIVER				
Reservoir Storage (	1000 AF) - End	of Februar	ſΥ		Watershed S	nowpack Analys	is - March	1, 2013		
							·····			
Reservoir	Usable		le Storage *		ershed	Numbe	er This	Year as % of		
Keservoir	Capacity	This	Last		ersnea	OI Data Si	tes Last	Yr Median		
		Year	Year A	vg   		Data Si	.tes Last	ii Median		

\_\_\_\_\_

2

81

90

34.9 14.8 11.9 COMO 12.9 EAST SIDE BITTERROOT 4 81 92 WEST SIDE BITTERROOT 3 65 79 BITTERROOT RIVER BASIN 8 73 85 ------

WEST FORK BITTERROOT

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

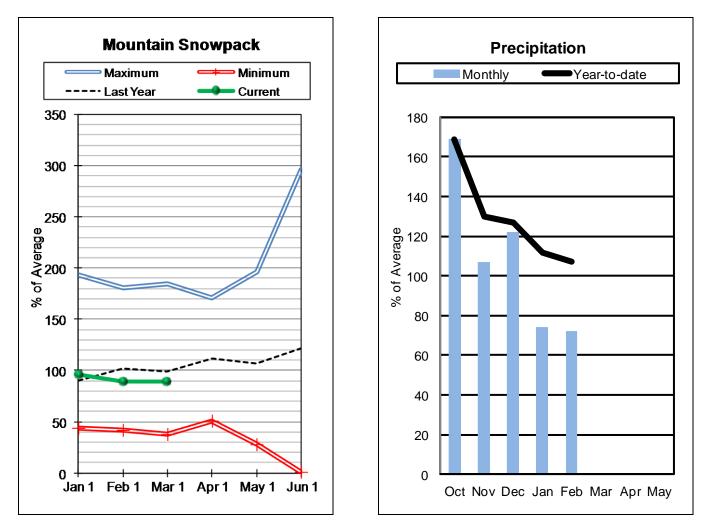
The average is computed for the 1981-2010 base period.

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.
 - Median value used in place of average.

NO REPORT

PAINTED ROCKS LAKE

#### Lower Clark Fork River Basin



Snowpack conditions in the Lower Clark Fork River Basin were below above normal on March 1. Snow water content was 89 percent of median and 82 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 72 percent of average and 68 percent of last year. Water year precipitation, beginning October 1, 2012, was 107 percent of average and 105 percent of last year.

Storage at the end of February in Noxon Rapids was 98 percent of average and 100 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 87 percent.

\_\_\_\_\_ LOWER CLARK FORK RIVER BASIN

Streamflow Forecasts - March 1, 2013

<<===== Drier ======	Future Conditions ======	Wetter ====>>

Forecast Point	Forecast Period	90%	70%	50	30%	30-Yr Avg.		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Clark Fork R bl Missoula	APR-JUL	1300	1710	1990	83	2270	2680	2400
	APR-SEP	1490	1940	2240	84	2540	2990	2670
Clark Fork R at St. Regis (1)	APR-JUL	1580	2310	2640	84	2970	3700	3160
	APR-SEP	1840	2620	2970	85	3320	4100	3510
Clark Fork R nr Plains (1,2)	APR-JUL	6870	8390	9080	99	9770	11300	9200
	APR-SEP	7530	9190	9950	99	10700	12400	10100
Thompson R nr Thompson Falls	APR-JUL	83	120	145	80	170	205	181
Thompson R Nr Thompson Falls	APR-SEP	99	139	166	81	193	235	205
Prospect Ck at Thompson Falls	APR-JUL	54	71	82	80	93	110	102
	APR-SEP	60	76	88	80	100	116	110
Clark Fork at Whitehorse Rpds $(1,2)$	APR-JUL	7880	9540	10300	98	11100	12700	10500
	APR-SEP	8640	10500	11300	98	12100	14000	11500

LOWER CLARK FORK RIVER BASIN	LOWER CLARK FORK RIVER BASIN					
Reservoir Storage (1000 AF) - End of February	Watershed Snowpack Analysis - March 1, 2013					
Uzehle +++ Uzehle Ctempse +++	Number This Year as & of					

Reservoir	Usable Capacity	*** Usal This	Last	ge ***	Watershed	ed of		This Year as % of	
		Year	Year	Avg		Data Sites	Last Yr	Median	
NOXON RAPIDS	335.0	308.9	309.3	313.9	LOWER CLARK FORK BASIN	10	82	89	

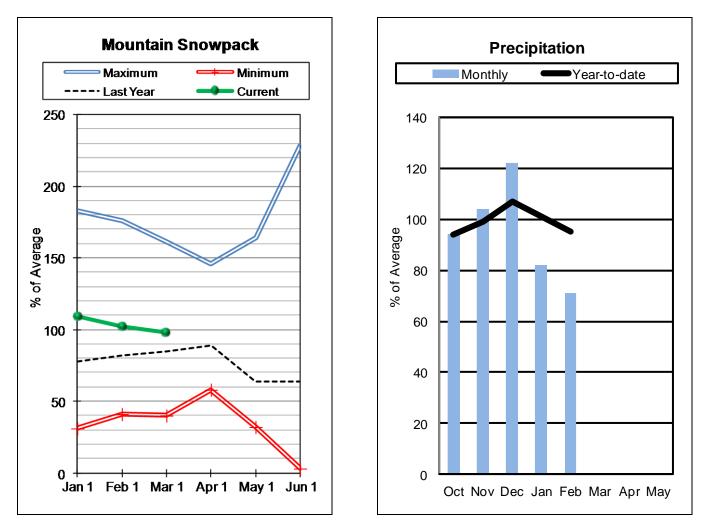
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 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.

