

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

Montana Water Supply Outlook Report June 1, 2014



Snowmelt driven flows in the Upper Yellowstone River at the top of Yankee Jim Canyon below Corwin Springs, MT. Rivers across the state of Montana showed response to high snowmelt rates during the last two weeks of May where warmer than average temperatures and clear skies with little precipitation caused peak flows driven by snowmelt near the end of the month.

Photo: Lucas Zukiewicz

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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 June 1st, 2014

May ushered in snowmelt in full force with well below average monthly precipitation combined with well above average temperatures during the last ten days of the month. The well above normal snowpack in most basins beginning the month made the transition to melt at all elevations and entered the river systems with only minor flooding reported. As of June 1st, streamflows during May were likely the snowmelt driven peak flows for the year with many rivers and streams reaching their peak during the last week of the month.

Most basins on May 1st were well above average for precipitation in regards to Water Year to Date precipitation starting October 1st. May and June are climatologically favored months for precipitation across the state of Montana, and while the lack of moisture across the state helped to keep streamflows in check regarding flooding, it also helped to dry soils and reduce the water year to date precipitation percentages. Now that the bulk of our snowmelt has happened, a return to normal conditions would be welcomed by irrigators and water managers across the state.

Snowpack

Snowmelt beginning in the middle, and at the end of April, decreased lower elevation snowpacks; warm weather at the beginning of May began the melt at mid elevations; and after mid-May snowmelt occurred at all elevations. The progressive melt of different elevations over a few weeks limited the large volume of snow water (accumulated in the winter snowpack) to enter the river systems in small waves this Spring instead of all at once.

Statewide SNOTEL and snow course data reported 148 percent of normal for June 1st, and 195 percent of last year at this time. The Lower Clark Fork River basin currently has the highest basin percentage of normal in the state, indicating 230 percent of normal for May 1st, and 213 percent of last year at this time. As of June 1st, 71 SNOTEL sites have melted out across the Montana Data Collection Office (including WY and SD) as of June 1st at low and some mid elevations. Higher elevation SNOTEL sites still have 40 to 75 percent of the peak snow water equivalent left to enter the river systems, and this snow water will help to sustain flows through Spring into Summer.

River Basin	June 1 % of Median	June 1 % Remaining	% of Last Year
Columbia	169	43	193
Kootenai	173	42	178
Flathead	159	53	156
Upper Clark Fork	159	44	240
Bitterroot	192	32	507
Lower Clark Fork	230	38	213
Missouri	129	31	192
Missouri Headwaters	123	35	184
Jefferson	124	35	186
Madison	108	40	171
Gallatin	132	38	164
Missouri Mainstem	152	24	235
Headwaters Mainstem	136	29	403
Smith-Judith Musselshell	118	17	193
Sun-Teton-Marias	189	35	221
Milk	0	0	0
St. Mary	144	60	127
St. Mary & Milk	144	55	127
Yellowstone	144	38	209
Upper Yellowstone	140	44	214
Lower Yellowstone	149	31	229
Statewide	148	30	195
***Percent Remaining is the current basin snow water equivalent (SWE) in relation to this year's maximum SWE			

Precipitation

All of the basins in Montana received below to well below average precipitation during May. Due to the amount of precipitation received during the winter as snow, water year to date precipitation is still near to above average since October 1st in all basins but one, the Milk River basin which is now below average since May 1st. State-wide water year to date precipitation is 108 percent of average and 103 percent of last year at this time.

River Basin	Monthly % of Average	Water Year % of Average	WYTD Change (May1-June1)
Columbia	58	105	-12%
Kootenai	83	100	-2%
Flathead	64	107	-11%
Upper Clark Fork	44	106	-11%
Bitterroot	56	115	-8%
Lower Clark Fork	63	102	-4%
Missouri	65	104	-10%
Jefferson	68	102	-7%
Madison	70	107	-7%
Gallatin	72	114	-9%
Missouri Mainstem	72	107	-18%
Smith-Judith Musselshell	60	103	-13%
Sun-Teton-Marias	44	103	-12%
Milk	60	87	-16%
St. Mary	60	105	-4%
St. Mary & Milk	60	95	-11%
Yellowstone	76	119	-11%
Upper Yellowstone	63	123	-13%
Lower Yellowstone	85	117	-8%
Statewide	68	108	-8%

Reservoirs

Reservoir storage west of the divide was 100 percent of average and 91 percent of last year. East of the Divide, reservoir storage was 102 percent of average and 104 percent of last year.

River Basin	% of Average	Current as % of Last Year
Columbia	100	91
Kootenai	101	89
Flathead	99	91
Upper Clark Fork	104	106
Bitterroot	99	95
Lower Clark Fork	101	101
Missouri	102	106
Missouri Headwaters	91	95
Jefferson	82	92
Madison	97	98
Gallatin	92	81
Missouri below Toston	102	106
Missouri Mainstem	102	107
Smith-Judith Musselshell	141	143
Sun-Teton-Marias	101	97
Milk	121	93
St. Mary	148	105
St. Mary & Milk	127	96
Yellowstone	93	85
Upper Yellowstone	103	100
Lower Yellowstone	93	84
Statewide	101	100

Snowmelt Driven Peak Dates and Volumes

Data below is daily average snowmelt driven peak flow as of June 1st, 2014. These dates not represent peak flows which were influenced by precipitation events, and differ from instantaneous peaks. Data below is in daily average flow (cfs)

Columbia River Basin				
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume (cfs)	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow (cfs)
Bitterroot River near Darby	24-May	8510	22-May	5111
Bitterroot River near Missoula	26-May	16800	24-May	12784
Blackfoot River near Bonner	27-May	10600	21-May	7221
Clark Fork River above Missoula	27-May	17100	25-May	12542
Clark Fork River at St. Regis	26-May	41000	25-May	32173
Clark Fork River below Missoula	26-May	33400	25-May	25462
Clark Fork River near Drummond	26-May	2210	25-May	2172
Como Reservoir Inflow	***	***	22-May	1121
Fisher River near Libby	4-May	4170	15-May	2003
Little Blackfoot River near Garrison	5-May	1010	14-May	886
Lower Willow Creek Reservoir Inflow	***	***	13-May	186
Middle Fork Flathead River near West Glacier	24-May	22200	20-May	17697
Middle Fork Rock Creek near Phillipsburg	29-May	1040	24-May	756
Mill Creek near Niarada	3-May	103	5-May	50
Nevada Creek near Helmville	24-May	291	19-May	217
North Fork Flathead River near Columbia Falls	25-May	22000	22-May	18010
Prospect Creek at Thompson Falls	24-May	1180	15-May	1139
South Fork Flathead abv Twin Falls	24-May	19000	21-May	16039
South Fork Jocko near Arless	24-May	483	17-May	387
Swan River near Big Fork	28-May	5500	24-May	4479
Thompson River near Thompson Falls	18-May	2220	16-May	1856
Tobacco River near Eureka	24-May	1310	20-May	1216
Yaak River near Troy	18-May	4890	15-May	5222

