

# Montana

# Water Supply

# Outlook Report

# February 2, 2012



**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 February 1, 2012

Across the majority of the state January yielded the most precipitation since October due in large part to storms during the latter half of the month. January started off warm and dry until an upper level trough materialized and brought more seasonable precipitation and temperatures to the state. The trough dissolved before the end of January and helped to increase snowpack most specifically in the northern and central thirds of the state. During this wetter period a large initial storm deposited several inches of water in some locations onto a deficient snowpack. After the initial storm, frequent snow showers helped to make up for lost ground during the beginning of January. With the increased snowpack, forecasters believe streamflows this spring will be slightly better than predicted last month.

## Snowpack

Typical snowpack accumulation on February 1 for the Columbia is 66 percent of yearly maximum snowpack; Missouri is 62 percent; and Yellowstone is 62 percent. State-wide mountain snow water content was 90 percent of average and 80 percent of last year. West of the Divide snowpack was 93 percent of average and 84 percent of last year. East of the Divide snowpack was 90 percent of average and 81 percent of last year.

RIVER BASIN	% OF AVERAGE	LAST YEAR % OF AVERAGE	JANUARY % CHANGE
COLUMBIA	93	113	+13
KOOTENAI	99	107	+11
FLATHEAD	86	120	+17
UPPER CLARK FORK	98	112	+16
BITTERROOT	99	103	+9
LOWER CLARK FORK	102	116	+12
MISSOURI	84	113	+4
MISSOURI HEADWATERS	80	109	+3
JEFFERSON	82	107	+4
MADISON	78	109	+5
GALLATIN	73	113	-4
MISSOURI MAINSTEM	98	122	+5
HEADWATERS MAINSTEM	111	104	+6
SMITH-JUDITH-MUSSELSHELL	92	119	+3
SUN-TETON-MARIAS	95	93	+14
MILK (Bearpaw Mtns)	61	203	+11
ST. MARY	93	108	+15
ST. MARY & MILK	81	155	+5
YELLOWSTONE	94	110	-3
UPPER YELLOWSTONE	89	115	-1
LOWER YELLOWSTONE	97	106	-6
STATE-WIDE	90	113	+8

## Precipitation

January mountain and valley precipitation across the state was 99 percent of average and 79 percent of last year, while the water year precipitation was 96 percent of average and 84 percent of last year. West of the Continental Divide, January mountain and valley precipitation was 109 percent of average and 80 percent of last year and the water year precipitation was 99 percent of average and 85 percent of last year. East of the Divide, January mountain and valley precipitation was 88 percent of average and 78 percent of last year and the water year precipitation was 93 percent of average and 83 percent of last year.

RIVER BASIN	JANUARY % OF AVERAGE	WATER YEAR % OF AVERAGE
COLUMBIA	109	99
KOOTENAI	102	99
FLATHEAD	106	93
UPPER CLARK FORK	112	102
BITTERROOT	119	108
LOWER CLARK FORK	113	99
MISSOURI	91	96
JEFFERSON	90	90
MADISON	79	88
GALLATIN	52	81
MISSOURI MAINSTEM	109	107
SMITH-JUDITH-MUSSELSHELL	103	110
SUN-TETON-MARIAS	123	107
MILK	81	81
ST. MARY	119	99
YELLOWSTONE	83	99
UPPER YELLOWSTONE	83	95
LOWER YELLOWSTONE	88	104
STATEWIDE	99	96

## Reservoirs

State-wide reservoir storage was 110 percent of average and 100 percent of last year. Reservoir storage west of the divide was 133 percent of average and 99 percent of last year. East of the Divide, reservoir storage was 103 percent of average and 100 percent of last year.

RIVER BASIN	% OF AVERAGE	% OF LAST YEAR
COLUMBIA	133	99
KOOTENAI	155	100
FLATHEAD	120	98
UPPER CLARK FORK	134	94
BITTERROOT	107	73
LOWER CLARK FORK	102	100
MISSOURI	103	100
JEFFERSON	120	102
MADISON	113	102
GALLATIN	119	76
MISSOURI MAINSTEM	102	100
SMITH-JUDITH-MUSSELSHELL	132	92
SUN-TETON-MARIAS	112	101
MILK	131	97
ST. MARY	95	52
YELLOWSTONE	108	103
UPPER YELLOWSTONE	119	101
LOWER YELLOWSTONE	108	103
STATEWIDE	110	100

## Streamflow

State-wide, streamflows are forecast to be 91 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. THESE FORECASTS ASSUME NEAR NORMAL SPRING CONDITIONS AND DO NOT ACCOUNT FOR WELL BELOW AVERAGE (70% or less) OR WELL ABOVE AVERAGE (130% or more) SNOWMELT OR SPRING RAIN. The figures below are the combined averages of the individual forecast points within the particular basin. Specific forecast probabilities are available in each individual River Basin Report.

RIVER BASIN	April-July THIS YEAR % OF AVERAGE	April-July LAST YEAR % OF AVERAGE
COLUMBIA .....	92	112
KOOTENAI .....	86	101
FLATHEAD .....	89	123
UPPER CLARK FORK .....	98	107
BITTERROOT .....	99	105
LOWER CLARK FORK .....	87	110
MISSOURI .....	84	106
JEFFERSON .....	72	102
MADISON .....	83	99
GALLATIN .....	85	103
MISSOURI MAINSTEM .....	82	102
SMITH-JUDITH-MUSSELSHELL .....	83	115
SUN-TETON-MARIAS .....	101	97
MILK .....	90	148
ST. MARY .....	106	107
YELLOWSTONE .....	98	101
UPPER YELLOWSTONE .....	91	105
LOWER YELLOWSTONE .....	105	97
STATE-WIDE .....	91	107

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

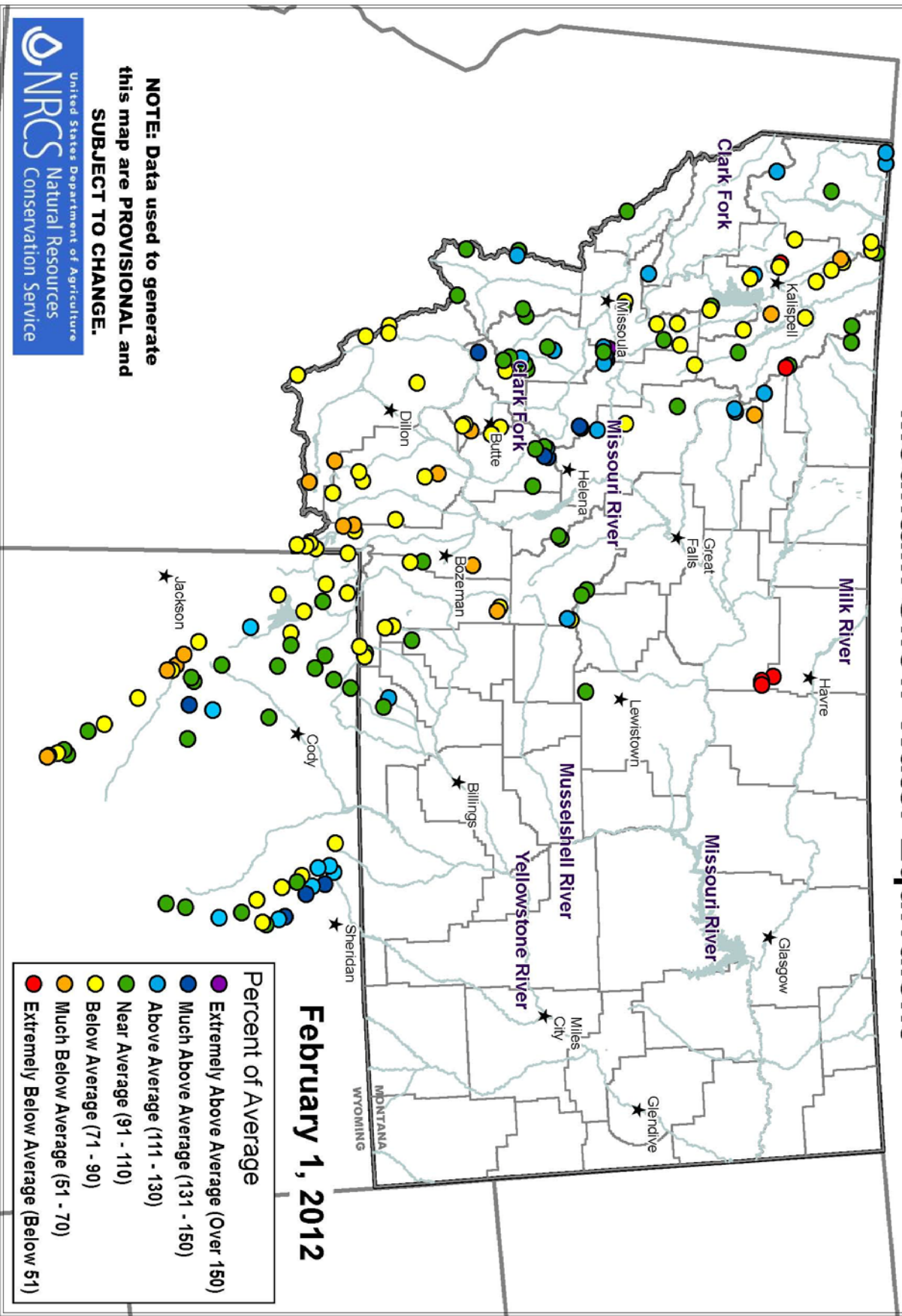
# Surface Water Supply Index

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 RATING	SURFACE WATER CONDITION
+3.0 to +4.0	Extremely Wet
+2.0 to +3.0	Moderately Wet
+1.0 to +2.0	Slightly Wet
-1.0 to +1.0	Near Average
-1.0 to -2.0	Slightly Dry
-2.0 to -3.0	Moderately Dry
-3.0 to -4.0	Extremely Dry

This Year SWSI	Last Year SWSI	Basin
-0.8	+0.9	Tobacco River
-1.1	+0.7	Kootenai Ft. Steele to Libby Dam
+0.6	+2.1	Kootenai River below Libby Dam
+0.1	+1.4	Fisher River
+0.8	+0.5	Yaak River
-1.4	+1.9	North Fork Flathead River
-0.6	+1.7	Middle Fork Flathead River
-0.2	+3.7	South Fork Flathead River
-0.7	+2.4	Flathead River at Columbia Falls
-1.4	+3.0	Swan River
-2.6	+1.7	Flathead River at Polson
-1.9	+2.8	Mission Valley
+0.9	----	Little Bitterroot River
+0.7	+1.4	Clark Fork River above Milltown
+0.6	+1.9	Clark Fork above Missoula
+0.5	+2.3	Blackfoot River
+0.6	+0.9	Bitterroot River
+0.6	+1.6	Clark Fork River below Bitterroot River
-1.4	+1.7	Clark Fork River below Flathead River
+0.2	+1.4	Beaverhead River
-0.7	+1.3	Ruby River
-0.9	+1.5	Big Hole River
+0.2	+0.1	Boulder River (Jefferson)
-0.6	+1.9	Jefferson River
-1.3	+0.6	Madison River
-0.8	+1.1	Gallatin River
0.0	+0.7	Missouri River above Canyon Ferry
+0.1	+0.6	Missouri River below Canyon Ferry
+2.9	+2.5	Smith River
+0.7	-0.4	Sun River
+1.8	+0.7	Teton River
+1.4	+0.8	Birch/Dupuyer Creeks
+2.0	+3.3	Upper Judith River
+0.3	0.0	Marias River above Tiber
+2.1	+2.0	Marias River below Tiber
+1.2	+2.2	Musselshell River
+0.9	+1.0	Missouri River above Ft. Peck
+0.2	+0.9	Missouri River below Ft. Peck
+1.6	+1.9	St. Mary River
+2.1	+2.2	Milk River
+0.7	-0.3	Dearborn River near Craig
+0.1	+1.8	Yellowstone River above Livingston
-1.7	+2.5	Shields River
-1.4	+2.2	Boulder River (Yellowstone)
-1.0	+0.6	Stillwater River
+0.8	-0.9	Rock/Red Lodge Creeks
+0.7	+2.4	Clarks Fork River
0.0	+1.7	Yellowstone River above Bighorn River
+0.1	-2.0	Bighorn River below Bighorn Lake
+2.0	+0.2	Little Bighorn River
+0.1	0.0	Yellowstone River below Bighorn River
+2.7	+1.6	Tongue River
+1.7	+1.3	Powder River

# Mountain Snow Water Equivalent



**February 1, 2012**

- Percent of Average**
- Extremely Above Average (Over 150)
  - Much Above Average (131 - 150)
  - Above Average (111 - 130)
  - Near Average (91 - 110)
  - Below Average (71 - 90)
  - Much Below Average (51 - 70)
  - Extremely Below Average (Below 51)

**NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.**

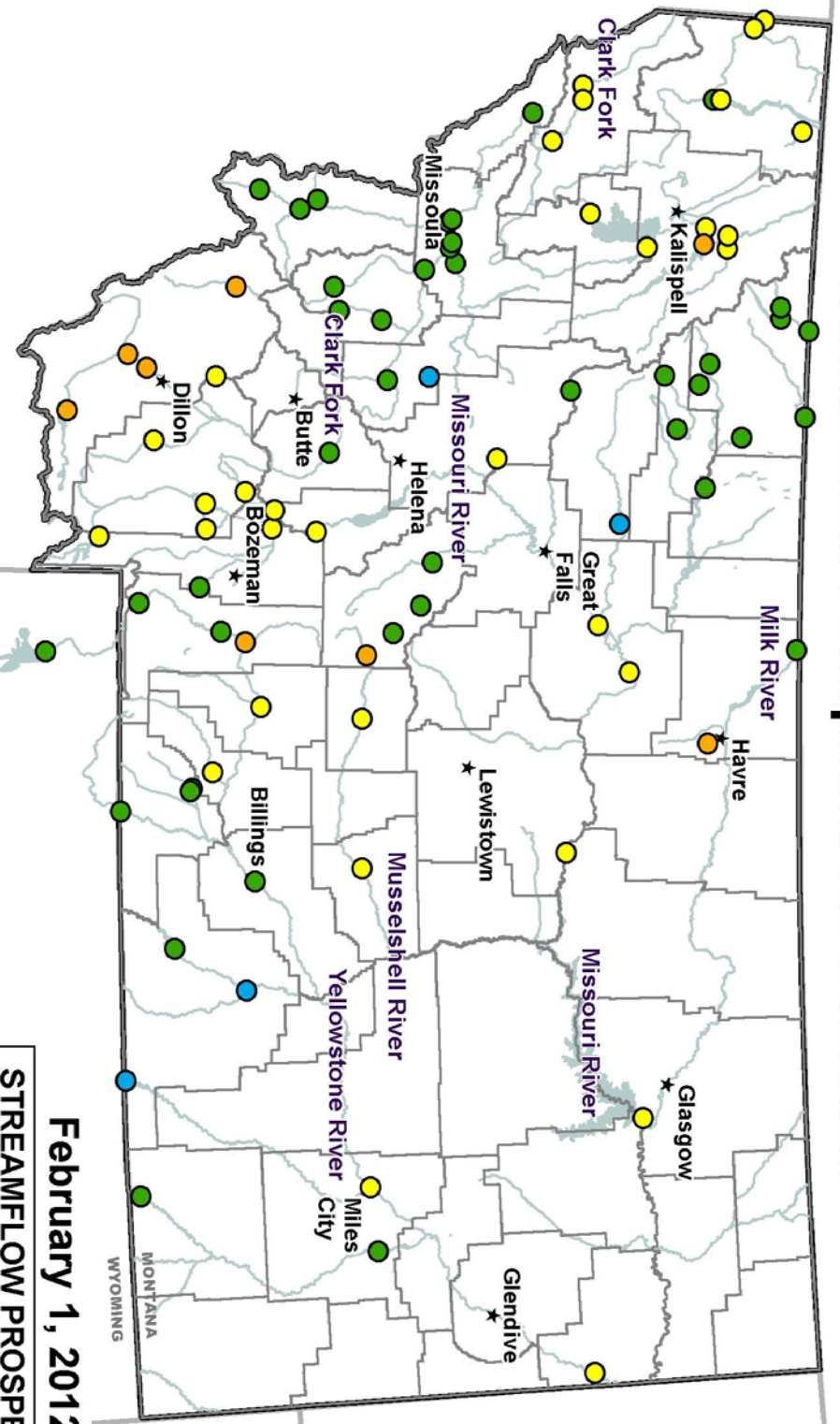








# Streamflow Prospects for Montana



February 1, 2012

## STREAMFLOW PROSPECTS

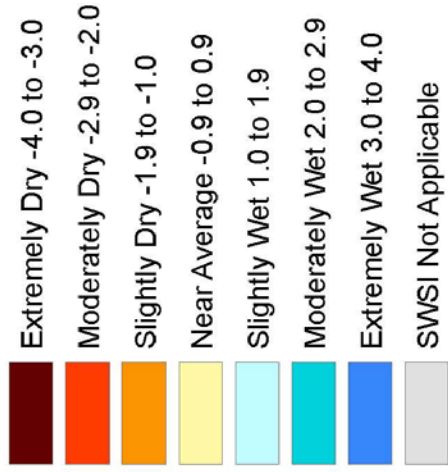
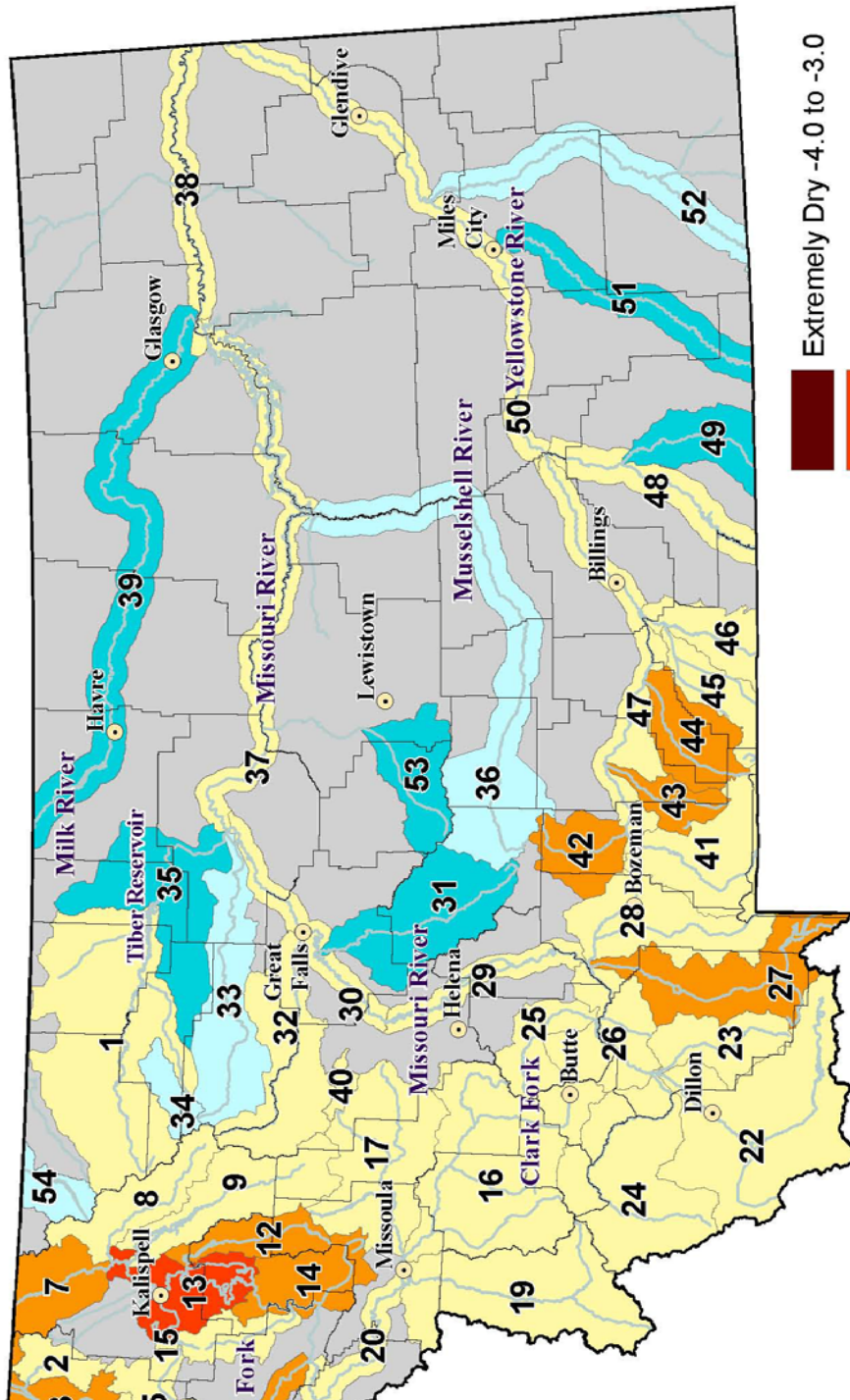
- Extremely Above Average (Over 150)
- Much Above Average (131 - 150)
- Above Average (111 - 130)
- Near Average (91 - 110)
- Below Average (71 - 90)
- Much Below Average (51 - 70)
- Extremely Below Average (Below 51)

**NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.**

# Surface Water Supply Index (SWSI) Values

## RIVER INDEX & SWSI VALUES

- 1 Marias above Tiber Reservoir 0.1
- 2 Tobacco -2.3
- 3 Kootenai Ft. Steele to Libby Dam -1
- 4 Kootenai below Libby Dam -0.2
- 5 Fisher -1.2
- 6 Yaak -0.6
- 7 North FK. Flathead -2
- 8 Middle FK. Flathead -0.9
- 9 South FK. Flathead 0.4
- 10 Flathead at Columbia Falls -0.6
- 11 Swan -1.7
- 12 Flathead at Polson -1.8
- 13 Mission Valley -2.8
- 14 Little Bitterroot 1.6
- 15 Clark Fork above Milltown -0.3
- 16 Clark Fork above Missoula -1.6
- 17 Bitterroot 0
- 18 Clark Fork River below Bitterroot -1.1
- 19 Clark Fork River below Flathead -1.6
- 20 Beaverhead 0.4
- 21 Ruby -0.6
- 22 Big Hole -1
- 23 Boulder (Jefferson) 0.2
- 24 Jefferson -0.6
- 25 Madison -0.5
- 26 Gallatin -0.8
- 27 Missouri above Canyon Ferry 0.1
- 28 Missouri below Canyon Ferry -0.1
- 29 Smith 2.7
- 30 Sun 0
- 31 Teton 1.2
- 32 Birch/Dupuyer Creeks 1.2
- 33 Marias 2.1
- 34 Musselshell 0.6
- 35 Missouri above Fort Peck 0.6
- 36 Missouri below Fort Peck -0.2
- 37 Milk 1.6
- 38 Dearborn near Craig -0.3
- 39 Yellowstone above Livingston 0.1
- 40 Shields -2.3
- 41 Boulder (Yellowstone) -1.1
- 42 Stillwater -0.8
- 43 Rock/Red Lodge Creeks 1.7
- 44 Clarks Fork Yellowstone 0.5
- 45 Yellowstone above Bighorn River -0.1
- 46 Bighorn below Bighorn Lake 0.2
- 47 Little Bighorn 2
- 48 Yellowstone below Bighorn 0
- 49 Tongue 2.8
- 50 Powder 1.7
- 51 Upper Judith 1.7
- 52 Saint Mary 1.3



February 7 2012

**NOTE: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE.**

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 71-00
ALBRO LAKE SNOTEL	8300	2/01/12	42	9.1	9.8	13.1
ASHLEY DIVIDE	4820	1/27/12	20	4.4	7.4	5.1
ASHLEY LAKE	4000	1/27/12	10	1.4	4.8	4.4
BADGER PASS SNOTEL	6900	2/01/12	76	24.6	22.0	22.3
BANFIELD MTN SNOTEL	5600	2/01/12	51	13.1	11.3	13.3
BARKER LAKES SNOTEL	8250	2/01/12	29	6.8	8.4	9.2
BASIN CREEK SNOTEL	7180	2/01/12	17	3.5	5.1	4.9
BEAGLE SPGS SNOTEL	8850	2/01/12	20	3.9	7.2	5.5
BEAVER CREEK SNOTEL	7850	2/01/12	32	7.5	15.3	11.5
BISSON CREEK SNOTEL	4920	2/01/12	27	6.3	11.4	6.8
BLACK BEAR SNOTEL	7950	2/01/12	82	22.8	29.2	25.6
BLACK PINE SNOTEL	7100	2/01/12	32	8.3	8.9	8.0
BLACKTAIL	5650	1/29/12	31	8.0	12.8	9.6
BLACKTAIL MTN SNOTEL	5650	2/01/12	33	8.6	13.2	--
BLOODY DICK SNOTEL	7550	2/01/12	32	7.1	8.9	8.4
BOULDER MTN SNOTEL	7950	2/01/12	52	13.4	14.2	13.4
BOX CANYON SNOTEL	6700	2/01/12	23	5.6	8.5	6.7
BOXELDER CREEK	5100	1/26/12	6	1.2	10.0	5.2
BRACKETT CR SNOTEL	7320	2/01/12	32	7.2	15.8	13.3
BURNT MTN SNOTEL	5880	2/01/12	17	4.6	4.1	4.0
CALVERT CR SNOTEL	6430	2/01/12	38	8.4	7.9	5.9
CARROT BASIN SNOTEL	9000	2/01/12	51	13.2	18.7	18.1
CHESSMAN RESERVOIR	6200	1/30/12	19	3.7	3.0	2.5
CHICKEN CREEK	4060	1/26/12	41	8.2	13.2	11.5
CLOVER MDW SNOTEL	8800	2/01/12	32	8.2	11.2	11.1
COLE CREEK SNOTEL	7850	2/01/12	33	10.4	7.1	9.8
COMBINATION SNOTEL	5600	2/01/12	15	3.8	3.8	3.4
COPPER BOTTOM SNOTEL	5200	2/01/12	24	6.4	5.6	8.0
COPPER CAMP SNOTEL	6950	2/01/12	109	38.2	38.1	--
COPPER MOUNTAIN	7700	2/01/12	23	5.0	6.1	7.0
COYOTE HILL	4200	1/26/12	33	6.6	8.1	7.3
CRYSTAL LAKE SNOTEL	6050	2/01/12	30	7.3	12.7	8.1
DAISY PEAK SNOTEL	7600	2/01/12	27	5.9	7.1	6.7
DALY CREEK SNOTEL	5780	2/01/12	31	7.8	7.5	7.4
DARKHORSE LK. SNOTEL	8700	2/01/12	56	15.1	24.1	20.4
DEADMAN CR SNOTEL	6450	2/01/12	29	6.5	9.0	7.1
DISCOVERY BASIN	7050	1/26/12	29	6.4	6.5	6.6
DIVIDE SNOTEL	7800	2/01/12	23	4.6	8.3	6.9
DIX HILL	6400	1/29/12	36	9.9	7.9	7.6
DUPUYER CREEK SNOTEL	5750	2/01/12	19	5.1	5.8	7.3
EMERY CREEK SNOTEL	4350	2/01/12	27	7.8	13.5	10.5
FISH CREEK	8000	1/26/12	22	4.6	6.6	5.8
FISHER CREEK SNOTEL	9100	2/01/12	87	22.8	26.5	23.8
FLATTOP MTN SNOTEL	6300	2/01/12	103	28.8	33.6	31.8
FROHNER MDWS SNOTEL	6480	2/01/12	26	6.8	5.4	5.0
GARVER CREEK SNOTEL	4250	2/01/12	37	9.0	7.4	7.3
GRAVE CRK SNOTEL	4300	2/01/12	36	9.9	12.6	11.7
HAND CREEK SNOTEL	5030	2/01/12	29	6.8	9.0	8.6
HAWKINS LAKE SNOTEL	6450	2/01/12	76	21.8	17.4	18.4
HEBGEN DAM	6550	1/27/12	25	5.0	8.0	8.2
HELL ROARING DIVIDE	5770	1/31/12	62	17.4	25.3	20.7
HERRIG JUNCTION	4850	1/26/12	55	13.2	18.8	18.1
HOLBROOK	4530	2/01/12	21	5.5	6.7	7.2
HOODOO BASIN SNOTEL	6050	2/01/12	106	29.5	31.1	30.1
INTERGAARD	6450	1/29/12	20	5.8	4.8	4.8
JOHNSON PARK	6450	2/01/12	20	5.0	4.9	3.9
KRAFT CREEK SNOTEL	4750	2/01/12	34	9.4	10.9	10.9
LAKEVIEW RDG. SNOTEL	7400	2/01/12	20	3.7	7.3	7.2
LEMHI RIDGE SNOTEL	8100	2/01/12	22	5.0	8.3	6.9
LICK CREEK SNOTEL	6860	2/01/12	27	7.2	6.6	7.4
LONE MOUNTAIN SNOTEL	8880	2/01/12	37	9.5	14.7	12.1
LOWER TWIN SNOTEL	7900	2/01/12	40	9.2	11.7	12.0