#### **Jefferson River Basin**



Snowpack conditions in the Jefferson River Basin were near normal on March 1. Snow water content was 98 percent of median and 101 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 71 percent of average and 60 percent of last year. Water year precipitation, beginning October 1, 2012, was 95 percent of average and 95 percent of last year.

Lima storage was 135 percent of average and 84 percent of last year; Clark Canyon storage was 98 percent of average and 77 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 87 percent.

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JEFFERSON RIVER BASIN Streamflow Forecasts - March 1, 2013

Streamilow Forecasts - March 1, 2013									
						====== Wetter			
		ĺ					j		
Forecast Point	Forecast								
	Period	90%	70%	50		30%	10%	30-Yr Avg.	
		(1000AF)	(1000AF)		(% AVG.)	(1000AF)	(1000AF)	(1000AF)	
Lima Reservoir Inflow (2)	APR-JUL	40	60	=====================================	90	88	108	82	
Lima Reservoir inflow (2)	APR-SEP	38	63	74   79	89	95	120	89	
	AFR DEF	50	05	,5	05	25	120	09	
Clark Canyon Reservoir Inflow (2)	APR-JUL	9.0	60	94	93	128	179	101	
-	APR-SEP	20	75	113	94	151	205	120	
				ĺ					
Beaverhead R at Barretts (2)	APR-JUL	4.0	77	127	98	177	250	129	
	APR-SEP	9.0	95	153	98	210	295	156	
Ruby R Reservoir Inflow (2)	APR-JUL APR-SEP	39 48	56 68	68 81	88 89	80 94	97 114	77 91	
	APR-SEP	40	00	01	09	94	114	91	
Big Hole R at Wisdom	APR-JUL	14.0	58	   88	86	118	162	102	
big noie it at hibdom	APR-SEP	13.0	61	94	87	127	175	108	
				-	-				
Big Hole R nr Melrose	APR-JUL	215	335	420	82	505	625	515	
	APR-SEP	240	375	465	83	555	690	560	
Jefferson R nr Twin Bridges (2)	APR-JUL	189	415	565	82	715	940	690	
	APR-SEP	178	430	600	82	770	1020	730	
Boulder R nr Boulder	APR-JUL	32	49	60	87	71	88	69	
Boulder k III Boulder	APR-SEP	34	49 52	64	87	71	88 94	74	
	AFK DEF	51	52	01	07	70	74	71	
Willow Ck Reservoir Inflow (2)	APR-JUL	3.4	9.5	13.7	82	17.9	24	16.8	
	APR-SEP	5.0	11.4	15.8	82	20	27	19.3	
					ĺ				
Jefferson R nr Three Forks (2)	APR-JUL	189	445	615	83	785	1040	740	
	APR-SEP	195	475	665	83	855	1140	800	

JEFFERSON RIVER BASIN JEFFERSON RIVER BASIN Reservoir Storage (1000 AF) - End of February Watershed Snowpack Analysis - March 1, 2013 Usable | \*\*\* Usable Storage \*\*\* Number This Year as % of This Last | Year Avg | Reservoir Capacity Watershed of \_\_\_\_\_ Data Sites Last Yr Median Year LIMA 84.0 42.1 50.1 31.1 BEAVERHEAD 11 114 101 CLARK CANYON 255.6 124.1 161.5 126.4 RUBY 5 107 94 RUBY RIVER 38.8 28.5 33.2 27.2 BIGHOLE 13 95 98 BOULDER 7 90 97 JEFFERSON RIVER BASIN 30 101 98

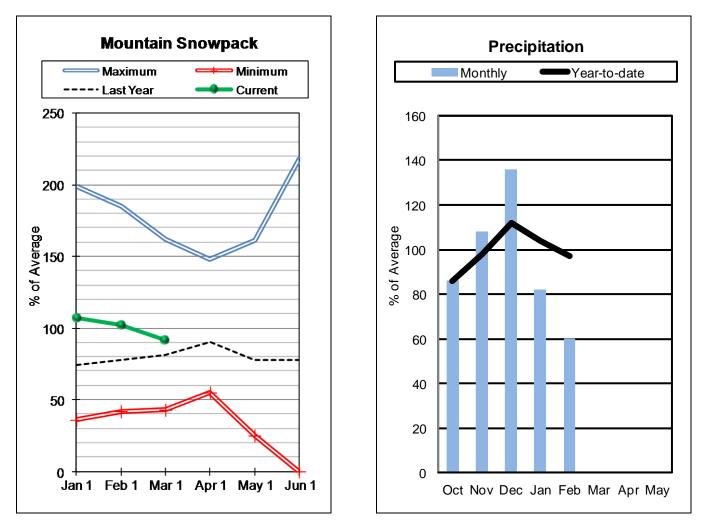
\_\_\_\_\_ \* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1981-2010 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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#### **Madison River Basin**



Snowpack conditions in the Madison River Basin were near normal on March 1. Snow water content was 92 percent of median and 100 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 60 percent of average and 51 percent of last year. Water year precipitation, beginning October 1, 2012, was 97 percent of average and 99 percent of last year.

Ennis Lake storage at the end of February was 93 percent of average and 94 percent of last year and Hebgen Lake storage was 105 percent of average and 98 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 89 percent.