Yellowstone River Basin				
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume (cfs)	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow (cfs)
Boulder River near Big Timber	29-May	5840	4-Jun	4180
Big Goose Creek near Sheridan WY	***	***	26-May	594
Clarks Fork River near Belfry	29-May	10600	4-Jun	7178
Cooney Reservoir Inflow	7-May	495	31-May	363
Little Bighorn River near Hardin	1-Jun	2350	28-May	1166
Little Goose Creek near Big Horn Wyoming	***	***	25-May	316
West Rosebud near Roscoe	***	***	9-Jun	818
Powder River at Moorehead	30-May	2980	22-May	1921
Shields River near Livingston	26-May	2980	27-May	1482
Stillwater River near Absarokee	29-May	6690	5-Jun	5160
Tongue River Reservoir Inflow	31-May	4830	26-May	2339
Tongue River near Dayton Wyoming	29-May	2300	24-May	1102
Yellowstone River at Billings	30-May	56600	7-Jun	36293
Yellowstone River at Corwin Springs	29-May	22600	2-Jun	17110
Yellowstone River at Lake outlet	***	***	25-Jun	5134
Yellowstone River at Livingston	29-May	28400	4-Jun	19494

Missouri River Basin				
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume (cfs)	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow (cfs)
Badger Creek near Browning	24-May	1260	22-May	1040
Big Hole River below Big Lake Creek at Wisdom	28-May	1600	1-Jun	1256
Big Hole River near Melrose	29-May	8330	29-May	5988
Boulder River near Boulder	25-May	1430	22-May	898
Clark Canyon Reservoir Inflow	28-May	438	5-Jun	850
Cut Bank Creek near Browning	25-May	1030	20-May	892
Dearborn River near Craig	25-May	1230	18-May	1085
Gallatin River near Gateway	29-May	6030	2-Jun	4803
Gallatin River at Logan	29-May	6320	1-Jun	4896
Gibson Reservoir Inflow	24-May	5785	24-May	5662
Hyalite Reservoir Inflow	***	***	2-Jun	240
Jefferson River near Three Forks	30-May	9330	30-May	7639
Lima Reservoir Inflow	***	***	16-May	645
Madison near West Yellowstone	26-May	1410	21-May	1397
Marias River near Shelby	25-May	4990	23-May	3655
Missouri River at Toston	30-May	21600	2-Jun	16219
Musselshell River at Harlowton	27-May	1520	24-May	715
S. F. Musselshell near Martinsdale	***	***	21-May	734
North Fork Musselshell River near Delpine	***	***	25-May	39
Ruby Reservoir Inflow	28-May	804	27-May	951
Sheep Creek near White Sulphur Springs	***	***	24-May	158
Smith River below Eagle Creek nr Fort Logan	26-May	1380	24-May	786
Musselshell River near Martinsdale	26-May	1350	21-May	734
Swift Reservoir Inflow	24-May	719	23-May	541
Two Medicine River near Browning	24-May	3140	22-May	2005
Willow Creek Reservoir Inflow	1-Jun	134	1-Jun	174

Saskatchewan River Basin				
Watershed	2014 Snowmelt Peak Flow Date	2014 Snowmelt Peak Volume (cfs)	Avg 1981-2010 Snowmelt Peak Date	Avg 1981-2010 Snowmelt Peak Flow (cfs)
Lake Sherburne Inflow	24-May	1394	22-May	1197

*** real-time stream data unavailable, or peak is not believed to have occurred

The lack of precipitation during the month and favorable weather patterns resulted in the peak snowmelt driven flows across the state of Montana during May. Entering the month, snowmelt had been delayed in many basins, but a major change in weather patterns quickly turned the snowpack isothermal at most elevations by mid-May beginning the bulk of the seasonal melt. Most basins, aside from a few rivers in northwestern Montana, saw the peak daily flows driven by snowmelt during the last week of May.

Given the delayed melt, later than average peak dates seemed likely in most basins, but the quick transition to unseasonably warm and dry weather amplified the snowmelt during the last two weeks. Most basins reached peak only a few days later than the 1981-2010 average date, except in the Yellowstone River Basin where peaks were experienced 4 to 8 days earlier than average.

Basin-wide average snowmelt driven peak flows were 131 percent of average for the Columbia River basin, 129 percent of average for the greater Missouri River basin, and 163 percent of average for the Yellowstone River basin.

Streamflow

Streamflow prospects continue to be well above average in most parts of the state. The Smith-Judith-Musselshell combined river basin continues to have the highest percentage of average June-July flows using the 50 percent exceedance forecast at 140 percent of average and 269 percent of last year. The extreme headwaters of the Jefferson River basin continue to have the lowest forecasts in the state indicating 68 percent of average June-July flows for Lima Reservoir Inflow and 77 percent for Clark Canyon Inflow. Overall, streamflow prospects are down slightly in most locations from June 1st, but remain at 127 percent of average state-wide, and 154 percent of what we experienced last year.

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. ALL 50 PERCENT EXCEEDANCE FORECASTS ASSUME NEAR NORMAL WEATHER THROUGH THE END OF THE FORECAST PERIOD. FOR FORECASTS ABOVE AND BELOW THE 50 PERCENT EXCEEDANCE, LOOK TO THE SPECIFIC BASIN REPORTS.

May-July Streamflow Forecast Period		
River Basin	Forecast as % of Average	This Year Forecast as % of Last Year Streamflow
Columbia	124	133
Kootenai	110	91
Flathead	130	134
Upper Clark Fork	114	172
Bitterroot	136	217
Lower Clark Fork	128	161
Missouri	129	174
Missouri Headwaters	123	271
Jefferson	125	428
Madison	109	176
Gallatin	132	197
Missouri Mainstem	130	165
Headwaters Mainstem	130	164
Smith-Judith Musselshell	140	269
Sun-Teton-Marias	132	166
St. Mary	110	110
Yellowstone	105	104
Upper Yellowstone	134	185
Lower Yellowstone	134	204
Statewide	127	154