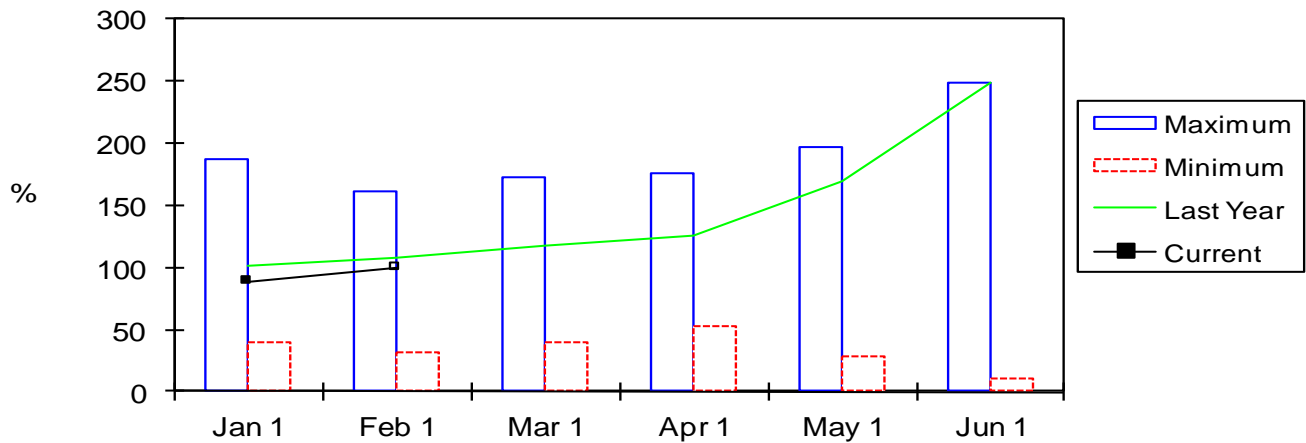
LUBRECHT SNOTEL	4680	2/01/12	25	6.5	5.0	4.2
LUBRECHT FOREST NO 3	5450	1/30/12	20	4.2	5.8	4.6
LUBRECHT FOREST NO 4	4650	1/30/12	12	2.8	2.7	2.5
LUBRECHT FOREST NO 6	4040	1/30/12	22	5.0	5.4	2.8
LUBRECHT HYDROPLOT	4200	1/30/12	25	5.7	6.1	4.2
MADISON PLT SNOTEL	7750	2/01/12	53	13.5	18.4	16.2
MANY GLACIER SNOTEL	4900	2/01/12	38	11.2	12.8	11.2
MARIAS PASS	5250	1/30/12	47	11.3	11.7	11.7
MONUMENT PK SNOTEL	8850	2/01/12	44	10.2	17.4	14.2
MOSS PEAK SNOTEL	6780	2/01/12	78	21.7	36.4	24.6
MOULTON RESERVOIR	6850	1/26/12	19	3.8	5.8	5.2
MT LOCKHART SNOTEL	6400	2/01/12	55	16.9	15.3	14.2
MULE CREEK SNOTEL	8300	2/01/12	36	7.9	12.5	10.4
N.E. ENTRANCE SNOTEL	7350	2/01/12	29	6.0	8.8	7.7
NEVADA RIDGE SNOTEL	7020	2/01/12	52	12.8	12.1	10.1
NEZ PERCE CMP SNOTEL	5650	2/01/12	41	9.4	10.0	9.9
N.F. ELK CR SNOTEL	6250	2/01/12	37	8.8	10.3	8.0
NF JOCKO SNOTEL	6330	2/01/12	79	21.6	37.5	30.1
NOISY BASIN SNOTEL	6040	2/01/12	64	16.9	44.5	27.0
OPHIR PARK	7150	1/29/12	41	11.3	11.6	10.6
PETERSON MDW SNOTEL	7200	2/01/12	25	5.8	5.7	6.1
PICKFOOT CRK SNOTEL	6650	2/01/12	33	8.0	8.2	7.9
PIKE CREEK SNOTEL	5930	2/01/12	34	8.7	12.9	17.8
PIPESTONE PASS	7200	2/01/12	11	2.2	3.0	3.2
PLACER BASIN SNOTEL	8830	2/01/12	43	10.8	13.5	11.7
POORMAN CR SNOTEL	5100	2/01/12	92	27.4	29.5	21.4
PORCUPINE SNOTEL	6500	2/01/12	12	3.3	5.4	4.5
ROCKER PEAK SNOTEL	8000	2/01/12	38	9.0	10.3	9.1
ROCKY BOY SNOTEL	4700	2/01/12	6	1.7	7.0	3.7
SACAJAWEA SNOTEL	6550	2/01/12	19	4.8	10.8	8.9
SADDLE MTN SNOTEL	7900	2/01/12	66	16.2	20.2	17.3
S.F. SHIELDS SNOTEL	8100	2/01/12	30	7.0	12.0	10.7
SHORT CREEK SNOTEL	7000	2/01/12	15	3.5	4.7	3.9
SHOWER FALLS SNOTEL	8100	2/01/12	43	11.5	14.9	14.0
SKALKAHO SNOTEL	7260	2/01/12	60	15.7	17.2	16.0
SLEEPING WOMAN SNTL	6150	2/01/12	45	12.1	13.0	10.6
SPOTTED BEAR MTN.	7000	2/03/12	41	9.4	10.2	10.1
SPUR PARK SNOTEL	8100	2/01/12	56	14.8	17.8	14.6
STAHL PEAK SNOTEL	6030	2/01/12	69	19.2	30.3	24.1
STORM LAKE	7780	1/26/12	31	7.8	7.1	8.3
STRYKER BASIN	6180	1/26/12	60	14.7	24.9	21.3
STUART MOUNTAIN SNTL	7400	2/01/12	77	21.3	30.9	22.8
TAYLOR ROAD	4080	1/26/12	6	1.0	6.3	2.6
TEN MILE LOWER	6600	1/31/12	26	5.8	4.3	4.7
TEN MILE MIDDLE	6800	1/30/12	31	7.0	6.2	7.1
TEPEE CREEK SNOTEL	8000	2/01/12	29	6.4	10.2	8.5
TIZER BASIN SNOTEL	6840	2/01/12	30	6.6	5.0	6.5
TRINKUS LAKE	6100	2/03/12	80	23.7	38.5	26.6
TRUMAN CREEK	4060	1/27/12	16	4.4	4.8	3.5
TV MOUNTAIN	6800	2/03/12	43	10.5	17.4	11.8
TWELVEMILE SNOTEL	5600	2/01/12	54	15.1	10.6	12.8
TWENTY-ONE MILE	7150	1/31/12	38	9.0	11.7	11.1
TWIN LAKES SNOTEL	6400	2/01/12	95	25.8	28.5	27.5
UPPER HOLLAND LAKE	6200	2/03/12	70	19.4	24.8	23.7
WALDRON SNOTEL	5600	2/01/12	34	10.0	7.3	8.0
WARM SPRINGS SNOTEL	7800	2/01/12	54	13.6	15.5	13.8
WEASEL DIVIDE	5450	1/30/12	73	20.2	23.2	21.5
WEST YELL 'ST SNOTEL	6700	2/01/12	33	7.0	9.4	8.6
WHISKEY CREEK SNOTEL	6800	2/01/12	40	9.3	13.2	11.1
WHITE MILL SNOTEL	8700	2/01/12	58	14.0	18.3	16.1
WOOD CREEK SNOTEL	5960	2/01/12	29	6.8	6.9	6.3

## Kootenai River Basin in Montana

Snowpack conditions in the Kootenai River Basin as of February 1 were near average. Snow water content was 99 percent of average and 93 percent of last year. Snowpack in the Kootenai in Canada was above average. Snow water content was 129 percent of average and 146 percent of last year.

□

### Kootenai Snow Water Equivalent

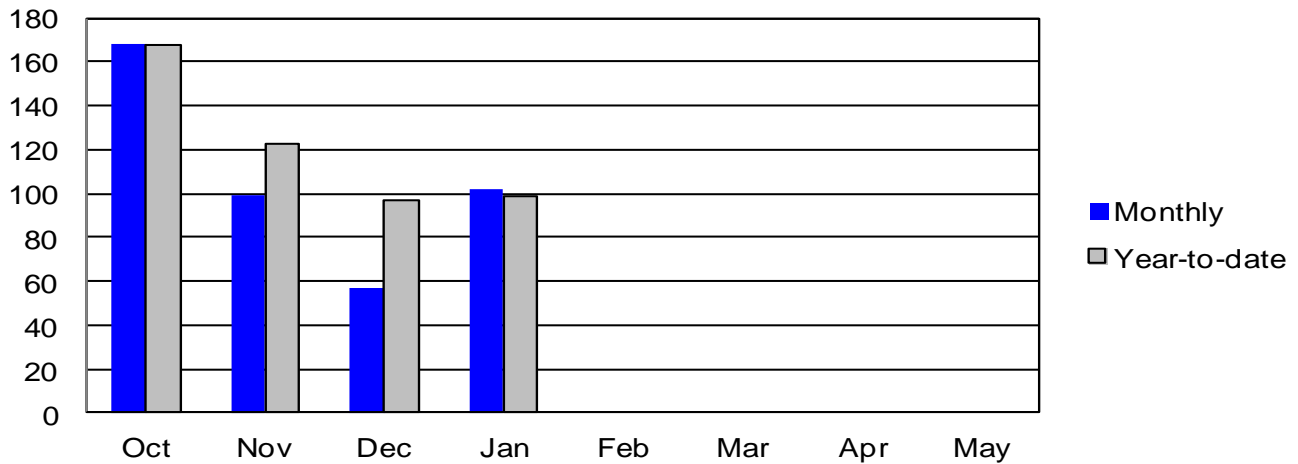


January maximum swe was established in 1997 and minimum was in 1977; February maximum swe was in 1997 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 1977; April maximum swe was in 1974 and minimum swe was in 1977 and 2005; May maximum swe was in 1974 and minimum swe was in 1977; and June maximum swe was in 2011 and minimum swe was in 1992. Average is for the period 1971 through 2000.

Mountain precipitation during January was 102 percent of average and 85 percent of last year. Valley precipitation during January was 109 percent of average and 106 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 99 percent of average and 89 percent of last year.

□

### Kootenai Snow Water Equivalent



Lake Koocanusa storage at the end of January was 155 percent of average and 100 percent of average.

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

Surface Water Supply Index (SWSI) was -0.8 in the Tobacco River; -1.1 in the Kootenai Ft. Steele to Libby Dam; +0.6 in the Kootenai River below Libby Dam; +0.1 in the Fisher River; and +0.8 in the Yaak River.



KOOTENAI RIVER BASIN in Montana  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>					30-Yr Avg. (1000AF)	
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)		(1000AF)
Tobacco R nr Eureka	APR-JUL	82	99	110	81	121	138	136
	APR-SEP	91	110	123	82	136	155	150
Libby Reservoir Inflow (1,2)	APR-JUL	3870	4470	4750	84	5030	5790	5640
	APR-SEP	4660	5190	5460	82	5730	6610	6640
Fisher River nr Libby	APR-JUL	138	181	210	91	240	280	230
	APR-SEP	145	190	220	90	250	295	245
Yaak River nr Troy	APR-JUL	315	375	415	89	455	515	465
	APR-SEP	335	395	435	89	475	535	490
Kootenai R at Leonia (1,2)	APR-JUL	5120	5770	6150	87	6530	7230	7040
	APR-SEP	5900	6660	7030	87	7400	8210	8120

KOOTENAI RIVER BASIN in Montana  
Reservoir Storage (1000 AF) - End of January

KOOTENAI RIVER BASIN in Montana  
Watershed Snowpack Analysis - February 1, 2012

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
LAKE KOOCANUSA	5748.0	3723.0	3721.0	2400.9	KOOTENAY in CANADA	15	130	117
					KOOTENAI MAINTSTEM	3	101	105
					TOBACCO	3	75	86
					FISHER	1	76	79
					YAAK	2	124	120
					KOOTENAI in MONTANA	9	93	99
					KOOTENAI ab BONNERS FERRY	24	111	109

\* 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.

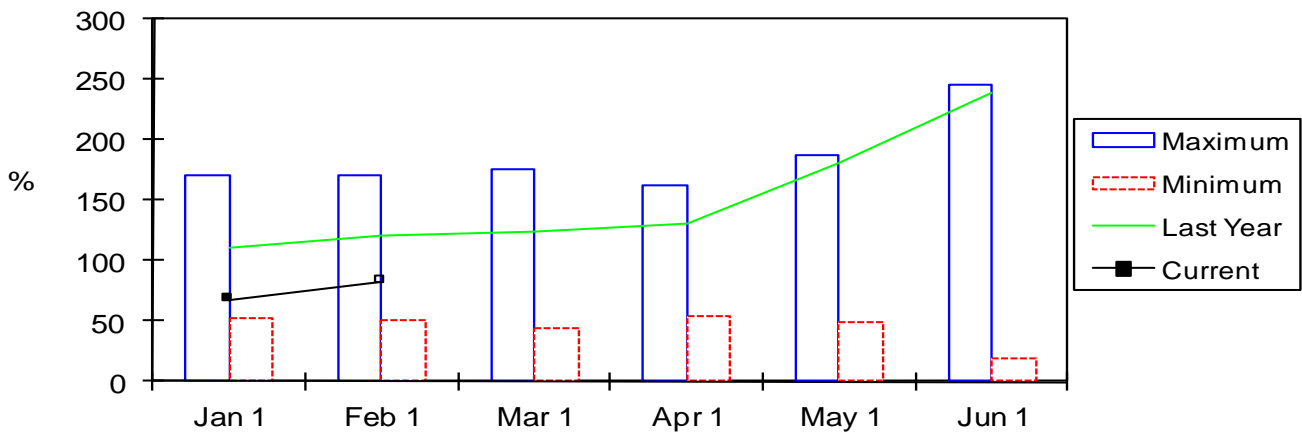


## Flathead River Basin

Snowpack conditions in the Flathead River Basin were well below average on February 1. Snow water content was 86 percent of average and 69 percent of last year. Snowpack in the Flathead of Canada is above average. Snow water content was 113 percent of average and 85 percent of last year.

□

### Flathead Snow Water Equivalent

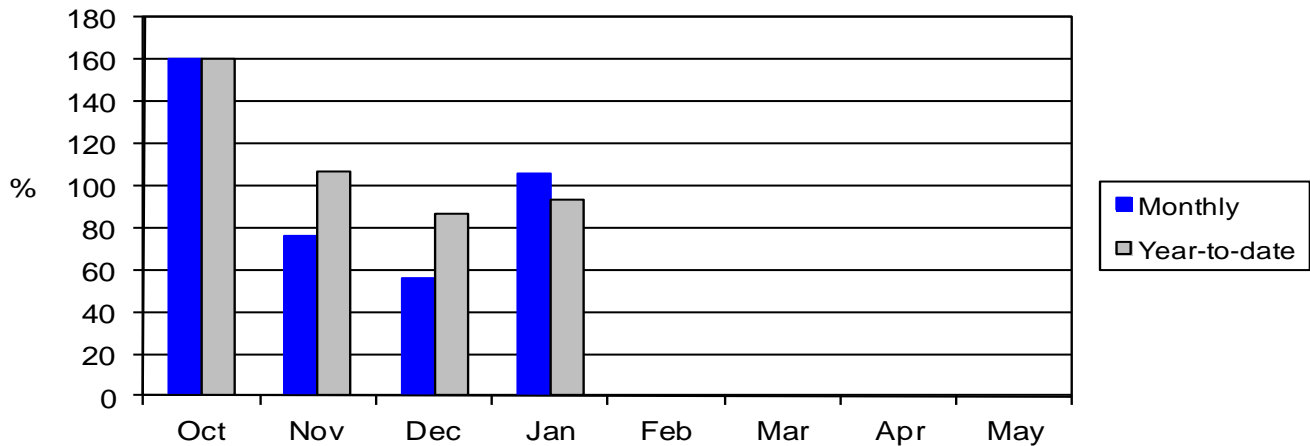


January maximum swe was established in 1997 and minimum was in 2001; February maximum swe was in 1997 and minimum was in 2001; March maximum swe was in 1972 and minimum was in 2005; April maximum swe was in 1972 and minimum was in 2005; May maximum swe was in 1972 and minimum was in 1992; and June maximum swe was in 1974 and minimum was in 1992. Average is for the period 1971 through 2000.

Mountain precipitation during January was 107 percent of average and 72 percent of last year. Valley precipitation during January was 91 percent of average and 55 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 93 percent of average and 77 percent of last year.

□

### Flathead Precipitation



Hungry Horse Reservoir storage at the end of January was 131 percent of average and 100 percent of last year. Flathead Lake storage at the end of January was 96 percent of average and 87 percent of last year.

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

Surface Water Supply Index (SWSI) was -1.4 in the North Fork Flathead River; -0.6 in the Middle Fork Flathead River; -0.2 in the South Fork Flathead River; -0.7 in the Flathead River at Columbia Falls; -1.4 in the Swan River; -2.6 in the Flathead River at Polson; -1.9 in the Mission Valley; +0.9 in the Little Bitterroot River.

=====

FLATHEAD RIVER BASIN  
Streamflow Forecasts - February 1, 2012

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
NF Flathead R nr Columbia Falls	APR-JUL	1110	1250	1350	83	1450	1600	1620
	APR-SEP	1260	1420	1520	84	1630	1780	1800
MF Flathead R nr West Glacier	APR-JUL	1110	1270	1390	87	1500	1660	1590
	APR-SEP	1260	1430	1550	89	1670	1840	1740
SF Flathead R nr Hungry Horse	APR-JUL	950	1080	1170	94	1260	1390	1250
	APR-SEP	1010	1150	1240	93	1330	1470	1330
Hungry Horse Reservoir Inflow (1,2)	APR-JUL	1000	1280	1400	70	1530	1800	2000
	APR-SEP	1100	1390	1520	72	1650	1940	2120
Flathead R at Columbia Falls (2)	APR-JUL	3520	3980	4300	80	4610	5070	5350
	APR-SEP	3900	4380	4710	81	5040	5530	5820
Ashley Ck nr Marion (2)	APR-JUL	3.0	4.4	5.4	75	6.4	7.8	7.2
	MARCH	0.1	0.6	0.9	87	1.2	1.7	1.1
Swan R nr Bigfork	APR-JUL	390	445	485	86	525	580	565
	APR-SEP	445	505	550	85	595	655	645
Flathead Lake Inflow (1,2)	APR-JUL	3930	4460	4840	78	5220	5740	6180
	APR-SEP	4000	4890	5300	79	5710	6600	6700
Mill Ck ab Bassoo Ck nr Niarada	APR-JUL	2.4	3.4	4.1	100	4.8	5.8	4.1
	APR-SEP	2.8	3.8	4.5	102	5.2	6.2	4.4
South Crow Ck nr Ronan	APR-JUL	7.4	8.8	9.8	97	10.8	12.2	10.1
	APR-SEP	8.5	10.1	11.2	97	12.3	13.9	11.5
Mission Ck nr St. Ignatius	APR-JUL	20	22	24	96	26	28	25
	APR-SEP	24	27	29	97	31	34	30
Sf Jocko R nr Arlee	APR-JUL	25	30	33	110	36	41	30
	APR-SEP	28	33	37	109	41	46	34
NF Jocko R bl Tabor Feeder Canal	APR-JUL	26	29	31	100	33	36	31
	APR-SEP	28	31	33	100	35	38	33