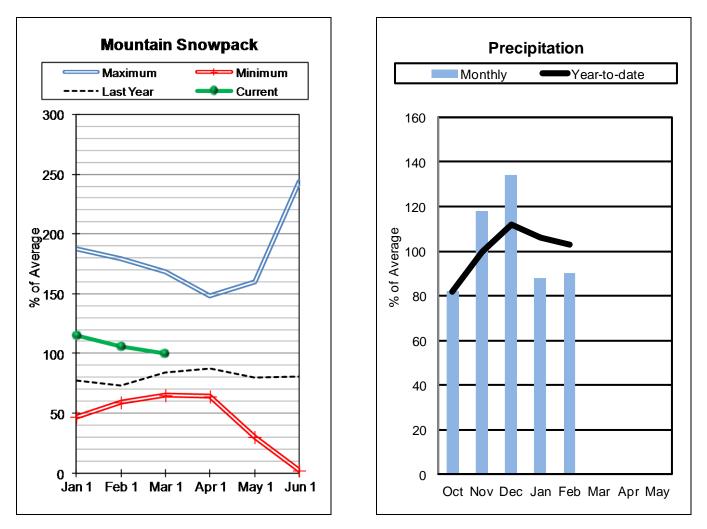
MADISON RIVER BASIN										
Streamflow Forecasts - March 1, 2013										
<====== Drier ====== Future Conditions ======= Wetter ====>>										
Weller										
				_	_					
Forecast Point	Forecast			= Cha		ceeding * :				
	Period	90%	70%		50%			30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	(	1000AF) (	(% AVG.)	(1	000AF)	(1000AF)	(1000AF)
		===========		: ====			======			
Hebgen Reservoir Inflow (2)	APR-JUL	265	305	i	330	89		355	395	370
	APR-SEP	350	400	1	430	92		460	510	470
	THIR DHI	550	100		150	22		100	510	1/0
Ennis Reservoir Inflow (2)	APR-JUL	410	495	-	550	88		605	690	625
Ennis Reservoir Inflow (2)				-						
	APR-SEP	530	630	ļ	695	90		760	860	775
MADISC	ON RIVER BASIN			1		1	ADISON	RIVER	BASIN	
Reservoir Storage (1	000 AF) - End	of Februa	rv	i	Watershed Snowpack Analysis - March 1, 2013					
-							-	-		-
	Usable	*** Ileah	le Storage *	**				Numbe	r Thie	Year as % of
Reservoir	Capacity	This	Last		Watersh	had		of		
RESELVOIL	Capacity				Watersi	lied		• =		
		Year	Year A	Avg				Data Si		Yr Median
				====						
ENNIS LAKE	41.0	27.8	29.6 2	29.8	MADISON	N abv HEBGI	EN LAKE	6	89	89
				i i						
HEBGEN LAKE	377.5	287.8	293.5 27	74.6 İ	MADISON	N blw HEBGI	EN LAKE	10	110	95
				· · · ·						
					MADIGON	N RIVER BAS	TN	16	100	92
					MADISON	N KINGK DA	1 1 1 1	10	100	22
				1						

\* 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 1981-2010 base period.

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.
 - Median value used in place of average.

#### **Gallatin River Basin**



Snowpack conditions in the Gallatin River Basin were near normal on March 1. Snow water content was 100 percent of median and 107 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 90 percent of average and 67 percent of last year. Water year precipitation, beginning October 1, 2012, was 103 percent of average and 107 percent of last year.

Middle Creek storage was 93 percent of average and 111 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 97 percent.

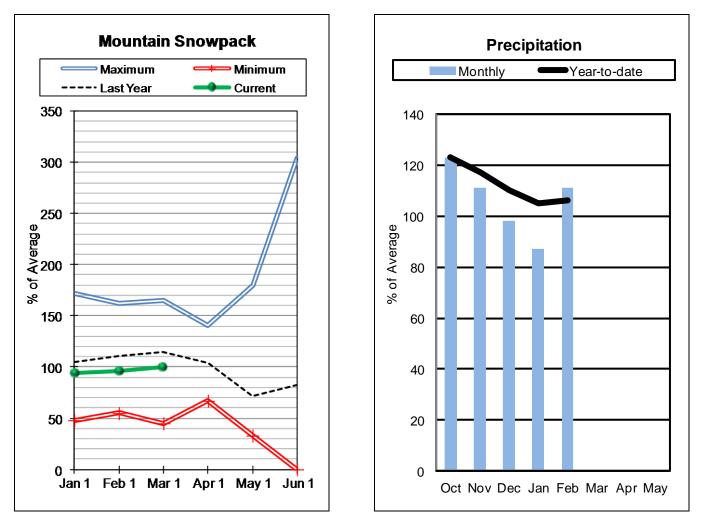
GALLATIN RIVER BASIN									
Streamflow Forecasts - March 1, 2013									
		<<======	= Drier ===	=== ]	Future Condi	tions =====	=== Wetter	====>>	
Forecast Point	Forecast	======================================							
	Period	90%	70%		50%	-	30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)	i	(1000AF) (%	AVG.)	(1000AF)	(1000AF)	(1000AF)
				=   = = = =					
Gallatin R nr Gateway	APR-JUL	290	350	i	390	98	430	490	400
	APR-SEP	340	410	i	455	97	500	570	470
				i		i			
Hyalite Reservoir Inflow (2)	APR-JUL	15.6 17.8 19.3 97 21 23							20
-	APR-SEP	18.1	20	i	22	96	24	26	23
Gallatin R at Logan	APR-JUL	250	350	i	420	440			
5	APR-SEP	290	405	i	485	96	565	680	505
				i					
GALL	ATIN RIVER BASIN				1	GALLA	ATIN RIVER	BASIN	
Reservoir Storage	(1000 AF) - End	of Februar	ry		Wat	ershed Snows	oack Analys	is - March	1, 2013
				=====	==============				
	Usable	*** Usab	le Storage	* * *	1		Numbe	r This	Year as % of
Reservoir	Capacity	This	Last		Watershe	d	of	====:	
		Year	Year	Avq	i		Data Si	tes Last	Yr Median
				=====					
MIDDLE CREEK	10.2	5.0	4.5	5.4	UPPER GA	LLATIN	6	118	105
					i i				
					HYALITE		4	84	91
					BRIDGER		2	113	96
					GALLATIN	I RIVER BASIN	v 12	107	100
					1				

\* 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 1981-2010 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
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(3) - Median value used in place of average.