Surface Water Supply Index

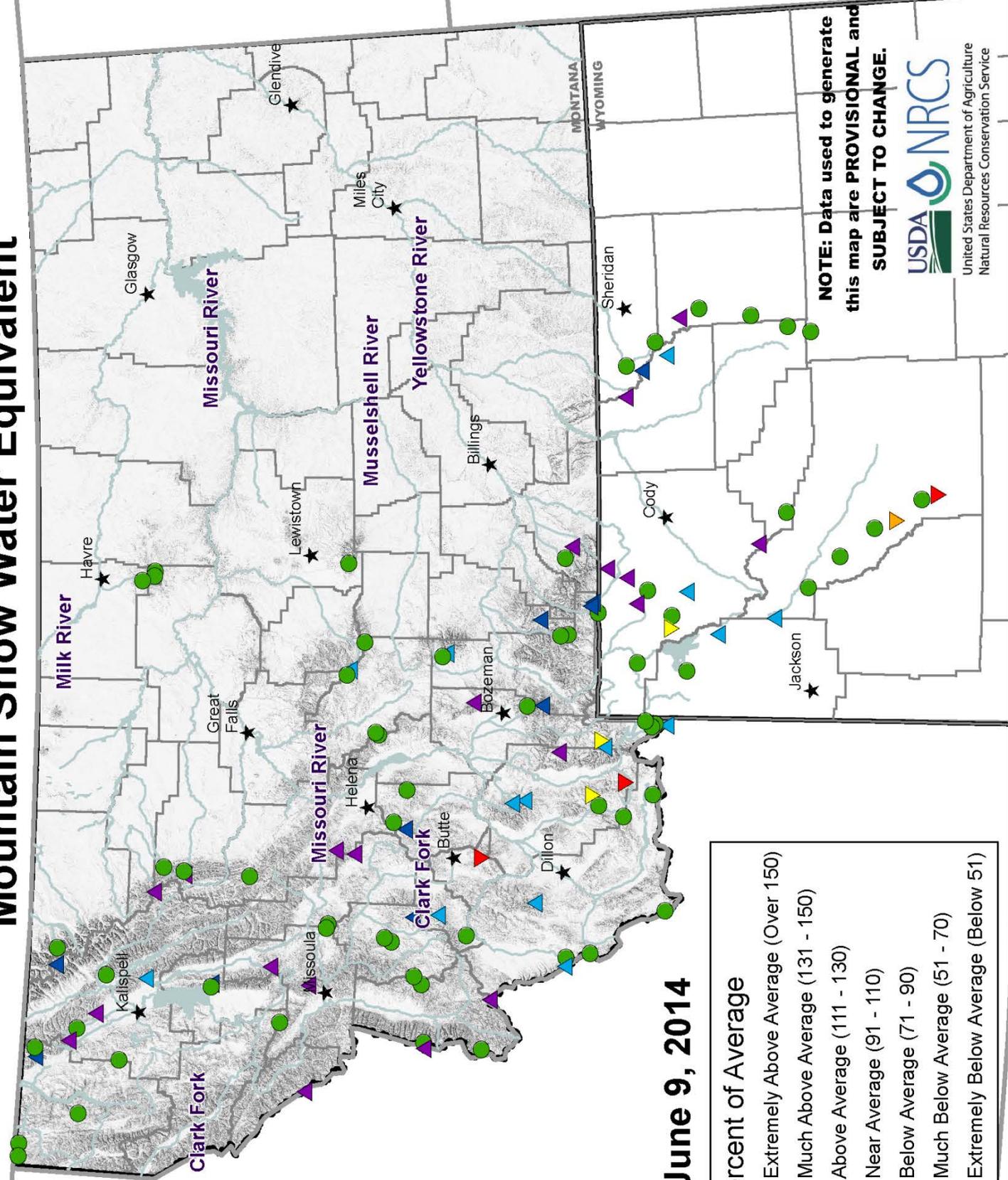
The Surface Water Supply Index (SWSI) is a measure of available surface water availability for the spring and summer months. Water users that rely on mountain precipitation can use the index to evaluate seasonal surface water supplies. The SWSI variables can include: mountain snowpack, mountain precipitation,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

Watershed	This Year's SWSI	Last Year's SWSI
Tobacco River	1.1	-0.1
Kootenai Ft. Steele to Libby Dam	1.8	1.5
Kootenai River below Libby Dam	1.4	2.4
Fisher River	1.4	-0.4
Yaak River	0.1	0.4
North FK. Flathead River	2.4	0.7
Middle FK. Flathead River	2.4	1.2
South FK. Flathead River	3.1	3.2
Flathead River at Columbia Falls	2.0	0.9
Swan River	2.5	1.1
Flathead River at Polson	2.9	1.0
Mission Valley	-0.6	0.7
Little Bitterroot River	2.1	2.5
Clark Fork River above Milltown	1.1	-2.4
Blackfoot River	2.5	-0.2
Clark Fork River above Missoula	1.7	-2.0
Bitterroot River	2.4	-2.0
Clark Fork River below Bitterroot River	1.9	-2.0
Clark Fork River below Flathead River	2.5	-0.1
Beaverhead River	-1.6	-2.3
Ruby River	-0.7	-3.8
Big Hole River	2.3	-1.7
Boulder River (Jefferson)	2.8	-1.8
Jefferson River	1.8	-1.9
Madison River	0.3	-1.9
Gallatin River	2.2	-1.2
Missouri River above Canyon Ferry	0.9	-1.3
Missouri River below Canyon Ferry	1.1	-2.0
Dearborn River near Craig	1.3	-2.4
Smith River	2.9	-0.7
Sun River	1.4	-0.1
Teton River	1.2	-1.8
Birch/Dupuyer Creeks	-0.2	-2.2
Marias River above Tiber Reservoir	1.0	-0.1
Marias River below Tiber Reservoir	1.6	-1.4
Upper Judith Basin	1.0	1.5
Musselshell River	2.1	-1.4
Missouri River above Fort Peck	0.7	-1.3
Missouri River below Fort Peck	0.5	-1.7
St. Mary River	1.8	1.8
Yellowstone River above Livingston	3.2	-1.0
Shields River	2.1	-2.7
Boulder River (Yellowstone)	3.5	-1.0
Stillwater River	3.0	-2.2
Rock/Red Lodge Creeks	3.4	-2.8
Clarks Fork River	3.8	-1.2
Yellowstone River above Bighorn River	3.2	-1.2
Bighorn River below Bighorn Lake	2.4	-1.2
Little Bighorn River	2.5	-2.6
Yellowstone River below Bighorn River	2.9	-1.2
Tongue River	3.1	-1.5
Powder River	2.2	-2.0

SWSI Scale

+3.0 to +4.0	Extremely Wet
+2.0 to +2.9	Moderately Wet
+1.0 to +1.9	Slightly Wet
+0.9 to -0.9	Near Average
-1.0 to -1.9	Slightly Dry
-2.0 to -2.9	Moderately Dry
-3.0 to -4.0	Extremely Dry