FLATHEAD RIVER BASIN Reservoir Storage (1000 AF) - End of January					FLATHEAD RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CAMAS (4)	45.2	23.0	---	20.3	NF FLATHEAD in CANADA	4	91	108
LOWER JOCKO LAKE	6.4	0.0	---	0.1	NF FLATHEAD in MONTANA	7	77	86
MISSION VALLEY (8)	100.0	25.6	---	34.7	MIDDLE FORK FLATHEAD	5	87	86
HUNGRY HORSE	3451.0	2896.0	2889.0	2214.7	SOUTH FORK FLATHEAD	6	60	79
FLATHEAD LAKE	1791.0	933.9	1069.0	971.2	STILLWATER-WHITEFISH	7	64	74
					SWAN	6	59	79
					MISSION VALLEY	3	60	88
					LITTLE BITTERROOT-ASHLEY	4	62	81
					JOCKO	4	66	87
FLATHEAD in MONTANA	30	69	83					
FLATHEAD RIVER BASIN	34	70	86					

\* 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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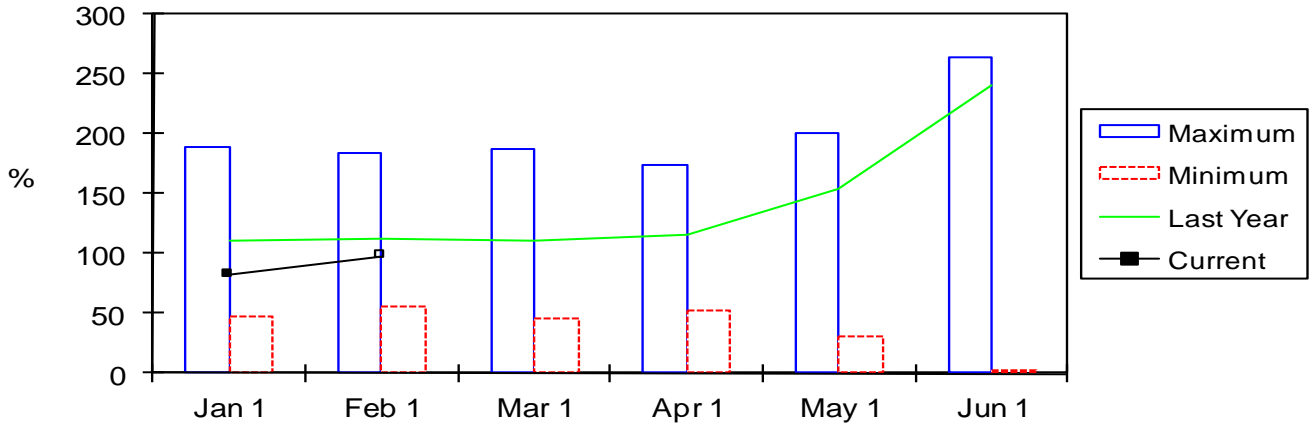
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- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Upper Clark Fork River Basin

Snowpack conditions in the Upper Clark Fork River Basin were near average on February 1. Snow water content was 98 percent of average and 89 percent of last year.

□

### Upper Clark Fork Snow Water Equivalent

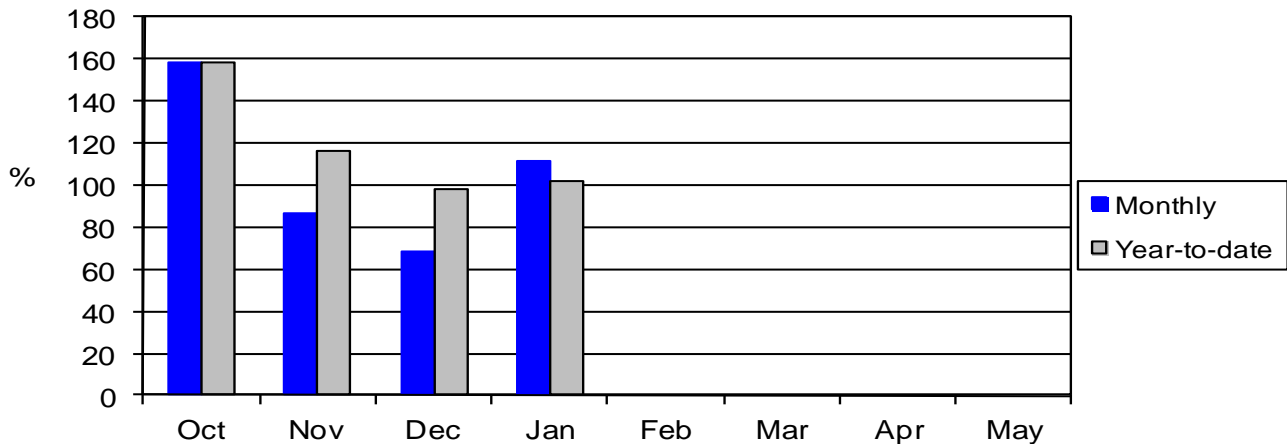


January maximum swe was established in 1997 and minimum swe was in 1977; February maximum was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum swe was in 2005; April maximum swe was in 1972 and minimum was in 2005; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1975 and minimum swe was in 1987. Average is for the period 1971 through 2000.

Mountain precipitation during January was 109 percent of average and 81 percent of last year. Valley precipitation during January was 134 percent of average and 80 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 102 percent of average and 88 percent of last year.

□

### Upper Clark Fork Precipitation



East Fork Rock Creek storage was 122 percent of average and 100 percent of last year; and Nevada Creek storage was 157 percent of average and 84 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 98 percent.

Surface Water Supply Index (SWSI) was +0.7 in the Clark Fork River above Milltown; and +0.5 in the Blackfoot River.

UPPER CLARK FORK RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Little Blackfoot R nr Garrison	APR-JUL	42	60	72	95	84	102	76
	APR-SEP	47	66	79	94	92	111	84
Flint Ck nr Southern Cross	APR-JUL	6.2	10.1	12.7	93	15.3	19.2	13.7
	APR-SEP	6.7	11.6	14.9	92	18.2	23	16.2
Flint Ck bl Boulder Ck	APR-JUL	28	43	53	95	63	78	56
	APR-SEP	37	55	67	94	79	97	71
Lower Willow Ck Reservoir Inflow (2)	APR-MAY	4.1	6.5	8.1	99	9.7	12.1	8.2
	APR-JUL	6.0	9.7	12.2	98	14.7	18.4	12.5
MF Rock Ck nr Philipsburg	APR-JUL	44	54	61	95	68	78	64
	APR-SEP	50	61	68	94	75	86	72
Rock Ck nr Clinton	APR-JUL	179	230	265	98	300	350	270
	APR-SEP	205	260	300	98	340	395	305
Clark Fork R ab Milltown	APR-JUL	320	465	565	93	665	810	605
	APR-SEP	390	550	660	94	770	930	705
Nevada Ck nr Helmville	APR-MAY	6.0	9.3	11.5	112	13.7	17.0	10.3
	APR-JUL	10.1	15.5	19.1	110	23	28	17.3
Blackfoot R nr Bonner	APR-JUL	610	730	810	101	890	1010	805
	APR-SEP	680	810	895	101	980	1110	890
Clark Fork R ab Missoula	APR-JUL	970	1220	1390	99	1560	1810	1410
	APR-SEP	1120	1390	1570	98	1750	2020	1600

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

UPPER CLARK FORK RIVER BASIN  
Watershed Snowpack Analysis - February 1, 2012

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
EAST FORK ROCK CREEK	15.6	11.1	11.1	9.1	CLARK FORK ab FLINT CREEK	10	96	101
GEORGETOWN LAKE		NO REPORT			FLINT CREEK	6	103	102
LOWER WILLOW CREEK		NO REPORT			ROCK CREEK	3	98	96
NEVADA CREEK	12.6	7.2	8.3	4.6	CLARK FORK ab BLACKFOOT	17	97	101
					BLACKFOOT	13	86	100
					UPPER CLARK FORK BASIN	27	89	98

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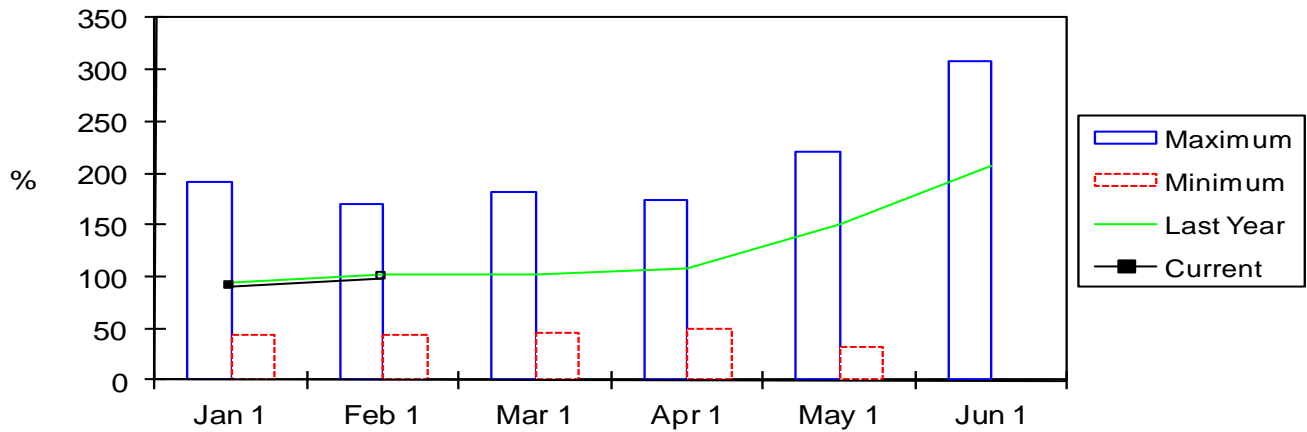
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- (3) - Median value used in place of average.

## Bitterroot River Basin

Snowpack conditions in the Bitterroot River Basin were near average on February 1. Snow water content was 99 percent of average and 96 percent of last year.

□

### Bitterroot Snow Water Equivalent

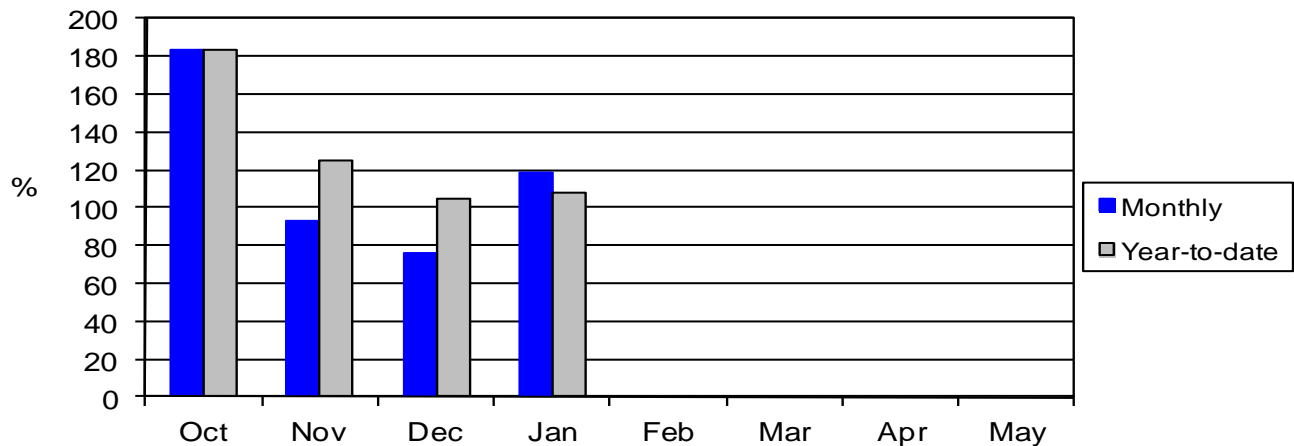


January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum was in 1977; March maximum swe was in 1972 and minimum swe was in 1977 and 2005; April maximum swe was in 1972 and minimum swe was in 2005; May maximum swe was in 1972 and minimum swe was in 1987; and June maximum swe was 1972 and 1974 and 1974 and minimum swe was in 1987, 1992, 1994, and 2001. Average is for the period 1971 through 2000.

Mountain precipitation during January was 115 percent of average and 83 percent of last year. Valley precipitation during January was 183 percent of average and 157 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 108 percent of average and 94 percent of last year.

□

### Bitterroot Precipitation



Painted Rocks Lake storage was 124 percent of average and 71 percent of last year and Como storage was 96 percent of average and 75 percent of last year.

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

Surface Water Supply Index (SWSI) was +0.6 in the Bitterroot River.

BITTERROOT RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
WF Bitterroot R nr Conner (2)	APR-JUL	90	119	138	97	157	186	143
	APR-SEP	97	129	151	96	173	205	157
Bitterroot R nr Darby	APR-JUL	295	380	440	96	500	585	460
	APR-SEP	355	440	500	97	560	645	515
Como Reservoir Inflow (2)	APR-JUL	68	75	80	103	85	92	78
	APR-SEP	72	79	84	102	89	96	82
Bitterroot R nr Missoula	APR-JUL	950	1130	1250	100	1370	1550	1250
	APR-SEP	1040	1230	1360	99	1490	1680	1370

BITTERROOT RIVER BASIN Reservoir Storage (1000 AF) - End of January					BITTERROOT RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
PAINTED ROCKS LAKE	31.7	8.7	12.3	7.0	WEST FORK BITTERROOT	2	85	94
COMO	34.9	10.2	13.6	10.6	EAST SIDE BITTERROOT	3	88	98
					WEST SIDE BITTERROOT	3	102	101
					BITTERROOT RIVER BASIN	7	96	99

\* 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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- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

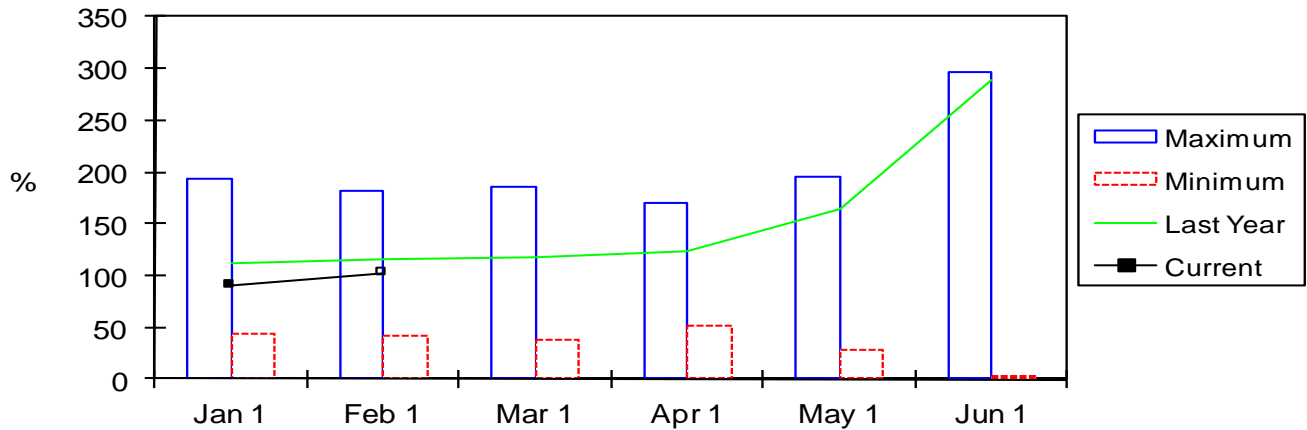


## Lower Clark Fork River Basin

Snowpack conditions in the Lower Clark Fork River Basin were below average on February 1. Snow water content was 102 percent of average and 91 percent of last year.