#### Missouri Mainstem River Basin



Snowpack conditions in the Headwaters Missouri Mainstem River Basin were near normal on March 1. Snow water content was 100 percent of median and 77 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 111 percent of average and 80 percent of last year. Water year precipitation, beginning October 1, 2012, was 106 percent of average and 87 percent of last year.

Canyon Ferry Lake storage was 101 percent of average and 95 percent of last year; Helena Valley storage was 123 percent of average and 95 percent of last year; Lake Helena storage was 91 percent of average and 101 percent of last year; Hauser & Helena storage was 95 percent of average and 101 percent of last year; Holter Lake storage was 103 percent of average and 101 percent of last year; and Fort Peck Lake storage was 99 percent of average and 84 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 90 percent.

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MISSOURI MAINSTEM RIVER BASIN Ma

Streamflow Forecasts - March 1, 2013											
		=================				======================================					
		<<======	Drier ====	== Future Co	onditions =:	====== wetter	_ ====>>				
Forecast Point	Forecast			= Chance Of F	Exceeding * :						
rorecube rorne	Period	90%	70%		)%	30%	10%	30-Yr Avg.			
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)			
		===========				=====================================					
Missouri R at Toston (2)	APR-JUL	915	1330	1610	90	1890	2300	1790			
	APR-SEP	1060	1540	1870	90	2200	2680	2070			
Dearborn R nr Craig	APR-JUL	34	62	82	92	102	130	89			
	APR-SEP	38	68	89	94	110	140	95			
Missouri R at Fort Benton (2)	APR-JUL	1310	1920	2330	89	2740	3350	2610			
Missouri K at Fort Benton (2)	APR-SEP	1570	2300	2330	90	3280	4010	3110			
		1070	2500	2,50	20	0200	1010	5110			
Missouri R nr Virgelle (2)	APR-JUL	1510	2210	2690	90	3170	3870	3000			
-	APR-SEP	1750	2580	3150	90	3720	4550	3520			
Missouri R nr Landusky (2)	APR-JUL	1630	2360	2850	90	3340	4070	3160			
	APR-SEP	1880	2750	3340	90	3930	4800	3720			
		1560	0000	0000		2440	40.40	2040			
Missouri R bl Ft Peck Dam (2)	APR-JUL	1560	2360 2580	2900 3260	90 88	3440	4240 4940	3240 3700			
	APR-SEP	1580	2580	3260 	88	3940	4940	3700			
Lake Sakakawea Inflow (2)	APR-JUL	4100	5940	7190	87	8440	10300	8310			
Hance Sunanawea Infilow (2)	APR-SEP	4220	6510	8060	86	9610	11900	9400			
					50	0010	0	5100			
				·							

				========				
MISSOUF	RI MAINSTEM RIVER BA	MISSOURI MAINSTEM RIVER BASIN						
Reservoir Storage (1000 AF) - End of February Watershed Snowpack Analysis - March 1, 2013								
	Usable	*** Usab	le Storag	e ***		Number	This Year as % of	
Reservoir	Capacity	This	Last		Watershed	of		
		Vear	Voar	7.00		Data Sitos	Lagt Vr Modian	

		Year	Year	Avg	 	ata Sites	Last Yr	Median	
CANYON FERRY LAKE	2043.0	1499.6	1582.0	1482.0	HEADWATERS MAINSTEM	9	77	100	
HELENA VALLEY	9.2	5.4	5.7	4.4	   SMITH-JUDITH-MUSSELSHELI	. 11	90	101	
LAKE HELENA	12.7	9.9	9.8	10.9	SUN-TETON-MARIAS	12	72	84	
HAUSER & HELENA	74.6	70.2	69.6	73.7	MAINSTEM ab FT PECK RES	31	81	93	
HOLTER LAKE	81.9	81.5	81.0	79.5	MILK RIVER BASIN	9	184	119	
FORT PECK LAKE	18910.0	12655.0	15060.0	12838.0	   MISSOURI MAINSTEM BASIN	39	86	99	
					I				

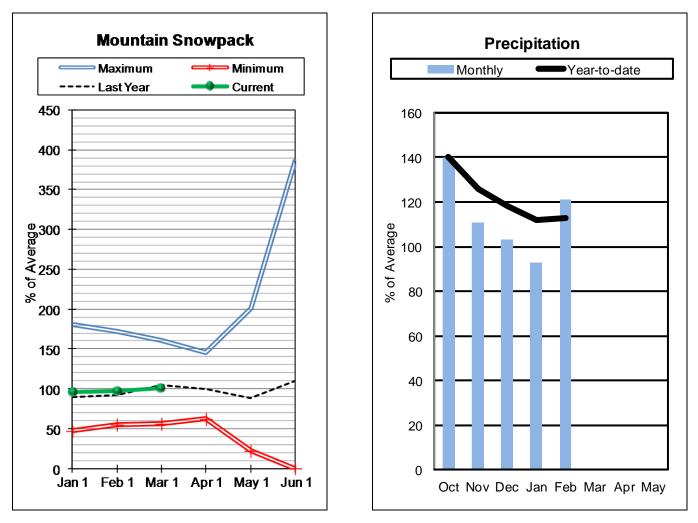
\* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

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

#### **Smith-Judith-Musselshell River Basins**



Snowpack conditions in the Smith-Judith-Musselshell River Basins were near normal March 1. Snow water content was 101 percent of median and 99 percent of last year. Snow water content in the Smith River Basin was 105 percent of median and 88 percent of last year; the Judith River Basin was 102 percent of median and 84 percent of last year; and the Musselshell Basin River was 90 percent of median and 85 percent of last year.

Mountain precipitation according to SNOTEL stations during February in all three basins was 121 percent of average and 72 percent of last year. Water year precipitation for the greater basin, beginning October 1, 2012, was 113 percent of average and 96 percent of last year.

Ackley storage was 112 percent of average and 74 percent of last year; Bair storage was 134 percent of average and 77 percent of last year; Martinsdale storage was 78 percent of average and 68 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 91 percent.