Mountain Snow Water Equivalent



June 9, 2014

Percent of Average

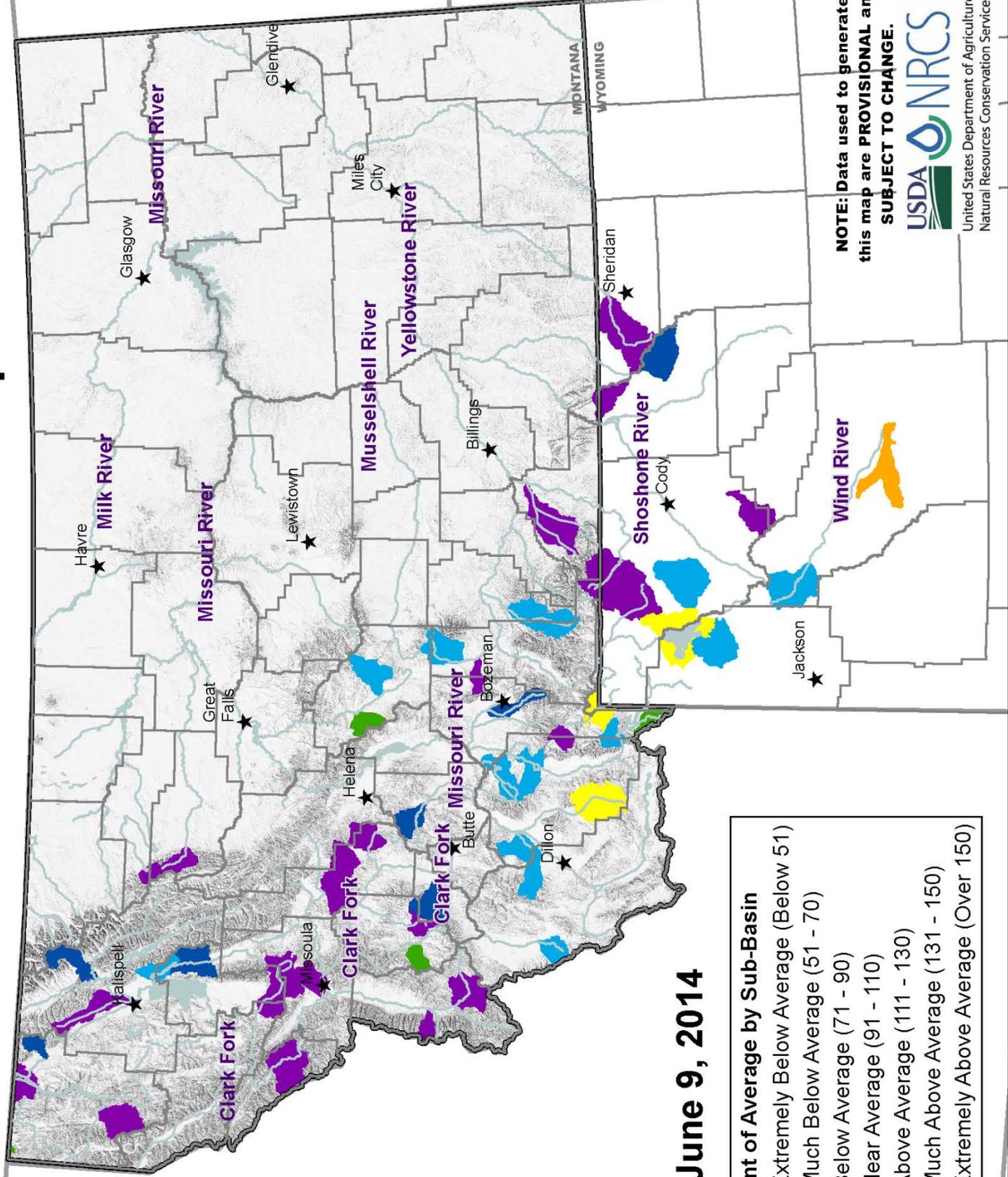
- ▲ Extremely Above Average (Over 150)
- ▲ Much Above Average (131 - 150)
- ▲ Above Average (111 - 130)
- Near Average (91 - 110)
- ▲ Below Average (71 - 90)
- ▲ Much Below Average (51 - 70)
- ▲ Extremely Below Average (Below 51)

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

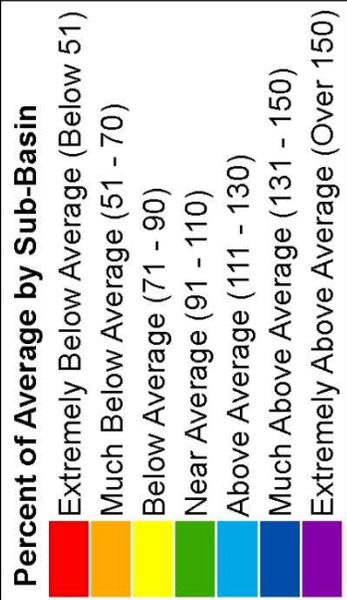


United States Department of Agriculture
Natural Resources Conservation Service

Mountain Snow Water Equivalent



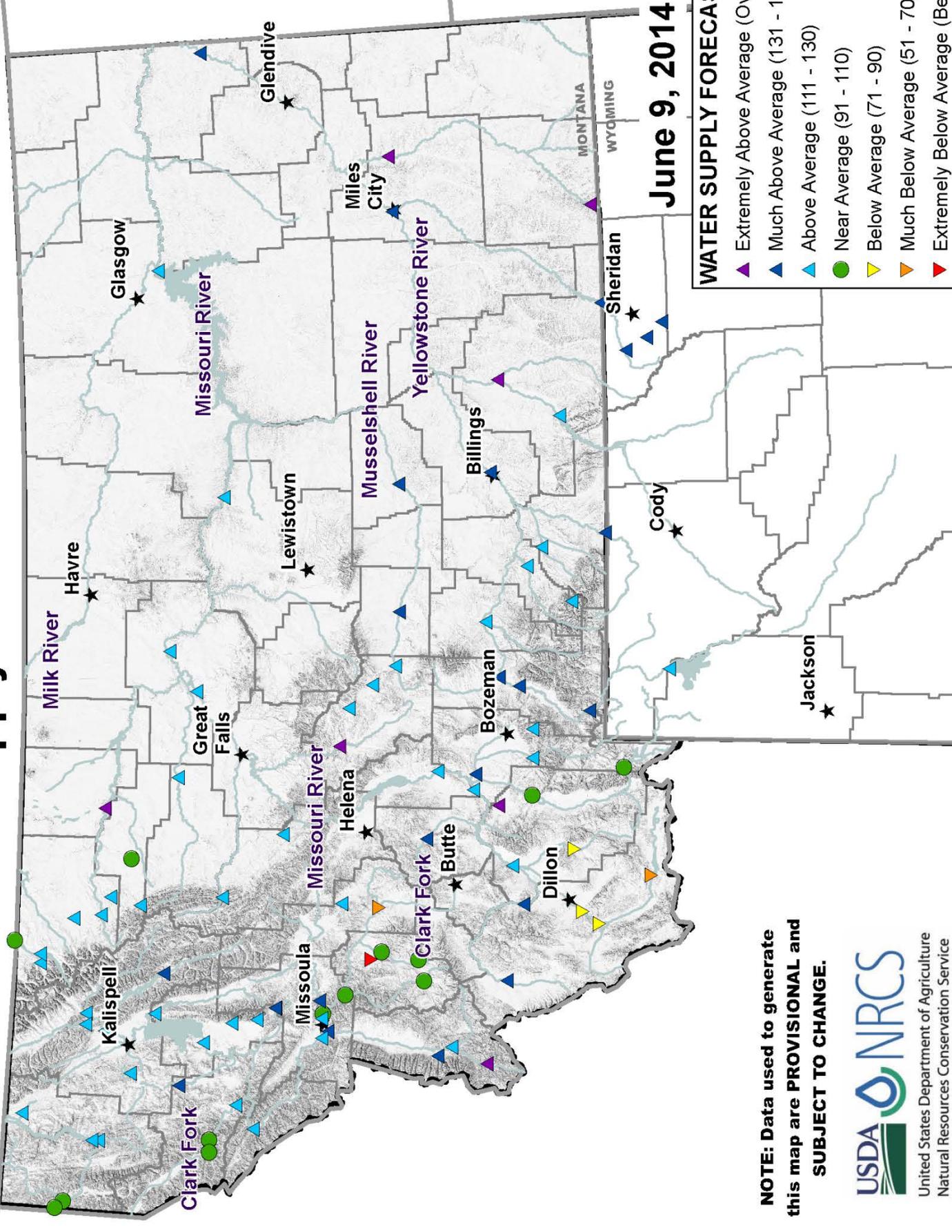
June 9, 2014



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Water Supply Forecast for Montana