□

### Lower Clark Fork Snow Water Equivalent

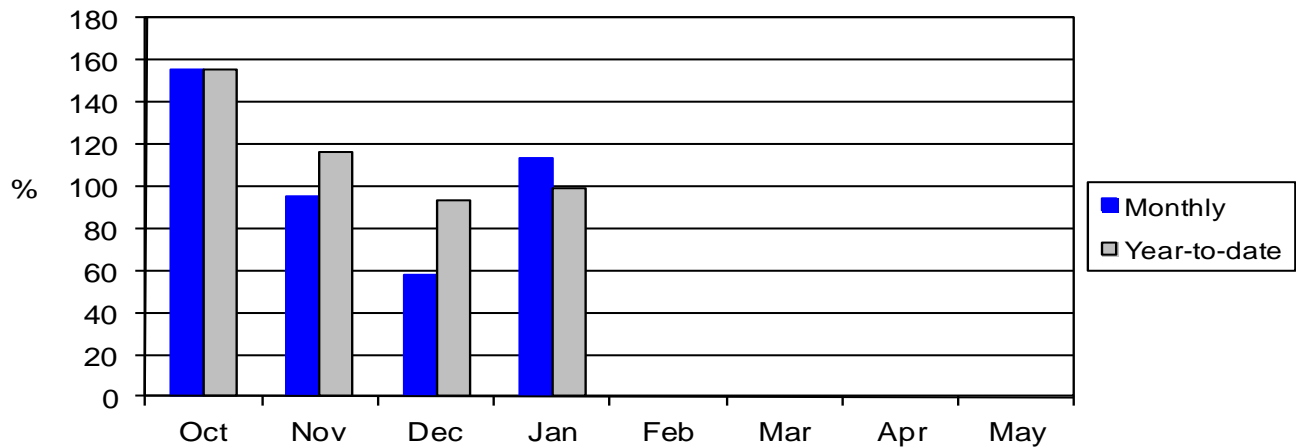


January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1972 and minimum swe was in 1977; March maximum swe was in 1972 and minimum was in 2005; April maximum swe was in 1972 and minimum swe was in 2005; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum swe was in 1974 and minimum swe was in 1977. Average is for the period 1971 through 2000.

Mountain precipitation during January was 111 percent of average and 77 percent of last year. Valley precipitation during January was 125 percent of average and 104 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 99 percent of average and 84 percent of last year.

□

### Lower Clark Fork Precipitation



Storage at the end of January in Noxon Rapids was 102 percent of average and 100 percent of last year.

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

Surface Water Supply Index (SWSI) was +0.6 in the Clark Fork River below Bitterroot River and -1.4 in the Clark Fork River below Flathead River.

=====

LOWER CLARK FORK RIVER BASIN  
Streamflow Forecasts - February 1, 2012

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Clark Fork R bl Missoula	APR-JUL	1940	2350	2630	99	2910	3320	2660
	APR-SEP	2180	2620	2920	99	3220	3660	2960
Clark Fork R at St. Regis (1)	APR-JUL	2810	3220	3550	101	3880	4260	3520
	APR-SEP	3100	3570	3920	100	4270	4760	3910
Clark Fork R nr Plains (1,2)	APR-JUL	6930	7950	8670	86	9390	10400	10100
	APR-SEP	7840	8920	9680	87	10400	11500	11100
Thompson R nr Thompson Falls	APR-JUL	91	128	153	75	178	215	205
	APR-SEP	106	146	173	75	200	240	230
Prospect Ck at Thompson Falls	APR-JUL	59	76	87	75	98	115	116
	APR-SEP	64	81	93	75	105	122	124
Clark Fork at Whitehorse Rpds (1,2)	APR-JUL	7890	9100	9880	87	10700	11900	11300
	APR-SEP	8990	10200	11000	88	11800	13300	12500

LOWER CLARK FORK RIVER BASIN Reservoir Storage (1000 AF) - End of January					LOWER CLARK FORK RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
NOXON RAPIDS	335.0	316.2	316.8	310.9	LOWER CLARK FORK BASIN	8	91	102

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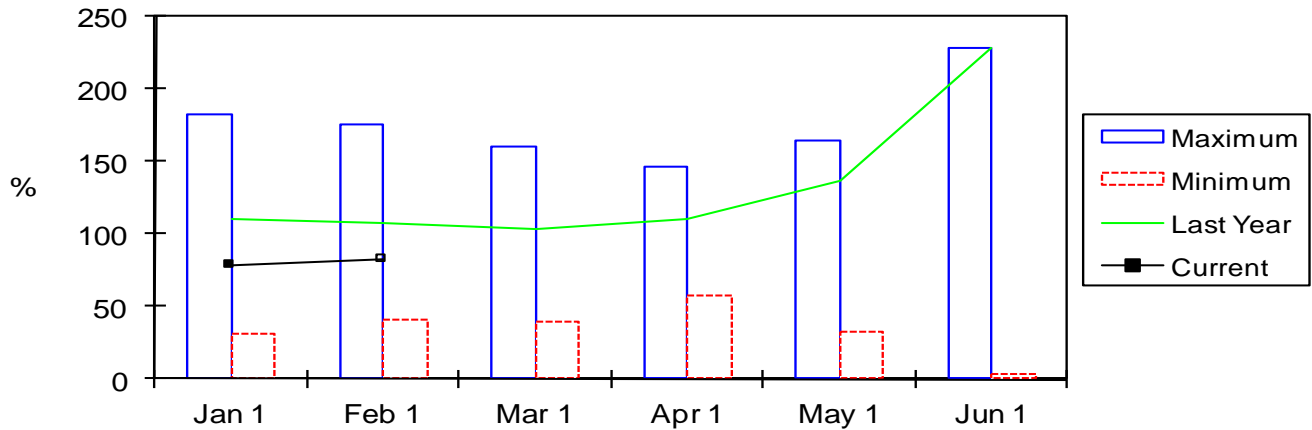
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Jefferson River Basin

Snowpack conditions in the Jefferson River Basin were below average on February 1. Snow water content was 82 percent of average and 76 percent of last year.

□

### Jefferson Snow Water Equivalent

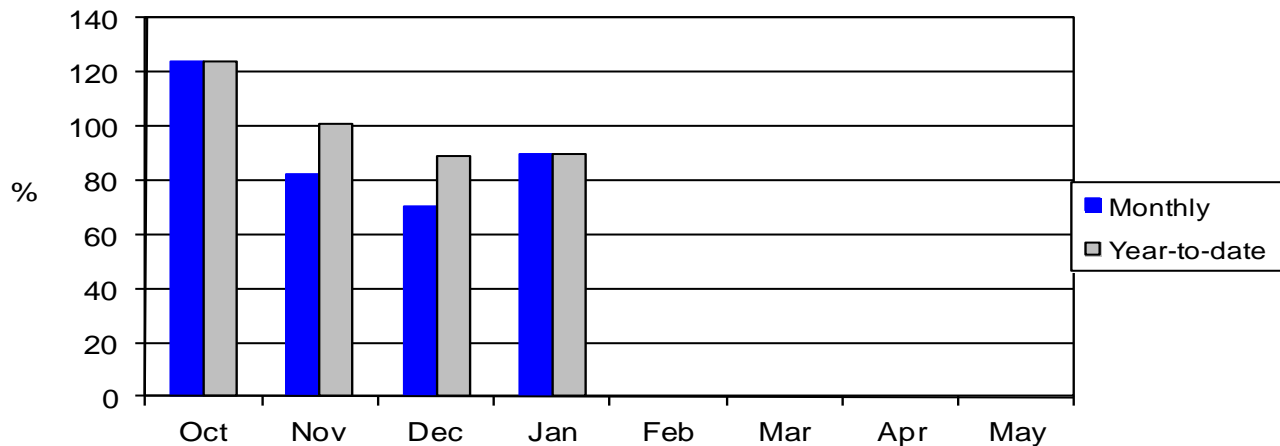


January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1972 and minimum was in 1977; April maximum swe was in 1997 and minimum was in 1977; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 2011 and minimum in 1987. Average is for the period 1971 through 2000.

Mountain precipitation during January was 90 percent of average and 81 percent of last year. Valley precipitation during January was 82 percent of average and 142 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 90 percent of average and 78 percent of last year.

□

### Jefferson Precipitation



Lima storage was 142 percent of average and 96 percent of last year; Clark Canyon storage was 115 percent of average and 102 percent of last year; Ruby River storage was 118 percent of average and 114 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 72 percent.

Surface Water Supply Index (SWSI) was +0.2 in the Beaverhead River; -0.7 in the Ruby River; -0.9 in the Big Hole River; +0.2 in the Boulder River; and +0.6 in the Jefferson River near Three Forks.

JEFFERSON RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Lima Reservoir Inflow (2)	APR-JUL	29	49	62	65	75	95	96
	APR-SEP	27	49	65	63	81	103	104
Clark Canyon Reservoir Inflow (2)	APR-JUL	30	44	75	57	110	162	131
	APR-SEP	36	52	89	57	127	184	156
Beaverhead R at Barretts (2)	APR-JUL	42	63	106	63	156	230	168
	APR-SEP	50	74	126	63	184	270	200
Ruby R Reservoir Inflow (2)	APR-JUL	37	52	63	75	74	89	84
	APR-SEP	46	64	76	75	88	106	101
Big Hole R at Wisdom	APR-JUL	33	45	83	69	110	151	121
	APR-SEP	36	48	89	69	119	162	130
Big Hole R nr Melrose	APR-JUL	260	380	460	75	540	660	610
	APR-SEP	285	415	505	77	595	725	660
Jefferson R nr Twin Bridges (2)	APR-JUL	220	415	550	70	685	880	785
	APR-SEP	225	450	600	68	750	975	880
Boulder R nr Boulder	APR-JUL	47	63	74	95	85	101	78
	APR-SEP	51	68	80	94	92	109	85
Willow Ck Reservoir Inflow (2)	APR-JUL	5.1	8.5	12.9	72	17.3	24	17.9
	APR-SEP	5.7	9.6	14.4	72	19.2	26	20
Jefferson R nr Three Forks (2)	APR-JUL	235	460	610	78	760	985	780
	APR-SEP	235	485	655	76	825	1080	860

JEFFERSON RIVER BASIN Reservoir Storage (1000 AF) - End of January					JEFFERSON RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
LIMA	84.0	48.2	50.0	34.0	BEAVERHEAD	8	64	74
CLARK CANYON	255.6	162.7	159.4	141.1	RUBY	5	76	74
RUBY RIVER	38.8	28.0	24.6	23.7	BIGHOLE	10	76	86
					BOULDER	7	89	90
					JEFFERSON RIVER BASIN	25	76	82

\* 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.

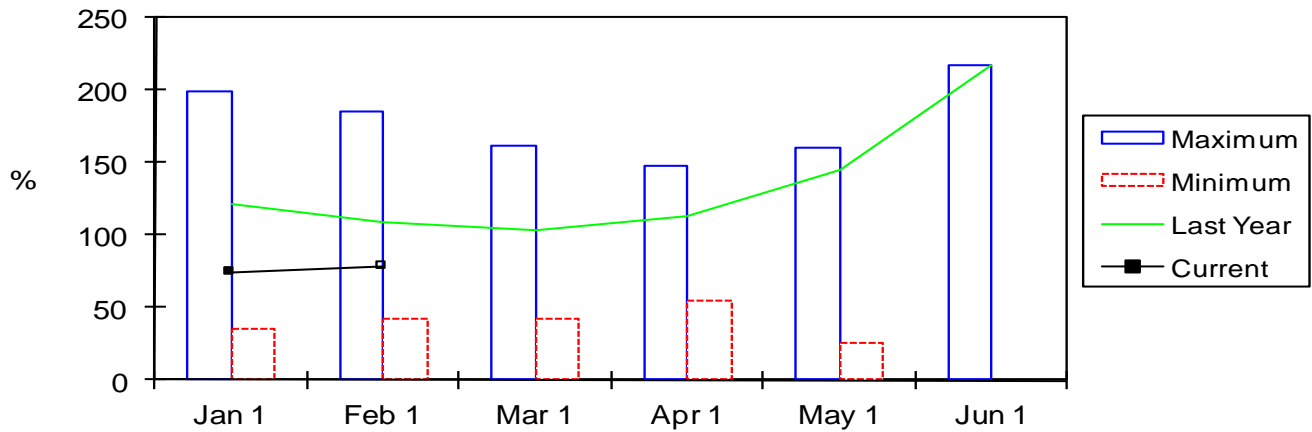
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Madison River Basin

Snowpack conditions in the Madison River Basin were well below average on February 1. Snow water content was 78 percent of average and 72 percent of last year.

□

### Madison Snow Water Equivalent

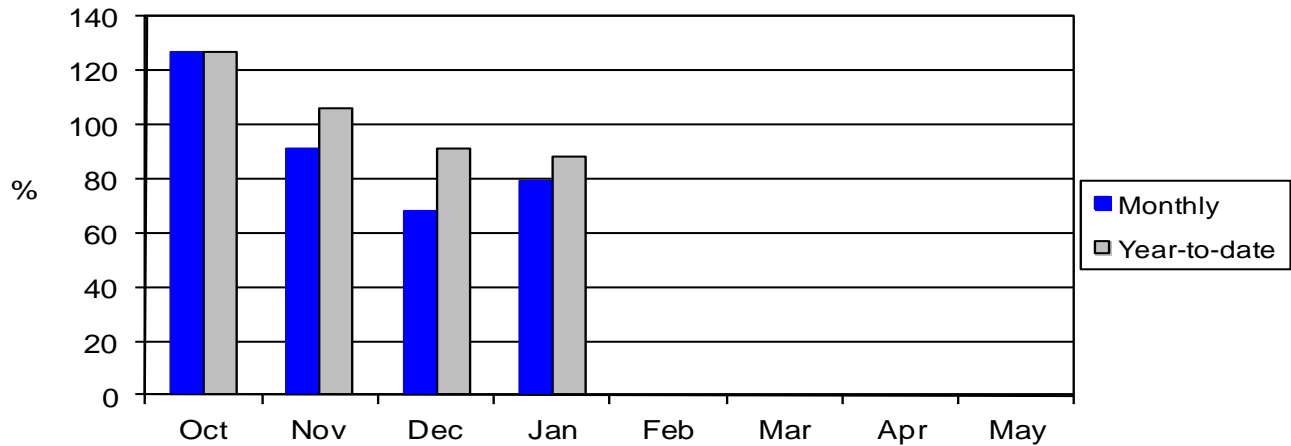


January maximum swe was established in 1997 and minimum swe was in 1977; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1997 and minimum was in 1977; April maximum swe was in 1997 and minimum was in 1977; May maximum swe was in 1997 and minimum swe was in 1977; and June maximum swe was in 2011 and minimum in 1987 and 2001. Average is for the period 1971 through 2000.

Mountain and valley precipitation during January was 79 percent of average and 89 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 88 percent of average and 78 percent of last year.

□

### Madison Precipitation



Ennis Lake storage was 92 percent of average and 104 percent of last year and Hebgen Lake storage was 116 percent of average and 102 percent of last year.

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

Surface Water Supply Index (SWSI) was -1.3 for the Madison River.

MADISON RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Hebgen Reservoir Inflow (2)	APR-JUL	270	310	340	86	370	410	395
	APR-SEP	350	400	435	86	470	520	505
Ennis Reservoir Inflow (2)	APR-JUL	395	485	545	80	605	695	680
	APR-SEP	505	610	680	80	750	855	850

Reservoir	MADISON RIVER BASIN Reservoir Storage (1000 AF) - End of January				MADISON RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ENNIS LAKE	41.0	28.9	27.8	31.3	MADISON abv HEBGEN LAKE	5	76	86
HEBGEN LAKE	377.5	309.0	301.9	266.5	MADISON blw HEBGEN LAKE	8	68	72
					MADISON RIVER BASIN	13	72	78

\* 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.

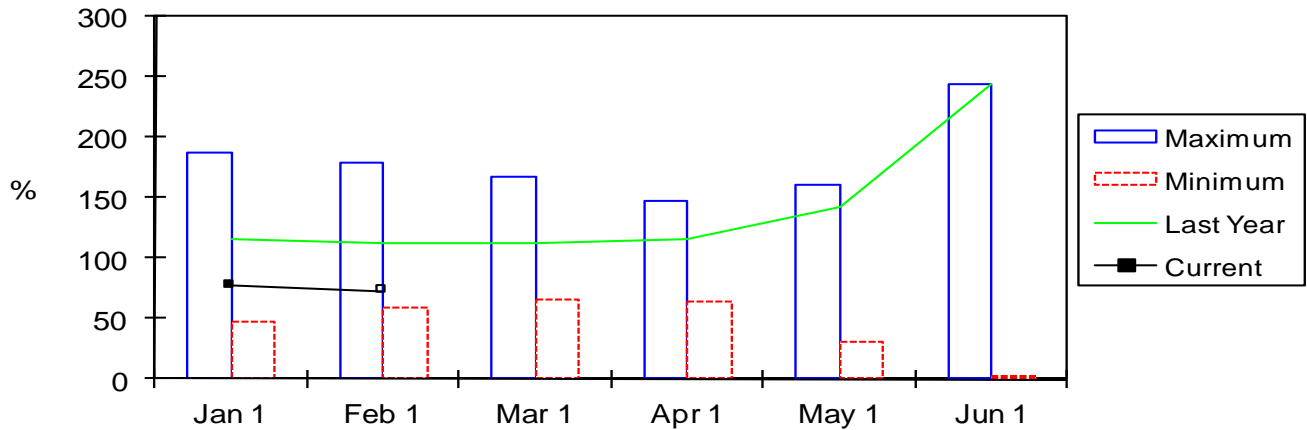


## Gallatin River Basin

Snowpack conditions in the Gallatin River Basin were below average on February 1. Snow water content was 73 percent of average and 64 percent of last year.