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SMITH-JUDITH-MUSSELSHELL RIVER BASINS	

Streamflow Forecasts - March 1, 2013

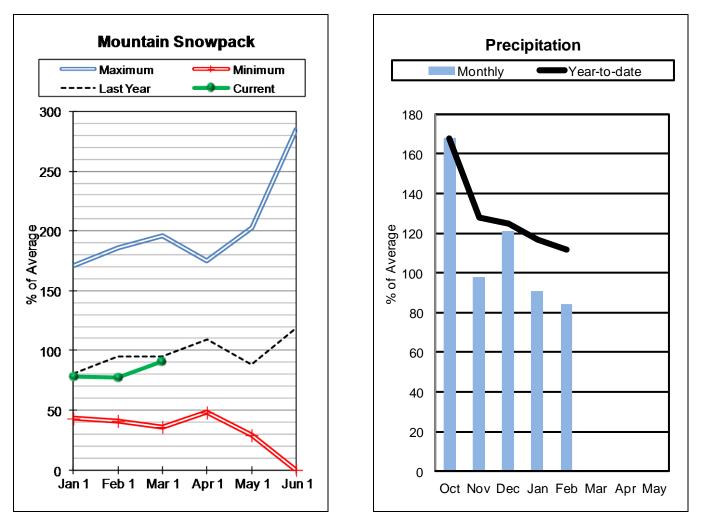
Streamitow Forecasts - March 1, 2015											
			. Dui ou	Euturo Go		======= Wetter					
		<<======	Drier ====	== Fucure co	SHALLIONS ==	===== weller	====>>				
	_	1		a) of r							
Forecast Point	Forecast			- chance of i				20			
	Period	90%	70%	50		30%	10%	30-Yr Avg.			
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)			
				===========							
Sheep Ck nr White Sulphur Springs	APR-JUL	10.5	13.9	16.2	105	18.5	22	15.5			
	APR-SEP	12.4	16.4	19.1	104	22	26	18.4			
Smith R bl Eagle Ck (2)	APR-JUL	56	89	112	106	135	168	106			
	APR-SEP	58	97	124	107	151	190	116			
NF Musselshell R nr Delpine	APR-JUL	2.3	3.5	4.3	100	5.1	6.3	4.3			
	APR-SEP	2.8	4.1	5.0	100	5.9	7.2	5.0			
SF Musselshell R ab Martinsdale	APR-JUL	2.2	17.6	28	80	38	54	35			
	APR-SEP	2.5	18.9	30	79	41	58	38			
Musselshell R at Harlowton (2)	APR-JUL	0.0	24	48	84	72	106	57			
	APR-SEP	0.0	24	j 49	83	74	111	59			
				İ							
Musselshell R nr Roundup (2)	APR-JUL	-20.0	3.0	48	72	93	159	67			
	APR-SEP	-20.0	1.2	46	70	91	157	66			
				ĺ							
				, ================		, ================					

SMITH-JUDITH-MU Reservoir Storage (1		SMITH-JUDITH-MUSSELSHELL RIVER BASINS Watershed Snowback Analysis - March 1, 2013						
Rebervoir beorage (1	waterblied bliowpack							
Reservoir	Usable Capacity	*** Usał This Year	ble Storag Last Year	ge *** Avg	Watershed	Number of Data Sites		r as % of ====== Median
SMITH RIVER	10.6	7.1	8.0	5.8	SMITH	7	90	105
ACKLEY LAKE	7.0	2.9	3.9	2.6	HIGHWOOD	0	108	0
BAIR	7.0	4.3	5.6	3.2	JUDITH	5	85	102
MARTINSDALE	23.1	6.1	9.0	7.8	MUSSELSHELL	3	95	90
DEADMAN'S BASIN	72.2	53.0	67.0	43.4	SMITH-JUDITH-MUSSELSHELI	L 11	90	101

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

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 - Median value used in place of average.



Snowpack conditions in the Sun-Teton-Marias River Basins were below normal on March 1. Snow water content was 91 percent of median and 72 percent of last year. Snow water content in the Sun River Basin was 90 percent of median and 70 percent of last year; the Teton River Basin was 80 percent of median and 64 percent of last year; and the Marias River Basin was 94 percent of median and 77 percent of last year.

Mountain precipitation according to SNOTEL stations during February in all three basins was 84 percent of average and 96 percent of last year. Mountain water year precipitation for the greater basin according to SNOTEL stations, beginning October 1, 2012, was 112 percent of average and 103 percent of last year.

Gibson storage was 39 percent of average and 39 percent of last year; Pishkun storage was 10 percent of average and 9 percent of last year; Willow Creek storage was 118 percent of average and 96 percent of last year; Swift storage was 93 percent of average and 109 percent of last year; Lake Frances storage was 70 percent of average and 49 percent of last year; and Lake Elwell (Tiber) storage was 108 percent of average and 104 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 94 percent.

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CINI TETON MADIAC DIVED DACING	