June 9, 2014

WATER SUPPLY FORECAST

- ▲ 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)

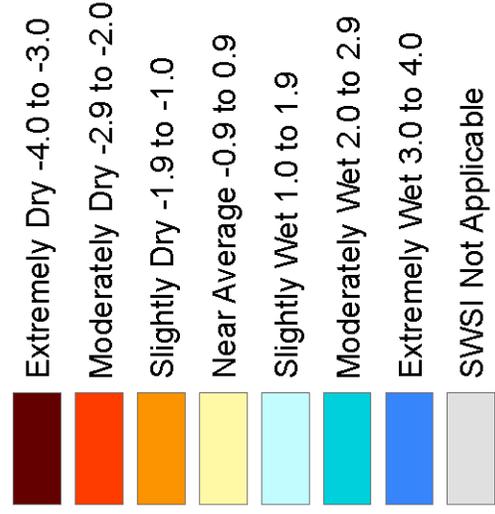
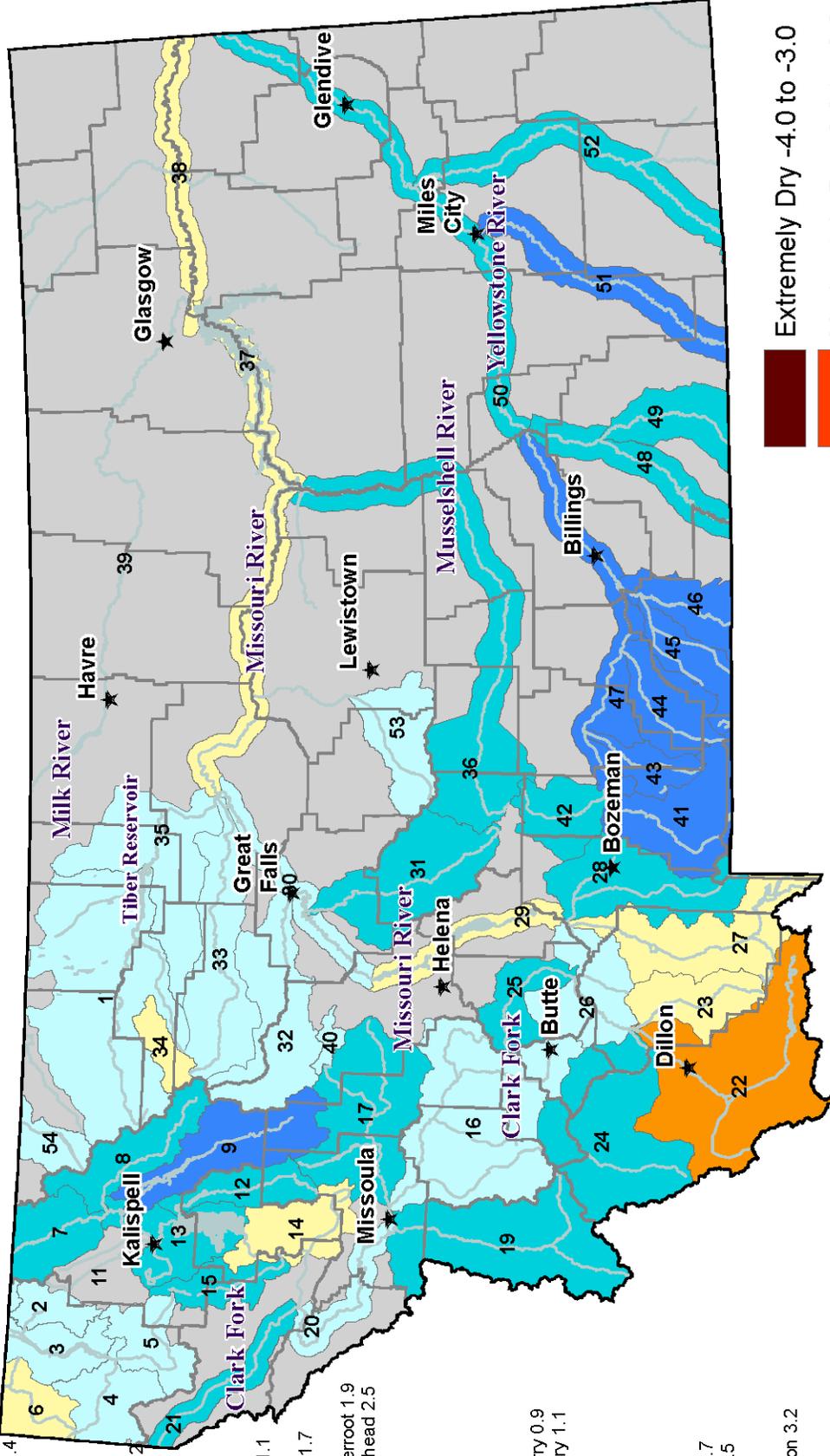
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Surface Water Supply Index (SWSI) Values