□

### Gallatin Snow Water Equivalent

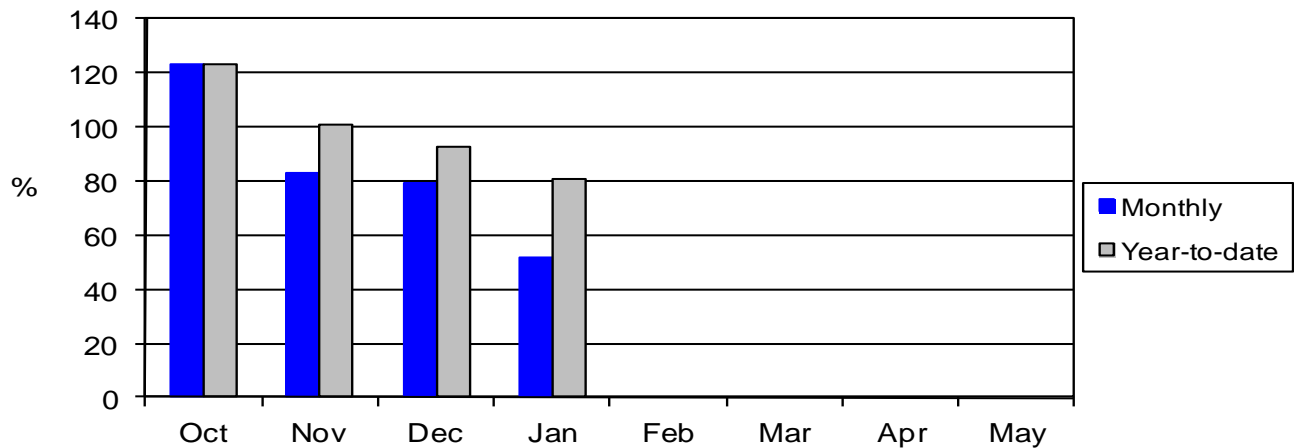


January maximum swe was established in 1997 and minimum swe was in 1966; February maximum swe was in 1997 and minimum was in 1977; March maximum swe was in 1997 and minimum was in 1977 and 2005; April maximum swe was in 1997 and minimum was in 1987; May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 2011 and minimum in 2001. Average is for the period 1971 through 2000.

Mountain precipitation during January was 53 percent of average and 54 percent of last year. Valley precipitation during January was 32 percent of average and 49 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 81 percent of average and 72 percent of last year.

□

### Gallatin Precipitation



Middle Creek storage was 119 percent of average and 76 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 85 percent.

Surface Water Supply Index (SWSI) was -0.8 for the Gallatin River.

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GALLATIN RIVER BASIN  
Streamflow Forecasts - February 1, 2012

=====

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Gallatin R nr Gateway	APR-JUL	265	320	360	82	400	455	440
	APR-SEP	310	375	420	82	465	530	515
Hyalite Reservoir Inflow (2)	APR-JUL	16.2	18.5	20	91	22	24	22
	APR-SEP	19.1	21	23	92	25	27	25
Gallatin R at Logan	APR-JUL	240	340	410	83	480	580	495
	APR-SEP	285	400	475	83	550	665	570

GALLATIN RIVER BASIN Reservoir Storage (1000 AF) - End of January					GALLATIN RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MIDDLE CREEK	10.2	5.1	6.7	4.3	UPPER GALLATIN	4	65	74
					HYALITE	2	87	87
					BRIDGER	2	45	54
					GALLATIN RIVER BASIN	8	64	73

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\* 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.

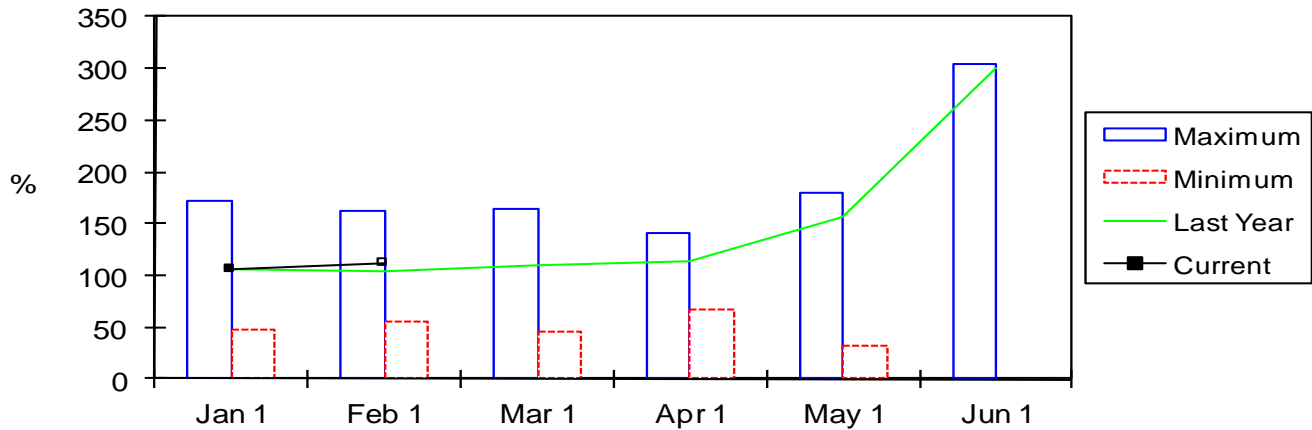
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Missouri Mainstem River Basin

Snowpack conditions in the Headwaters Missouri Mainstem River Basin were near average on February 1. Snow water content was 111 percent of average and 108 percent of last year.

□

### Headwaters Mainstem Snow Water Equivalent

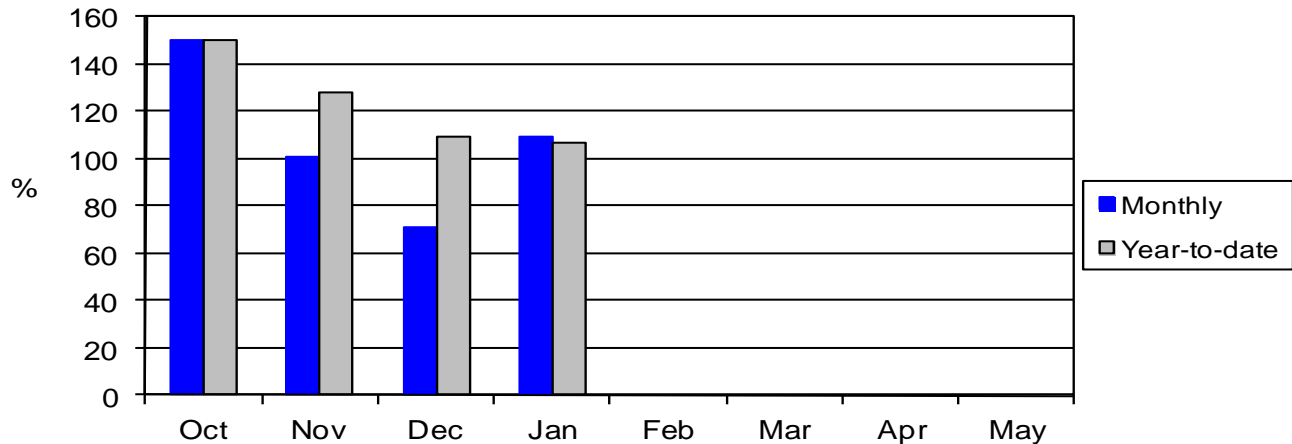


January maximum swe was established in 1997 and minimum swe in 1977; February maximum swe was in 1972 and minimum swe was in 1977 and 1988; March maximum swe in 1972 and minimum swe was in 1977; April maximum swe was in 1972 and minimum swe was in 1961, 1966 and 2005; May maximum swe was in 1975 and minimum swe was in 1977; and June maximum swe was in 1975 and minimum swe was in 1992. Average is for the period 1971 through 2000.

Mountain precipitation during January was 115 percent of average and 100 percent of last year. Valley precipitation during January was 99 percent of average and 80 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 107 percent of average and 90 percent of last year.

□

### Headwaters Mainstem Precipitation



Canyon Ferry Lake storage was 101 percent of average and 105 percent of last year; Helena Valley storage was 136 percent of average and 105 percent of last year; Lake Helena storage was 75 percent of average and 98 percent of last year; Hauser & Helena storage was 110 percent of average and 101 percent of last year; Holter Lake storage was 102 percent of average and 100 percent of last year; and Fort Peck Lake storage was 102 percent of average and 99 percent of last year.

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

Surface Water Supply Index (SWSI) was 0.0 in the Missouri River above Canyon Ferry; +0.1 in the Missouri River below Canyon Ferry; +0.9 in the Missouri River above Fort Peck; and +0.2 in the Missouri River below Fort Peck.

MISSOURI MAINSTEM RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Missouri R at Toston (2)	APR-JUL	950	1330	1590	78	1850	2230	2050
	APR-SEP	1070	1520	1830	77	2140	2590	2390
Dearborn R nr Craig	APR-JUL	63	90	108	89	126	153	121
	APR-SEP	69	98	117	94	136	165	125
Missouri R at Fort Benton (2)	APR-JUL	1440	2020	2420	81	2820	3400	2990
	APR-SEP	1720	2430	2900	81	3370	4090	3570
Missouri R nr Virgelle (2)	APR-JUL	1730	2400	2860	83	3320	3990	3450
	APR-SEP	2010	2820	3360	83	3900	4710	4060
Missouri R nr Landusky (2)	APR-JUL	1670	2390	2880	78	3370	4090	3690
	APR-SEP	1950	2810	3390	78	3970	4840	4350
Missouri R bl Fort Peck Dam (2)	APR-JUL	1770	2490	2990	80	3490	4210	3740
	APR-SEP	2020	2890	3460	80	4030	4900	4330
Lake Sakakawea Inflow (2)	APR-JUL	4890	6790	8080	83	9370	11300	9740
	APR-SEP	6500	7820	9300	83	10800	12100	11200

MISSOURI MAINSTEM RIVER BASIN Reservoir Storage (1000 AF) - End of January					MISSOURI MAINSTEM RIVER BASIN Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CANYON FERRY LAKE	2043.0	1590.0	1517.0	1576.1	HEADWATERS MAINSTEM	8	108	111
HELENA VALLEY	9.2	6.0	5.7	4.4	SMITH-JUDITH-MUSSELSHELL	12	73	92
LAKE HELENA	12.7	9.8	10.0	13.0	SUN-TETON-MARIAS	7	102	95
HAUSER & HELENA	74.6	69.8	69.3	63.2	MAINSTEM ab FT PECK RES	26	89	98
HOLTER LAKE	81.9	81.0	80.7	79.4	MILK RIVER BASIN	9	27	62
FORT PECK LAKE	18910.0	15160.0	15280.0	14887.0	MISSOURI MAINSTEM BASIN	34	78	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 1971-2000 base period.

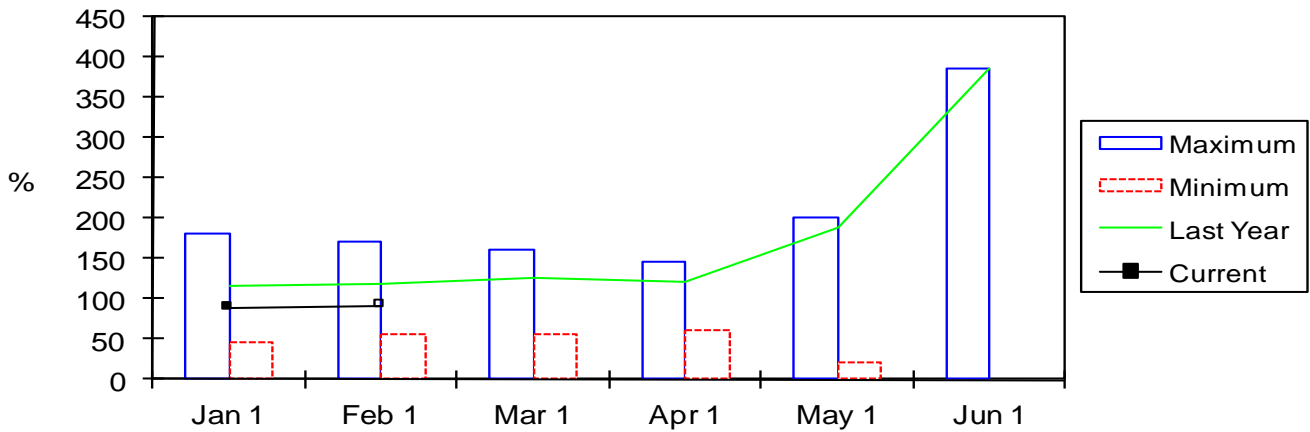
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Smith-Judith-Musselshell River Basins

Snowpack conditions in the Smith-Judith-Musselshell River Basins were below average February 1. Snow water content was 92 percent of average and 73 percent of last year. Snow water content in the Smith River Basin was 95 percent of average and 75 percent of last year; the Judith River Basin was 95 percent of average and 74 percent of last year; and the Musselshell Basin River was 94 percent of average and 63 percent of last year.

□

### Smith-Judith-Musselshell Snow Water Equivalent

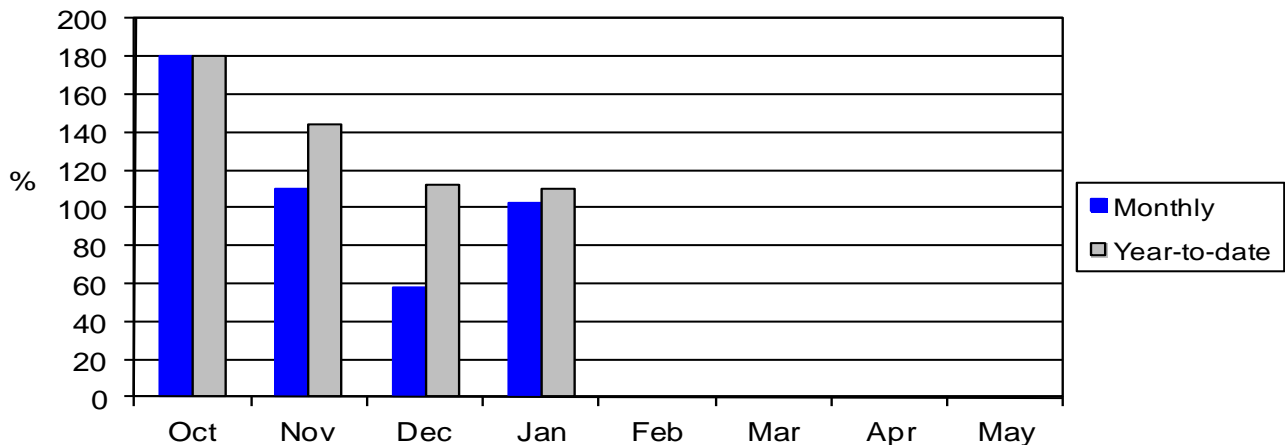


January maximum swe was established in 1997 and minimum swe in 1988; February maximum swe was in 1978 and minimum swe was in 1987; March maximum swe was in 1978 and minimum swe was in 1987 and 2005; April maximum swe was in 1970 and minimum swe was in 1992; and May maximum swe was in 1970 and minimum swe was in 1987; and June maximum swe was in 2011 and minimum swe was in 1987, 1992, 1994, and 2001. Average is for the period 1971 through 2000.

Mountain and valley precipitation during January in the Smith-Belts was 103 percent of average and 94 percent of last year; in the Judith was 94 percent of average and 88 percent of last year; and in the Musselshell was 127 percent of average and 123 percent of last year. Mountain and valley water year precipitation for the greater basin, beginning October 1, 2011, was 110 percent of average and 92 percent of last year.