SUN-TETON-MARIAS RIVER BASINS Streamflow Forecasts - March 1, 2013

StreamFlow Forecasts - March 1, 2013											
		<<====== 	<<===== Drier ===== Future Conditions ====== Wetter ====>>								
Forecast Point	Forecast Period	=======   90%   (1000AF)	70% (1000AF)	50		30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)			
				=======================================							
Gibson Reservoir Inflow (2)	APR-JUL	260	325	365	92	405	470	395			
	APR-SEP	295	360	405	92	450	515	440			
Two Medicine R nr Browning (2)	APR-JUL	128	154	171	93	188	215	183			
	APR-SEP	137	164	182	94	200	225	194			
Badger Ck nr Browning	APR-JUL	56	72	82	93	92	108	88			
	APR-SEP	65	82	94	91	106	123	103			
Swift Reservoir Inflow (2)	APR-JUL	34	46	54	95	62	74	57			
	APR-SEP	42	55	64	96	73	86	67			
Dupuyer Ck nr Valier	APR-JUL	1.5	5.7	10.6	96	15.5	23	11.1			
	APR-SEP	1.8	6.4	11.8	93	17.2	25	12.7			
Cut Bank Ck nr Browning	APR-JUL	43	57	67	97	77	91	69			
	APR-SEP	46	62	72	96	82	98	75			
Marias R nr Shelby (2)	APR-JUL	156	265	335	97	405	515	345			
	APR-SEP	153	265	345	96	425	535	360			
Teton R nr Dutton	APR-JUL	5.0	18.9	38	91	57	85	42			
	APR-SEP	5.0	22	43	90	64	94	48			

i i SUN-TETON-MARIAS RIVER BASINS Reservoir Storage (1000 AF) - End of February SUN-TETON-MARIAS RIVER BASINS Watershed Snowpack Analysis - March 1, 2013

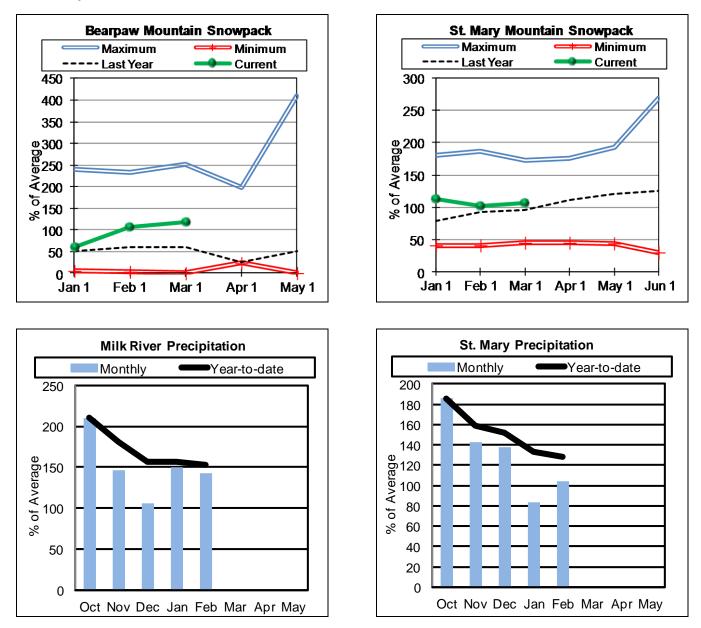
Reservoir Scorage (10	watershed Showpack Analysis - March 1, 2015							
Reservoir	Usable   Capacity	*** Usa This Year	Isable Storage ***   Last   Year Avg		Watershed	Number of Data Sites	This Year Last Yr	as % of Median
GIBSON	99.1	16.8	18.6	43.1	SUN	6	70	91
PISHKUN	32.0	1.8	19.7	17.2	TETON	4	64	80
WILLOW CREEK	32.2	27.6	28.9	23.3	MARIAS	5	77	79
LOWER TWO MEDICINE LAKE		NO REPO	RT		   SUN-TETON-MARIAS	13	75	85
FOUR HORNS LAKE		NO REPO	RT					
SWIFT	30.0	15.3	14.0	16.5				
LAKE FRANCES	112.0	40.2	81.8	57.5				
LAKE ELWELL (TIBER)	1347.0	747.8	720.4	693.8				

------\* 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 1981-2010 base period.

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.
 And a value used in place of average.

#### St. Mary and Milk River Basins



Snowpack in the Saint Mary River Basin was near normal on March 1. Snow water content was 104 percent of median and 93 percent of last year. Snowpack in the Milk River Basin was near average at 119 percent of median and 184 percent of last year. The combined basins had a snowpack at 109 percent of median and 114 percent of last year.

Mountain precipitation, according to SNOTEL stations, in the St. Mary River Basin during February was 104 percent of average and 91 percent of last year; and in the Milk River Basin during February was 142 percent of average and 113 percent of last year. Water year precipitation for both basins, beginning October 1, 2012, was 131 percent of average and 127 percent of last year.

Lake Sherburne storage was 178 percent of average and 205 percent of last year; Fresno storage was 111 percent of average and 78 percent of last year; and Nelson storage was 138 percent of average and 84 percent of last year.

Assuming average precipitation, April through July streamflows in the St. Mary are forecast to average 101 percent. Assuming average precipitation, April through July streamflows in the Milk are forecast to average 99 percent.

		:======== מי שצ	======================================	RIVER	RASTNS				
			w Forecasts			13			
		<<======	Drier ====	=== F	Future Co	nditions ==	===== Wetter	====>>	
Forecast Point	Forecast			== Cha				=======   10%	
	Period	90%							30-Yr Avg.
		(1000AF)	(1000AF)			(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Lake Sherburne Inflow	APR-JUL	82	91	-	97	100	103	112	97
Lane bheibaine inflow	APR-SEP	97	107		114	102	121	131	112
				i					
St. Mary R nr Babb (2)	APR-JUL	310	350	-i	375	101	400	440	370
	APR-SEP	365	405		435	102	465	505	425
St. Mary R at Int'l Boundary (2)	APR-JUL	340	400		440	101	480	540	435
	APR-SEP	395	460		500	99	540	605	505
Milk R at Western Crossing	MAR-JUI	6.4	22		32	87	42	58	37
Mink k at Webtern crobbing	MAR-SEP	5.8	23		34	87	45	62	39
	APR-JUL	4.2	17.8	i i	27	87	36	50	31
	APR-SEP	3.6	18.7	i	29	88	39	54	33
Milk R at Eastern Crossing	MAR-JUL	1.0	35		62	111	89	129	56
	MAR-SEP	10.0	40		70	111	100	144	63
	APR-JUL APR-SEP	1.5 10.0	27 35		50 61	111	73 87	106 125	45 55
	APR-SEP	10.0	35		61	111	87	125	55
				 ======		ا =============			
ST. MARY and M	MILK RIVER B	ASINS		1		ST. MAF	RY and MILK RI	VER BASINS	
Reservoir Storage (100	00 AF) - End	of Februar	ry	i		Watershed Sr	nowpack Analys	is - March	1, 2013
	Usable		le Storage *	***			Numbe		Year as % of
Reservoir	Capacity	This	Last		Water	shed	of		
		Year		Avg			Data Si		
LAKE SHERBURNE	64.3	54.7		=====  30.7	ST. M		3	93	104
	54.5	51.7	20.7		51. 11	711/1	J	22	101