RIVER INDEX & SWSI VALUES

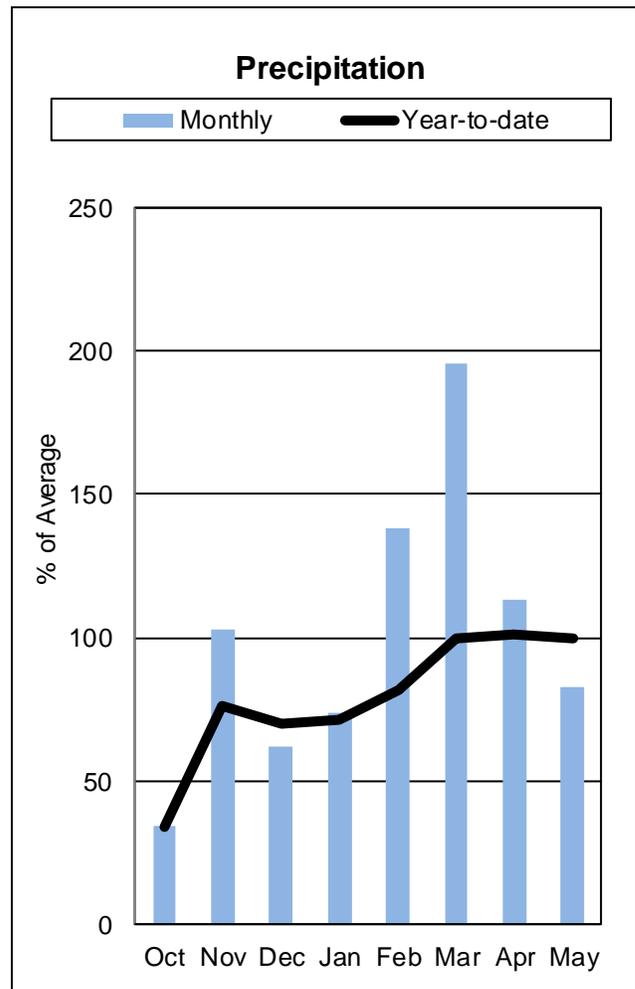
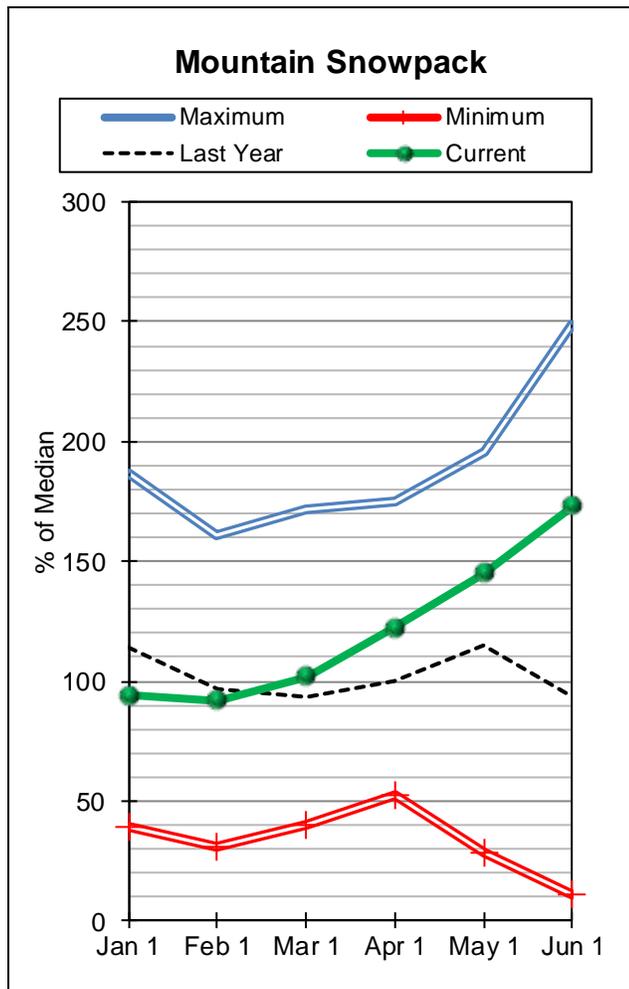
- 1 Marias above Tiber Reservoir 1
- 2 Tobacco 1.1
- 3 Kootenai Ft. Steele to Libby Dam 1.8
- 4 Kootenai below Libby Dam 1.4
- 5 Fisher 1.4
- 6 Yaak 0.1
- 7 North Fk. Flathead 2.4
- 8 Middle Fk. Flathead 2.4
- 9 South Fk. Flathead 3.1
- 10 Flathead at Columbia Falls 2.1
- 11 Stillwater/Whitefish Rivers 2.1
- 12 Swan 2.5
- 13 Flathead at Polson 2.9
- 14 Mission Valley -0.6
- 15 Little Bitterroot 2.1
- 16 Clark Fork above Milltown 1.1
- 17 Blackfoot 2.5
- 18 Clark Fork above Missoula 1.7
- 19 Bitterroot 2.4
- 20 Clark Fork River below Bitterroot 1.9
- 21 Clark Fork River below Flathead 2.5
- 22 Beaverhead -1.6
- 23 Ruby -0.7
- 24 Big Hole 2.3
- 25 Boulder (Jefferson) 2.8
- 26 Jefferson 1.8
- 27 Madison 0.3
- 28 Gallatin 2.2
- 29 Missouri above Canyon Ferry 0.9
- 30 Missouri below Canyon Ferry 1.1
- 31 Smith 2.9
- 32 Sun 1.4
- 33 Teton 1.2
- 34 Birch/Dupuyer Creeks -0.2
- 35 Marias 1.6
- 36 Musselshell 2.1
- 37 Missouri above Fort Peck 0.7
- 38 Missouri below Fort Peck 0.5
- 39 Milk
- 40 Dearborn near Craig 1.3
- 41 Yellowstone above Livingston 3.2
- 42 Shields 2.1
- 43 Boulder (Yellowstone) 3.5
- 44 Stillwater 3
- 45 Rock/Red Lodge Creeks 3.4
- 46 Clarks Fork Yellowstone 3.8
- 47 Yellowstone above Bighorn River 3.2
- 48 Bighorn below Bighorn Lake 2.4
- 49 Little Bighorn 2.5
- 50 Yellowstone below Bighorn 2.9
- 51 Tongue 3.1
- 52 Powder 2.2
- 53 Upper Judith 1
- 54 Saint Mary 1.8



June 9, 2014

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

Kootenai River Basin in Montana



Kootenai River Basin

Active melt was occurring through the month of May in the Kootenai River basin, with above average temperatures finally bringing the snow water into the river systems. Snowmelt actively occurred during the beginning of the month at low to mid elevations, but was accelerated after the middle part of the month with higher elevations showing active melt. Currently most low elevation SNOTEL sites have melted out as of June 1st, however higher elevations still have 35 to 70 percent of their annual snow water equivalent left to sustain river flows into summer. Basin-wide the Kootenai River basin has 42 percent of the total snow water remaining, is 173 percent of normal for June 1st and 178 percent of last year at this time.

Precipitation for the month of May was below average in the basin receiving 83 percent of the normal May total. The basin still remains at average 100 percent for the water year to date total. This is a drop of 2 percent from May 1st.

Reservoirs in the basin are currently 101 percent of average and 89 percent of last year at this time.

Most rivers in the Kootenai basin likely saw their snowmelt driven peak flows during the month of May. Streamflow prospects for the June-July time period indicate 98 to 120 percent of the normal flows during that period. Basin wide the Kootenai is forecasted to be 110 percent of average for the June-July time period and 91 percent of last year during the same time period.

Kootenai River Basin In Montana Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

KOOTENAI RIVER BASIN in MONTANA	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Tobacco R nr Eureka	JUN-JUL	50	61	68	117%	75	86	58
	JUN-SEP	61	74	83	117%	92	105	71
Libby Reservoir Inflow ¹	JUN-JUL	3010	3450	3650	113%	3850	4290	3240
	JUN-SEP	3770	4320	4570	110%	4820	5370	4150
Fisher R nr Libby	JUN-JUL	53	65	73	120%	81	93	61
	JUN-SEP	65	79	88	117%	97	111	75
Yaak R nr Troy	JUN-JUL	84	110	128	98%	146	172	130
	JUN-SEP	100	128	148	99%	168	196	150
Kootenai R at Leonia ^{1,2}	JUN-JUL	3040	3630	3900	107%	4170	4760	3640
	JUN-SEP	3890	4610	4940	106%	5270	5990	4640