□

### Smith-Judith-Musselshell Precipitation



Smith River storage was 119 percent of average and 94 percent of last year; Ackley storage was 122 percent of average and 98 percent of last year; Bair storage was 156 percent of average and 102 percent of last year; Martinsdale storage was 86 percent of average and 48 percent of last year; and Deadman's Basin was 143 percent of average and 103 percent of last year.

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

Surface Water Supply Index (SWSI) was +2.9 in the Smith River, +2.0 in the Upper Judith River, and +1.2 in the Musselshell River.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Sheep Ck nr White Sulphur Springs	APR-JUL	10.6	13.8	16.0	94	18.2	21	17.1
	APR-SEP	12.6	16.3	18.8	94	21	25	20
Smith R bl Eagle Ck (2)	APR-JUL	72	104	125	94	146	178	133
	APR-SEP	76	112	137	92	162	198	149
NF Musselshell R nr Delpine	APR-JUL	2.4	3.7	4.5	98	5.3	6.6	4.6
	APR-SEP	2.9	4.3	5.3	98	6.3	7.7	5.4
SF Musselshell R ab Martinsdale	APR-JUL	11.2	15.0	28	54	41	60	52
	APR-SEP	12.0	16.2	30	54	44	64	56
Musselshell R at Harlowton (2)	APR-JUL	9.5	42	64	83	86	119	77
	APR-SEP	7.8	42	66	82	90	124	81
Musselshell R nr Roundup (2)	APR-JUL	30	47	76	77	122	189	99
	APR-SEP	30	47	76	75	121	188	102

SMITH-JUDITH-MUSSELSHELL RIVER BASINS Reservoir Storage (1000 AF) - End of January					SMITH-JUDITH-MUSSELSHELL RIVER BASINS Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
SMITH RIVER	10.6	7.5	8.0	6.3	SMITH	6	75	95
ACKLEY LAKE	7.0	3.9	4.0	3.2	HIGHWOOD	2	59	70
BAIR	7.0	5.6	5.5	3.6	JUDITH	4	74	95
MARTINSDALE	23.1	8.7	18.1	10.1	MUSSELSHELL	3	63	94
DEADMAN'S BASIN	72.2	66.9	65.1	46.8	SMITH-JUDITH-MUSSELSHELL	12	73	92

\* 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.

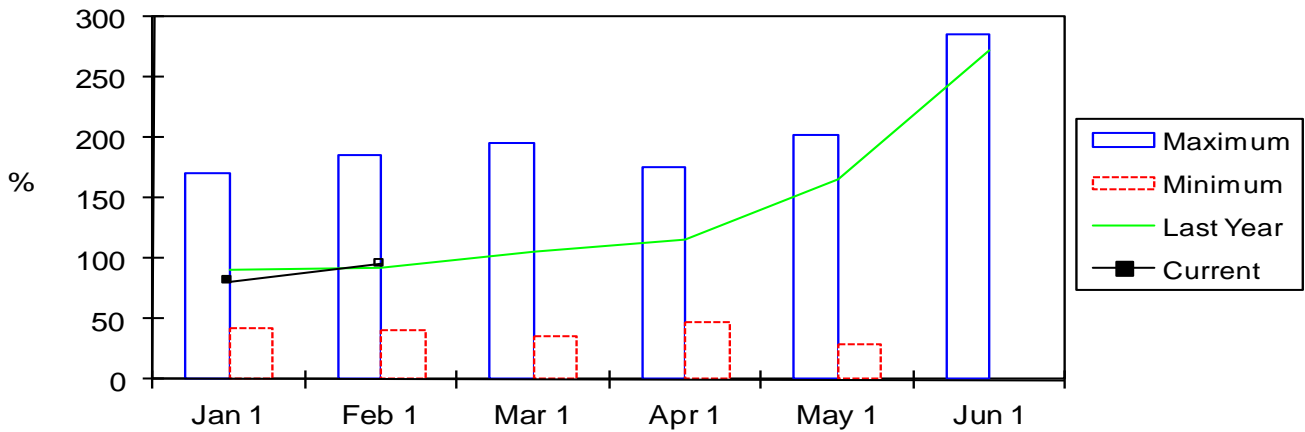
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Sun-Teton-Marias River Basins

Snowpack conditions in the Sun-Teton-Marias River Basins were below average on February 1. Snow water content was 95 percent of average and 102 percent of last year. Snow water content in the Sun River Basin was 116 percent of average and 107 percent of last year; the Teton River Basin was 108 percent of average and 113 percent of last year; and the Marias River Basin was 84 percent of average and 95 percent of last year.

□

### Sun-Teton-Marias Snow Water Equivalent

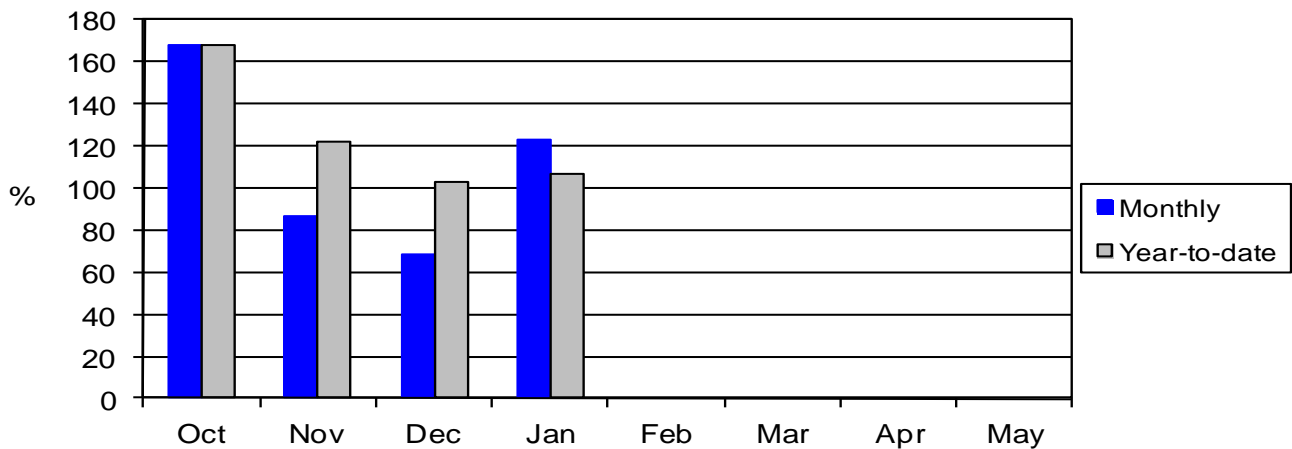


January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 2001; March maximum swe was in 1972 and minimum swe was in 2005; April maximum swe was in 1972 and minimum swe was in 2005; May maximum swe was in 1972 and minimum swe was in 1977; and June maximum was in 1972 and minimum swe was in 1987, 1992, and 1998. Average is for the period 1971 through 2000.

Mountain and valley precipitation during January in the Sun was 128 percent of average and 109 percent of last year; in the Teton was 133 percent of average and 95 percent of last year; and in the Marias was 119 percent of average and 96 percent of last year. Mountain and valley water year precipitation for the greater basin, beginning October 1, 2011, was 107 percent of average and 112 percent of last year.

□

### Sun-Teton-Marias Precipitation



Gibson storage was 42 percent of average and 122 percent of last year; Pishkun storage was 111 percent of average and 93 percent of last year; Willow Creek storage was 128 percent of average and 155 percent of last year; Lower Two Medicine Lake storage was 72 percent of average; Four Horns Lake storage was 27 percent of average; Swift storage was 83 percent of average and 108 percent of last year; Lake Frances storage was 123 percent of average and 114 percent of last year; and Lake Elwell (Tiber) storage was 116 percent of average and 98 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 101 percent.

Surface Water Supply Index (SWSI) was +0.7 in the Sun River; +1.8 in the Teton River; +1.4 in the Birch/Dupuyer Creeks; +0.3 in the Marias above Tiber Reservoir.

SUN-TETON-MARIAS RIVER BASINS  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%	10%	
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Gibson Reservoir Inflow (2)	APR-JUL	360	415	455	99	495	550	460
	APR-SEP	400	460	500	99	540	600	505
Two Medicine R nr Browning (2)	APR-JUL	148	173	190	93	205	230	205
	APR-SEP	157	183	200	93	215	245	215
Badger Ck nr Browning	APR-JUL	64	81	92	107	103	120	86
	APR-SEP	71	89	101	106	113	131	95
Swift Reservoir Inflow (2)	APR-JUL	43	54	62	97	70	81	64
	APR-SEP	53	65	74	96	83	95	77
Dupuyer Ck nr Valier	APR-JUL	2.3	9.4	14.2	101	19.0	26	14.0
	APR-SEP	2.8	10.6	15.9	101	21	29	15.7
Cut Bank Ck nr Browning	APR-JUL	49	63	73	95	83	97	77
	APR-SEP	54	69	79	94	89	104	84
Marias R nr Shelby (2)	APR-JUL	220	330	400	96	470	580	415
	APR-SEP	215	330	405	92	480	595	440
Teton R nr Dutton	APR-JUL	16.4	44	62	122	80	108	51
	APR-SEP	21	50	70	119	90	119	59

SUN-TETON-MARIAS RIVER BASINS Reservoir Storage (1000 AF) - End of January					SUN-TETON-MARIAS RIVER BASINS Watershed Snowpack Analysis - February 1, 2012			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
GIBSON	99.1	19.1	15.6	45.8	SUN	2	107	116
PISHKUN	32.0	19.8	21.2	17.8	TETON	3	113	108
WILLOW CREEK	32.2	28.6	18.5	22.4	MARIAS	4	95	84
LOWER TWO MEDICINE LAKE	11.9	6.3	3.6	8.8	SUN-TETON-MARIAS	7	102	95
FOUR HORNS LAKE	19.2	3.2	12.5	11.9				
SWIFT	30.0	12.9	12.0	15.5				
LAKE FRANCES	112.0	81.9	72.1	66.8				
LAKE ELWELL (TIBER)	1347.0	738.2	753.5	635.5				

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

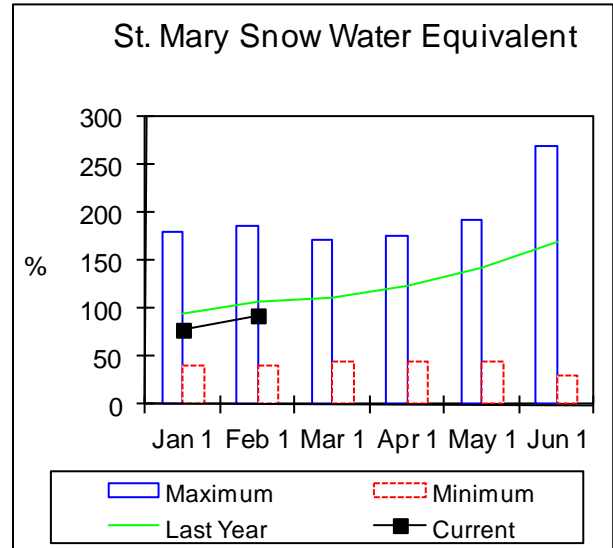
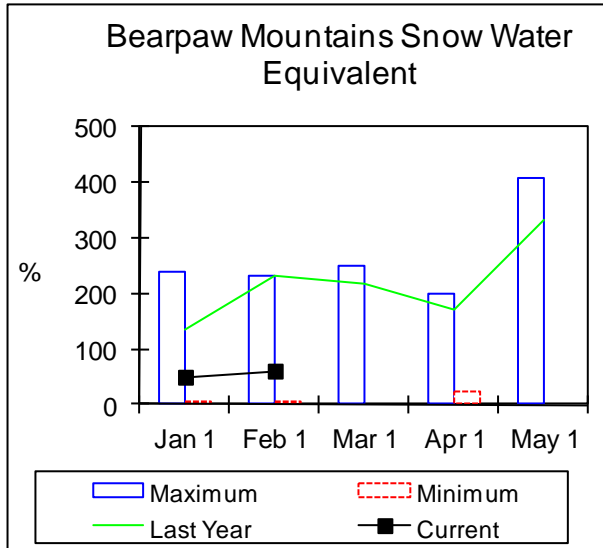
The average is computed for the 1971-2000 base period.

- (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.



## St. Mary and Milk River Basins

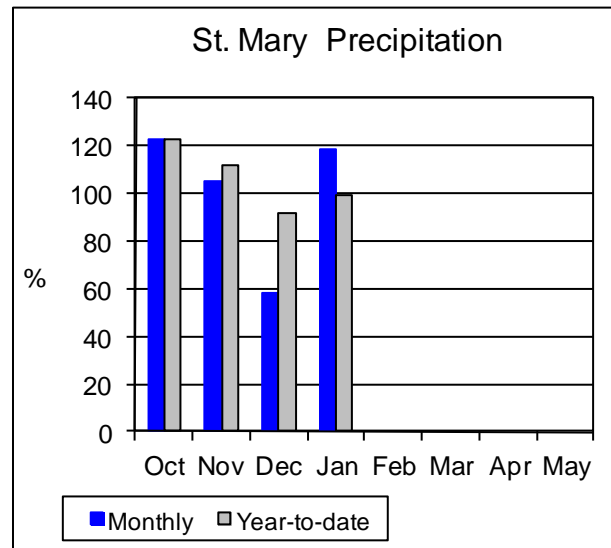
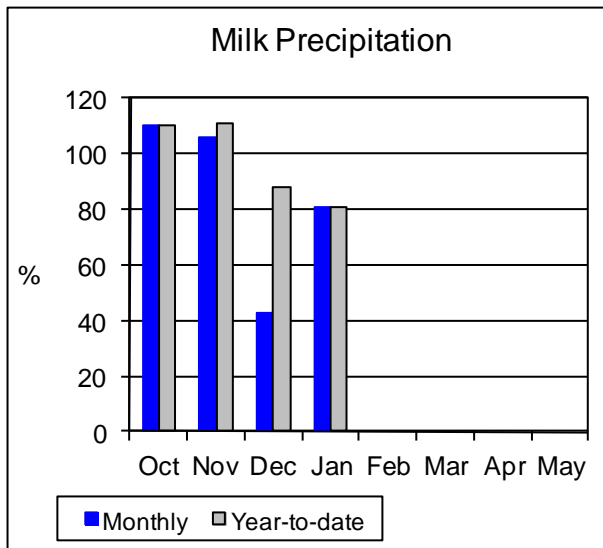
Snowpack in the Saint Mary River Basin was well below average on February 1. Snow water content was 93 percent of average and 86 percent of last year. The Milk River Basin (Bearpaw Mountains) was well below average. Snow water content was 61 percent of average and 27 percent of last year.



Bearpaw - January maximum swe was established in 1978 and minimum swe was in 1981; February maximum swe was 1978 and minimum was in 1973; March maximum swe was 1978 and minimum swe was 2005; April maximum swe was in 1985 and minimum swe was in 1973, 1983, and 1986; May maximum swe was 1975 and the minimum, 0.0, has occurred in several years. Average is for the period 1971 through 2000.

St. Mary - January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1972 and minimum swe was in 2001; March maximum swe was in 1972 and minimum swe was in 2005; April maximum swe was in 1967 and 1972 and minimum swe was in 2005; May maximum swe was in 1992 and minimum swe was in 1977; and June maximum swe was in 1972 and minimum swe was 1992. Average is for the period 1971 through 2000.

Mountain and valley precipitation in the St. Mary River Basin during January was 119 percent of average and 90 percent of last year; and in the Milk River Basin during January was 81 percent of average and 28 percent of last year. Mountain and valley water year precipitation for both basins, beginning October 1, 2011, was 92 percent of average and 75 percent of last year.



Assuming average precipitation, April through July streamflows in the St. Mary are forecast to average 106 percent and the Milk to average 90 percent.

Lake Sherburne storage was 95 percent of average and 52 percent of last year; Fresno storage was 119 percent of average and 94 percent of last year; Beaver Creek storage was not available; and Nelson storage was 149 percent of average and 101 percent of last year.

Surface Water Supply Index (SWSI) was +1.6 for the St. Mary and +2.1 for the Milk River.