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

49.7

42.6

30.4

BEARPAW MOUNTAINS

MILK RIVER BASIN

CYPRESS HILLS, CANADA

ST. MARY & MILK BASINS

3

6

8

12

212

167

192

114

125

115

126

109

The average is computed for the 1981-2010 base period.

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.
 - Median value used in place of average.

127.0 47.1 60.6

NO REPORT

41.9

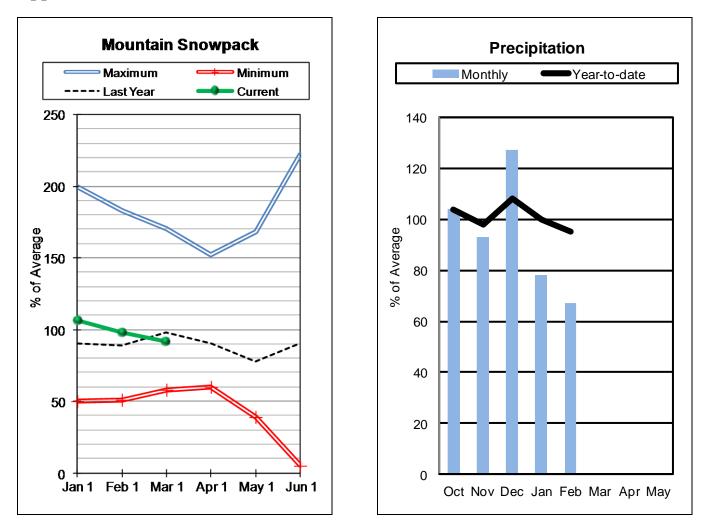
66.8

FRESNO

NELSON

BEAVER CREEK

#### **Upper Yellowstone River Basin**



Snowpack conditions in the Upper Yellowstone River Basin were near normal on March 1. Snow water content was 92 percent of median and 80 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 67 percent of average and 50 percent of last year. Water year precipitation, beginning October 1, 2012, was 95 percent of average and 89 percent of last year.

Mystic Lake storage was 77 percent of average and 66 percent of last year and Cooney storage was not available at the time of this report.

Assuming average precipitation, April through July streamflows are forecast to average 86 percent.

LIDDED VELLOWSTONE DIVED DASIN	

UPPER YELLOWSTONE RIVER BASIN Streamflow Forecasts - March 1, 2013

Streamflow Forecasts - March 1, 2013										
		<<======	Drier ====	== Future Co	onditions =	===== Wetter	=====>>			
Forecast Point	Forecast			= Chance Of E	Exceeding * :		=======			
	Period	90%	70%	50	) 응	30%	10%	30-Yr Avg.		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)		
				======================================		=====================================				
Yellowstone R at Yellowstone Lake	APR-JUL	385	455	500	87	545	615	575		
	APR-SEP	510	600	660	86	720	810	770		
Yellowstone R at Corwin Springs	APR-JUL	1130	1320	1440	91	1560	1750	1590		
	APR-SEP	1310	1530	1680	89	1830	2050	1880		
	MIR DBI	1010	1000	1 1000	05	1 1050	2050	1000		
Yellowstone R at Livingston	APR-JUL	1250	1480	1640	91	1800	2030	1800		
Terrowscone K at Brvingscon	APR-SEP	1460	1730	1920	90	2110	2380	2140		
	APR-SEP	1400	1/30	1920	90	2110	2380	2140		
Shields R nr Livingston	APR-JUL	16.0	61	92	71	123	168	129		
SHIELDS R HE LIVINGSCON	APR-JUL APR-SEP	16.0	67	101	71	135	186	143		
	APR-SEP	10.0	67	101	/ 1	135	180	143		
Boulder R at Big Timber	APR-JUL	196	240	270	96	300	345	280		
	APR-SEP	205	255	290	97	325	375	300		
West Rosebud Ck nr Roscoe (2)	APR-JUL	42	47	51	86	55	60	59		
	APR-SEP	53	60	65	88	70	77	74		
Stillwater R nr Absarokee (2)	APR-JUL	285	345	390	88	435	495	445		
	APR-SEP	335	410	460	89	510	585	520		
				i i		İ				
Clarks Fk Yellowstone R nr Belfry	APR-JUL	355	415	455	89	495	555	510		
	APR-SEP	385	450	495	90	540	605	550		
Cooney Reservoir Inflow	APR-JUL	7.6	20	29	76	38	50	38		
·····	APR-SEP	14.6	29	38	79	47	61	48		
Yellowstone R at Billings	APR-JUL	1910	2470	2850	88	3230	3790	3230		
Terrowscone k ac brirings	APR-SEP	2160	2820	3270	88	3720	4380	3730		
	AFR DEF	2100	2020	5270	00	5720	4000	5750		
UPPER YELLOWS				 I		YELLOWSTONE R				
								1 2012		
Reservoir Storage (100						nowpack Analys				
	Usable		e Storage *			Numbe		Year as % of		
Reservoir	Capacity	This	Last	Water	rsned	of				
		Year	Year Av	5		Data Si				
MYSTIC LAKE	21.0	2.3	3.5	3.0 YELLO	WSTONE ab L	IVINGSTON 14	85	93		