1) 90% and 10% exceedance probabilities are actually 95% and 5%

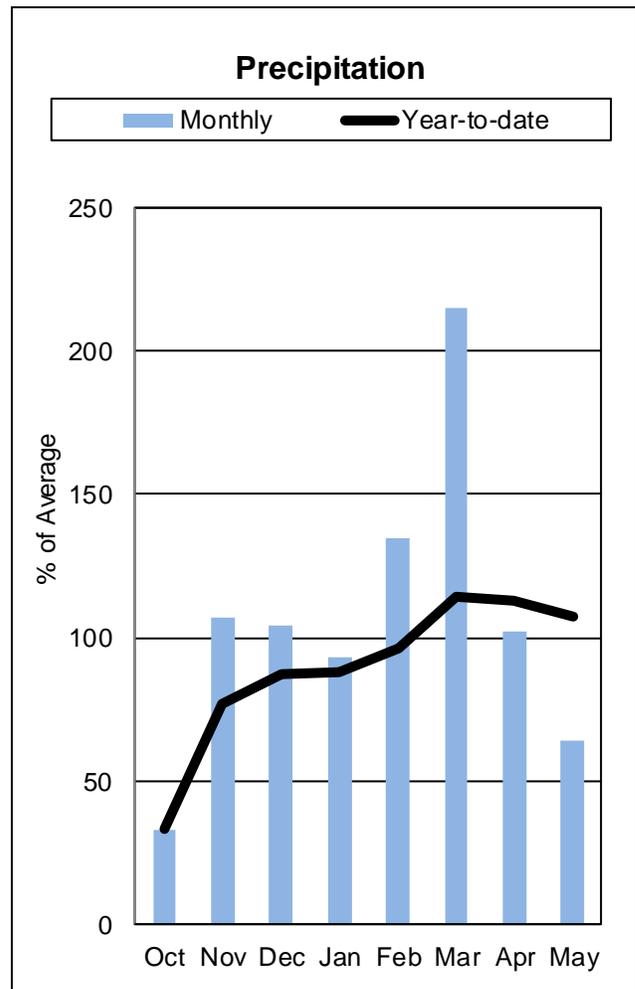
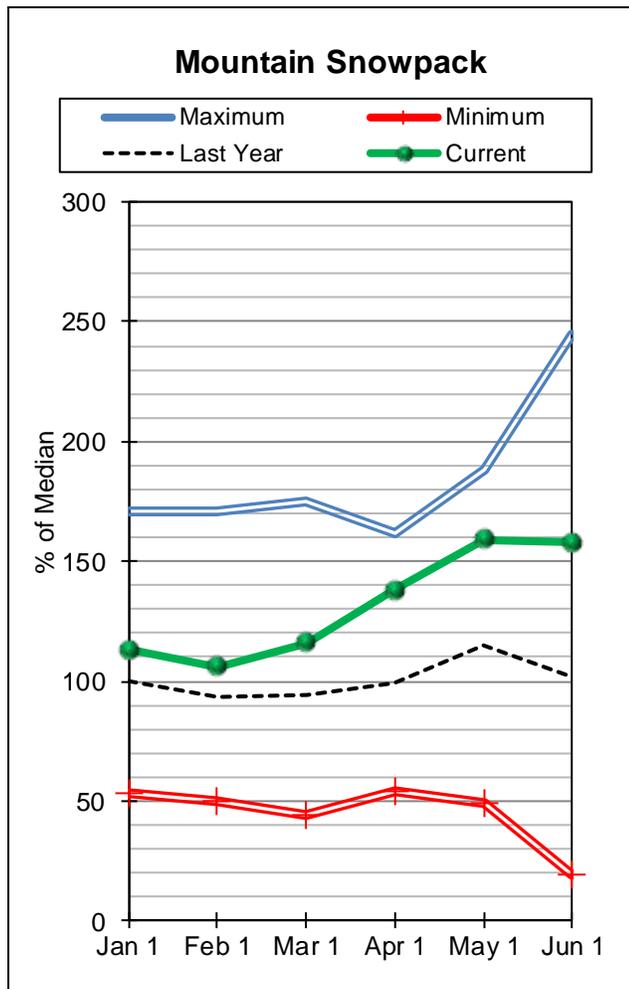
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
LAKE KOOCANUSA	3779.5	4264.7	3736.0	5748.0
Basin-wide Total	3779.5	4264.7	3736.0	5748.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
KOOTENAY in CANADA	7	133%	110%
KOOTENAI MAINSTEM	3	217%	128%
TOBACCO	2	143%	93%
FISHER	1		
YAAK	2	93%	11%
KOOTENAI RIVER BASIN in MONTANA	8	165%	93%
KOOTENAI ab BONNERS FERRY	14	142%	100%

Flathead River Basin



Higher elevations in the Flathead River basin continue to have a fair amount of snow water equivalent remaining on June 1st, but have moved to an active melt in the last few weeks due to the above average temperatures and sunny days. During the month low elevation SNOTEL sites in the basin have melted out, and many mid elevation sites are trending in this direction. Higher elevation sites have between 60 to 80 percent of the total snow water equivalent left to come, and will help to sustain the river flows into summer. Basin-wide the Flathead River basin has 53 percent of the total snow water remaining, is 159 percent of normal for June 1st, and is 156 percent of last year at this time.

Like most of the western basins in the state, precipitation was below average for the month of May, receiving only 64 of the May average. Water Year to date precipitation since October 1st continues to be slightly above average at 107 percent on June 1st.

Reservoirs in the basin are currently 99 percent of average for June 1st and 91 percent of last year at this time.

Snowmelt driven peak river flows likely occurred in the Flathead basin near the end of the month of May. Streamflow prospects continue to be above average for the basin to the delight of irrigators in the basin. Basin-wide the Flathead is forecasted to be 130 percent of average for the June-July time period, and 134 percent of last year at this time.

Flathead River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

FLATHEAD RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
NF Flathead R nr Columbia Falls	JUN-JUL	780	885	960	124%	1030	1140	775
	JUN-SEP	945	1070	1150	123%	1230	1360	935
MF Flathead R nr West Glacier	JUN-JUL	770	885	965	128%	1040	1160	755
	JUN-SEP	910	1040	1120	126%	1200	1330	890
Sf Flathead R nr Hungry Horse	JUN-JUL	680	750	800	142%	850	920	565
	JUN-SEP	760	835	890	140%	945	1020	635
Hungry Horse Reservoir Inflow ^{1,2}	JUN-JUL	945	1120	1200	140%	1280	1450	860
	JUN-SEP	1070	1260	1340	137%	1430	1620	980
Flathead R at Columbia Falls ²	JUN-JUL	2640	2970	3190	130%	3410	3740	2460
	JUN-SEP	3080	3440	3690	128%	3940	4300	2890
Ashley Ck nr Marion ²	MAY-JUL	3.1	4	4.6	118%	5.2	6.1	3.9
	JUN-JUL	0.45	1.16	1.65	122%	2.1	2.8	1.35
	JUN-SEP	0.35	0.59	1.09	185%	1.85	3	0.59
Swan R nr Bigfork	JUN-JUL	285	315	335	120%	355	385	280
	JUN-SEP	355	390	415	117%	440	475	355
Flathead Lake Inflow ^{1,2}	JUN-JUL	2880	3430	3680	129%	3930	4480	2860
	JUN-SEP	3320	3950	4240	128%	4530	5160	3320
Mill Ck ab Bassoo ck nr Niarada	JUN-JUL	1.1	1.42	1.64	131%	1.86	2.2	1.25
	JUN-SEP	1.41	1.76	2	127%	2.2	2.6	1.58
South Crow Ck nr Ronan	JUN-JUL	6.2	7.2	7.9	122%	8.6	9.6	6.5
	JUN-SEP	7.5	8.7	9.5	120%	10.3	11.5	7.9
Mission Ck nr St. Ignatius	JUN-JUL	17.2	18.8	20	113%	21	23	17.7
	JUN-SEP	21	23	25	114%	27	29	22
SF Jocko R nr Arlee	JUN-JUL	21	23	25	146%	27	29	17.1
	JUN-SEP	26	28	30	143%	32	34	21
NF Jocko R bl Tabor Feeder Canal	JUN-JUL	20	22	23	149%	24	26	15.4
	JUN-SEP	22	24	25	145%	26	28	17.3