ST. MARY and MILK RIVER BASINS  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		10%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Lake Sherburne Inflow (2)	APR-JUL	94	103	109	104	115	124	105
	APR-SEP	111	120	126	103	132	141	122
St. Mary R nr Babb (2)	APR-JUL	330	370	400	104	430	470	385
	APR-SEP	395	435	465	103	495	535	450
St. Mary R at Int'l Boundary (2)	APR-JUL	375	435	475	109	515	575	435
	APR-SEP	450	510	550	107	590	650	515
Milk R at Western Crossing (3)	MAR-JUL	23	34	42	102	50	61	41
	MAR-SEP	23	35	44	102	53	65	43
	APR-JUL	19.9	28	34	103	40	48	33
	APR-SEP	22	31	37	103	43	52	36
Milk R at Eastern Crossing (2,3)	MAR-JUL	29	67	92	110	117	155	83
	MAR-SEP	32	71	98	112	125	164	88
	APR-JUL	18.6	46	65	107	84	111	61
	APR-SEP	26	54	74	107	94	122	69
Beaver Ck nr Havre	MAR-JUL	2.0	3.3	5.7	59	8.1	11.6	9.6
	APR-JUL	1.7	3.1	4.6	53	6.9	12.4	8.7

ST. MARY and MILK RIVER BASINS  
Reservoir Storage (1000 AF) - End of January

ST. MARY and MILK RIVER BASINS  
Watershed Snowpack Analysis - February 1, 2012

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
LAKE SHERBURNE	64.3	25.1	48.5	26.4	ST. MARY	2	86	93
FRESNO	127.0	59.7	63.5	50.1	BEARPAW MOUNTAINS	3	17	34
BEAVER CREEK		NO REPORT			CYPRESS HILLS, CANADA	6	34	83
NELSON	66.8	51.0	50.6	34.2	MILK RIVER BASIN	8	27	61
					ST. MARY & MILK BASINS	11	53	81

\* 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.

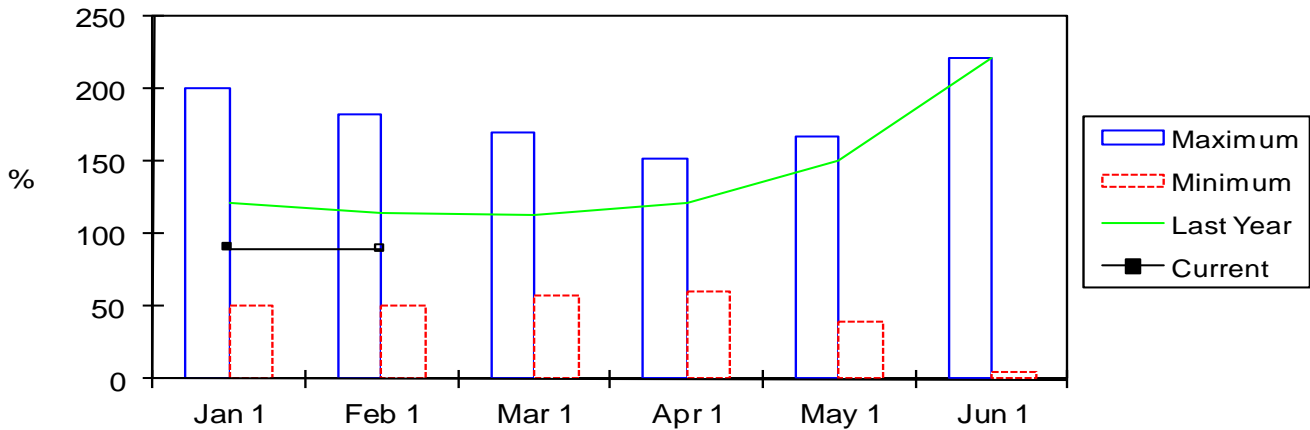
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Upper Yellowstone River Basin

Snowpack conditions in the Upper Yellowstone River Basin were near average on February 1. Snow water content was 89 percent of average and 78 percent of last year.

□

### Upper Yellowstone Snow Water Equivalent

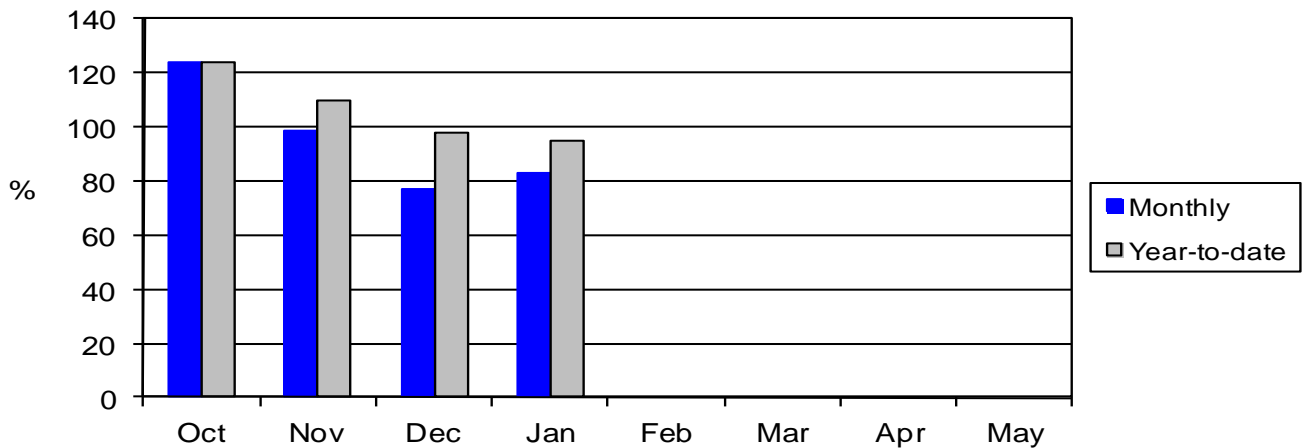


January maximum swe was established in 1997 and minimum swe was in 1988; February maximum swe was in 1997 and minimum swe was in 2001; March maximum swe was in 1997 and minimum swe was in 2001; April maximum swe was in 1997 and minimum swe was in 2001; May maximum swe was in 1997 and minimum swe was in 1987; and June maximum swe was 2011 and minimum swe was in 2001. Average is for the period 1971 through 2000.

Mountain precipitation during January was 84 percent of average and 80 percent of last year. Valley precipitation during January was 61 percent of average and 138 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 95 percent of average and 83 percent of last year.

□

### Upper Yellowstone Precipitation



Mystic Lake storage was 127 percent of average and 104 percent of last year and Cooney storage was 116 percent of average and 99 percent of last year.

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

Surface Water Supply Index (SWSI) was +0.1 in the Yellowstone River above Livingston; -1.7 in the Shields River; -1.4 in the Boulder River; -1.0 in the Stillwater River; +0.8 in the Rock/Red Lodge Creeks; +0.7 in the Clarks Fork River; and 0.0 in the Yellowstone River above Bighorn River.

UPPER YELLOWSTONE RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Yellowstone R at Yellowstone Lake	APR-JUL	470	535	575	98	615	680	590
	APR-SEP	620	700	755	94	810	890	805
Yellowstone R at Corwin Springs	APR-JUL	1320	1470	1580	96	1690	1840	1650
	APR-SEP	1540	1720	1850	94	1980	2160	1970
Yellowstone R at Livingston	APR-JUL	1480	1670	1800	95	1930	2120	1900
	APR-SEP	1730	1960	2110	93	2260	2490	2280
Shields R nr Livingston	APR-JUL	45	69	95	66	127	173	145
	APR-SEP	50	72	107	66	142	192	162
Boulder R at Big Timber	APR-JUL	186	225	255	90	285	325	285
	APR-SEP	192	240	270	86	300	350	315
West Rosebud Ck nr Roscoe (2)	APR-JUL	45	50	53	88	56	61	60
	APR-SEP	57	64	68	88	72	79	77
Stillwater R nr Absarokee (2)	APR-JUL	325	385	425	86	465	525	495
	APR-SEP	385	455	500	86	545	615	585
Clarks Fk Yellowstone R nr Belfry	APR-JUL	455	510	545	101	580	635	540
	APR-SEP	500	555	595	100	635	690	595
Cooney Reservoir Inflow (2)	APR-JUL	28	39	46	98	53	64	47
	APR-SEP	36	47	55	97	63	74	57
Yellowstone R at Billings	APR-JUL	2430	2880	3190	91	3500	3950	3510
	APR-SEP	2870	3400	3760	91	4120	4650	4120

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

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr	Average
		This Year	Last Year	Avg				
MYSTIC LAKE	21.0	8.1	7.8	6.4	YELLOWSTONE ab LIVINGSTON	14	81	93
COONEY	27.4	18.1	18.2	15.6	SHIELDS	4	51	60
					BOULDER-STILLWATER	3	69	82
					RED LODGE-ROCK CREEK	2	134	109
					CLARK'S FORK	7	82	96
					UPPER YELLOWSTONE BASIN	26	78	89

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

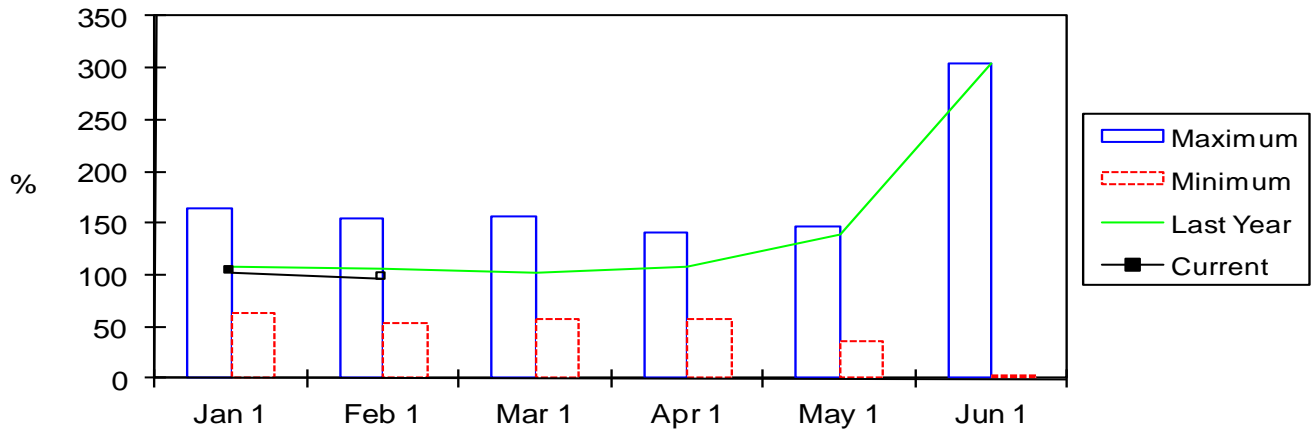
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- (2) - The value is natural volume - actual volume may be affected by upstream water management.
- (3) - Median value used in place of average.

## Lower Yellowstone River Basin

Snowpack conditions in the Lower Yellowstone River Basin were near average on February 1. Snow water content was 97 percent of average and 94 percent of last year.

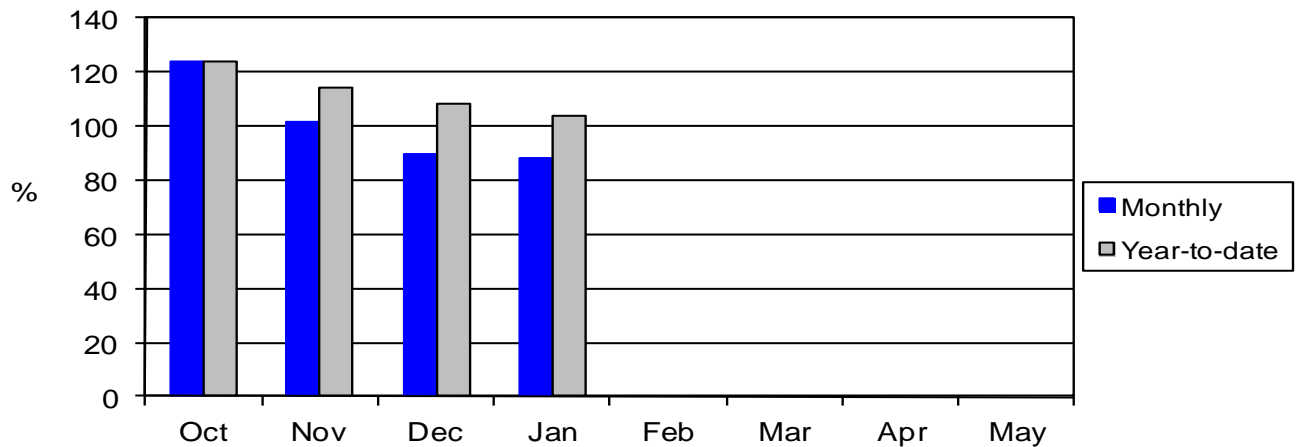
### Lower Yellowstone Snow Water Equivalent



January maximum swe was established in 1997 and minimum swe was in 2000; February maximum swe was in 1997 and minimum swe was in 2001; March maximum swe was in 1986 and minimum swe was in 2001; April maximum swe was in 1986 and minimum swe was in 2001; May maximum swe was in 1997 and minimum swe was in 1981; and June maximum swe was in 2011 and minimum swe was in 2001. Average is for the period 1971 through 2000.

Mountain and valley precipitation during January was 88 percent of average and 67 percent of last year. Mountain and valley water year precipitation, beginning October 1, 2011, was 104 percent of average and 96 percent of last year.

### Lower Yellowstone Precipitation



Bighorn Lake storage was 104 percent of average and 103 percent of last year and Tongue River storage was 240 percent of average and 105 percent of last year.

Assuming average precipitation, April through July streamflows are forecast to average 105 percent.

Surface Water Supply Index (SWSI) was +0.1 in the Bighorn River below Bighorn Lake; +2.0 in the Little Bighorn River; +0.1 in the Yellowstone River below Bighorn River; +2.7 in the Tongue River; and +1.7 in the Powder River.

LOWER YELLOWSTONE RIVER BASIN  
Streamflow Forecasts - February 1, 2012

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		90%		50%		30%		
		(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
Bighorn R nr St. Xavier (2)	APR-JUL	855	1220	1470	91	1720	2080	1610
	APR-SEP	900	1310	1580	90	1850	2260	1760
Little Bighorn R nr Hardin	APR-JUL	95	124	143	112	162	191	128
	APR-SEP	111	143	164	114	185	215	144
Tongue R nr Dayton (2)	APR-JUL	75	93	106	110	119	137	96
	APR-SEP	88	108	121	111	134	154	109
Big Goose Ck nr Sheridan	APR-JUL	42	53	61	117	69	80	52
	APR-SEP	50	62	70	117	78	90	60
Little Goose Ck nr Bighorn	APR-JUL	28	35	40	118	45	52	34
	APR-SEP	36	44	49	117	54	62	42
Tongue River Reservoir Inflow (2)	APR-JUL	153	215	260	118	305	365	220
	APR-SEP	178	245	290	116	335	400	250
Yellowstone R at Miles City (2)	APR-JUL	3500	4260	4770	89	5280	6040	5360
	APR-SEP	3930	4960	5550	89	6140	7170	6210
Powder R at Moorhead	APR-JUL	115	174	215	105	255	315	205
	APR-SEP	142	205	245	107	285	350	230
Powder R nr Locate	APR-JUL	121	195	245	104	295	370	235
	APR-SEP	147	225	280	108	335	415	260
Yellowstone R nr Sidney (2)	APR-JUL	3500	4350	4930	90	5510	6360	5480
	APR-SEP	3930	4950	5650	90	6350	7370	6280

LOWER YELLOWSTONE RIVER BASIN  
Reservoir Storage (1000 AF) - End of January

LOWER YELLOWSTONE RIVER BASIN  
Watershed Snowpack Analysis - February 1, 2012

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BIGHORN LAKE	1356.0	894.0	870.5	859.5	WIND RIVER (Wyoming)	20	86	85
TONGUE RIVER	79.1	54.4	51.7	22.7	SHOSHONE RIVER (Wyoming)	6	91	95
					BIGHORN RIVER (Wyoming)	20	87	97
					LITTLE BIGHORN (Wyoming)	3	96	103
					TONGUE RIVER (Wyoming)	10	118	122
					POWDER RIVER (Wyoming)	9	103	106
					LOWER YELLOWSTONE BASIN (	49	94	97

\* 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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*Issued by*    *Released by*

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# Montana Water Supply Outlook Report

Natural Resources Conservation Service