BOULDER-S	TILLWATER 3	91	103
RED LODGE	-ROCK CREEK 5	49	78
CLARK'S F	ORK 7	80	94
UPPER YEL	LOWSTONE BASIN 29	81	92

SHIELDS

4 99

88

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

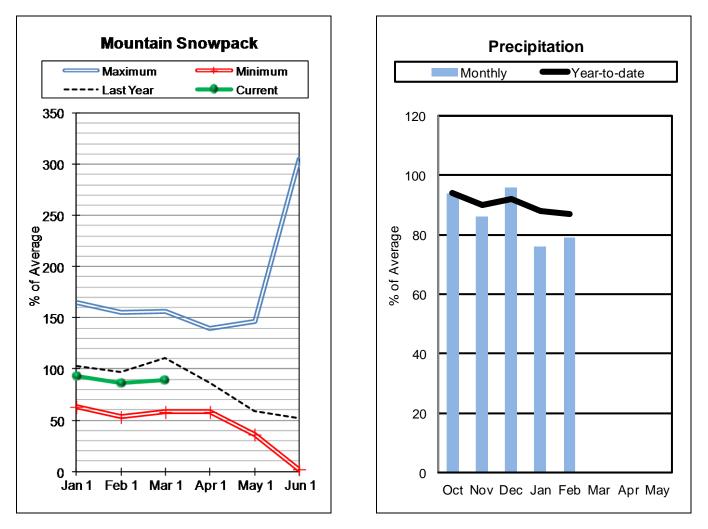
The average is computed for the 1981-2010 base period.

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.
 - Median value used in place of average.

NO REPORT

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#### Lower Yellowstone River Basin



Snowpack conditions in the Lower Yellowstone River Basin were below normal on March 1. Snow water content was 89 percent of median and 68 percent of last year.

Mountain precipitation according to SNOTEL stations during February was 79 percent of average and 52 percent of last year. Water year precipitation, beginning October 1, 2012, was 87 percent of average and 73 percent of last year.

Bighorn Lake storage was 108 percent of average and 101 percent of last year and Tongue River storage was 172 percent of average and 80 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 82 percent.

LOWER YELLOWSTONE RIVER BASIN Streamflow Forecasts - March 1, 2013

Streamflow Forecasts - March 1, 2013								
< Future Conditions Wetter>								
		<<======	Drier ====	== Future Co	onditions ==	===== Wetter	=====>>	
Forecast Point	Forecast							
	Period	90%	70%	50		30%	10%	30-Yr Avg.
		(1000AF)	(1000AF)		(% AVG.)	(1000AF)	(1000AF)	(1000AF)
Bighorn R nr St. Xavier (2)	APR-JUL	465	845	=====================================	========= 80	1360	1730	1380
Bighorn R nr St. Aavier (2)	APR-SEP	450	875	1160	80	1450	1870	1460
	APR-SEP	450	8/5	1 1100	80	1450	18/0	1460
Little Bighorn R nr Hardin	APR-JUL	30	58	   77	79	96	124	98
bittle bighorn k ni nardin	APR-SEP	37	68	89	80	110	141	111
	APR-SEP	57	00	09	80	110	141	111
Tonque R nr Dayton (2)	APR-JUL	42	60	73	85	86	104	86
Iongae it in Daycon (1)	APR-SEP	50	70	84	86	98	118	98
	MIR DEI	50	, 0	01	00	50	110	50
Big Goose Ck nr Sheridan	APR-JUL	15.5	27	35	76	43	54	46
5	APR-SEP	23	35	43	80	51	63	54
				-				
Little Goose Ck nr Bighorn	APR-JUL	13.0	20	25	81	30	37	31
5	APR-SEP	18.9	27	32	82	37	45	39
				İ	i			
Tongue River Reservoir Inflow (2)	APR-JUL	35	101	145	75	189	255	193
-	APR-SEP	49	118	165	77	210	280	215
				ĺ	İ			
Yellowstone R at Miles City (2)	APR-JUL	2440	3400	4050	85	4700	5660	4780
	APR-SEP	2700	3840	4610	85	5380	6520	5450
					ĺ			
Powder R at Moorhead	APR-JUL	43	111	157	89	205	270	177
	APR-SEP	60	130	178	91	225	295	196
Powder R nr Locate	APR-JUL	42	122	177	89	230	310	199
	APR-SEP	55	141	200	91	260	345	220
						1005		1005
Yellowstone R nr Sidney (2)	APR-JUL	2220	3320	4060	84	4800	5900	4830
	APR-SEP	2340	3640	4530	83	5420	6720	5430
LOWER YELLOWS	TONE RIVER	BASIN		1	LOWER	YELLOWSTONE F	LVER BASIN	

LOWER YELLOWSTONE RIVER BASIN Reservoir Storage (1000 AF) - End of February				LOWER YELLOWSTONE RIVER BASIN Watershed Snowpack Analysis - March 1, 2013				
Reservoir	Usable   Capacity  	*** Usa This Year	ble Stora Last Year	======= ge *** Avg	Watershed	Number of Data Sites		r as % of ====== Median
BIGHORN LAKE	1356.0	863.9	855.1	797.1	WIND RIVER (Wyoming)	19	70	83
TONGUE RIVER	79.1	48.4	60.6	28.2	SHOSHONE RIVER (Wyoming	) 5	74	92
					BIGHORN RIVER (Wyoming)	18	71	94
					LITTLE BIGHORN (Wyoming	) 3	61	82
					TONGUE RIVER (Wyoming)	10	60	90
					POWDER RIVER (Wyoming)	9	64	99
					   LOWER YELLOWSTONE BASIN	( 47	67	89

j \* 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 1981-2010 base period.

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 The value is natural volume - actual volume may be affected by upstream water management.
 - Median value used in place of average.

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