1) 90% and 10% exceedance probabilities are actually 95% and 5%

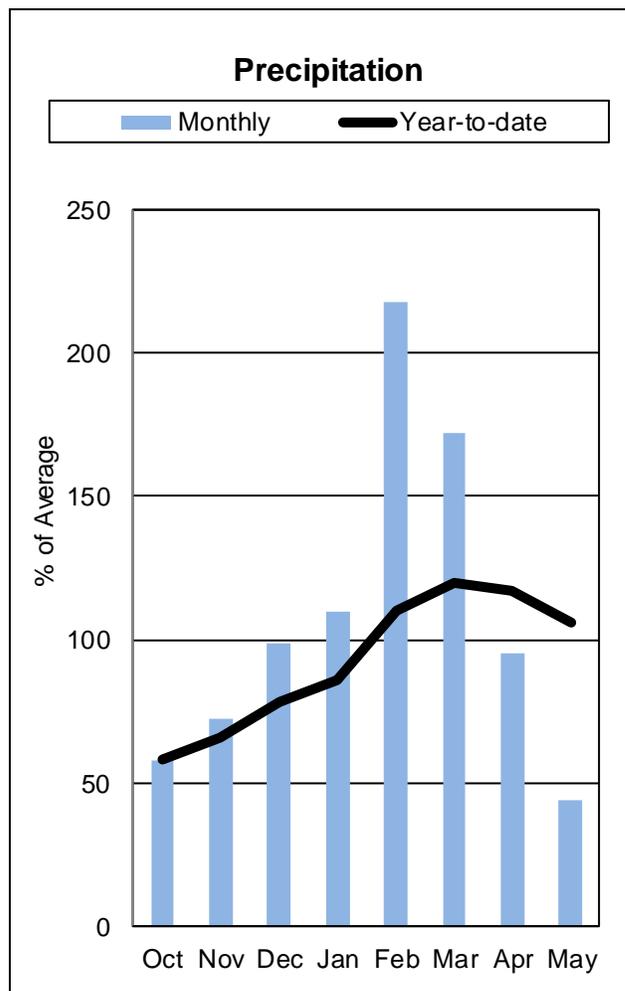
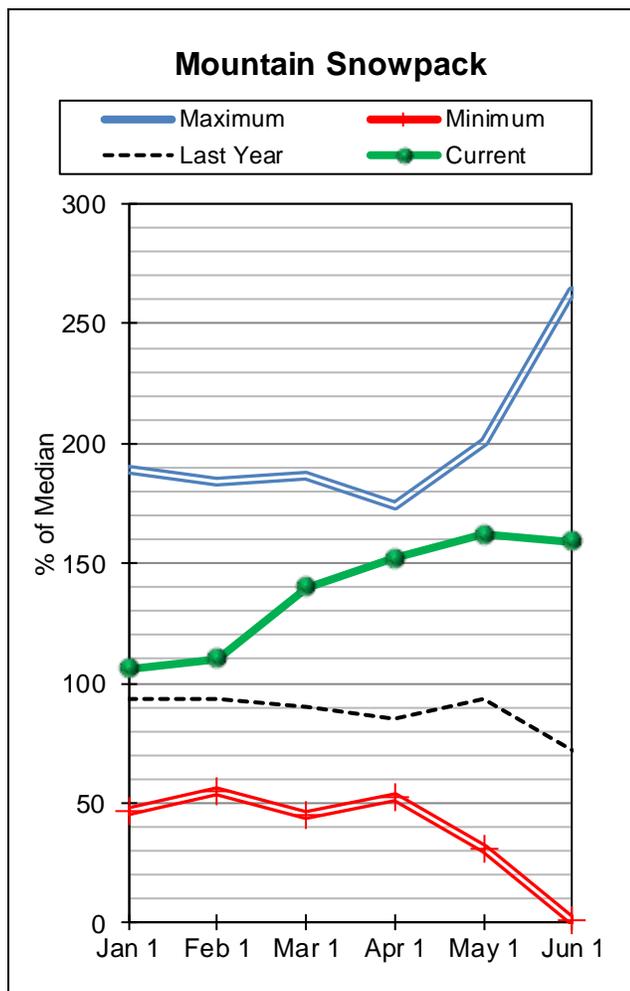
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
CAMAS (4)	38.8	39.7	28.6	45.2
LOWER JOCKO LAKE	5.3	5.2	3.7	6.4
MISSION VALLEY (8)	49.7	64.7	63.0	100.0
HUNGRY HORSE LAKE	2641.7	3089.6	2733.0	3451.0
FLATHEAD LAKE	1589.4	1528.6	1538.0	1791.0
Basin-wide Total	4324.9	4727.8	4366.3	5393.6
# of reservoirs	5	5	5	5

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
NF FLATHEAD in CANADA	2	134%	79%
NF FLATHEAD in MONTANA	6	175%	108%
MIDDLE FORK FLATHEAD	3	151%	112%
SOUTH FORK FLATHEAD	2	118%	89%
STILLWATER-WHITEFISH	5	228%	106%
SWAN	3	140%	98%
MISSION VALLEY	2	142%	102%
LITTLE BITTERROOT-ASHLEY	0		
JOCKO	3	140%	98%
FLATHEAD in MONTANA	6	175%	108%
FLATHEAD RIVER BASIN	18	156%	100%

Upper Clark Fork River Basin



After a banner winter, the Upper Clark Fork River basin reached peak snow water equivalent during the last days of April. Starting May 1st melt occurred at low to mid elevations in the basin, transitioning to melt at all elevations during the middle part of the month. Most low elevation SNOTEL sites in the basin have melted out as of June 1st, mid elevations should melt out in the coming weeks, and higher elevation sites have 30 to 70 percent of the peak snow water equivalent remaining to sustain flows during summer. Basin-wide the Upper Clark Fork River basin has 44 percent of the total snow water remaining, is 159 percent of normal for June 1st, and is 240 percent of last year at this time.

The Upper Clark Fork River basin received only 44 percent of the normal May precipitation and was well below average for the month. Water Year to date precipitation continues to be above average since October 1st at 106 on June 1st.

Reservoirs are currently 99 percent of average for June 1st and 95 percent of last year at this time.

Snowmelt brought river flows up towards the end of the month in the Upper Clark Fork basin, and some locations may have experienced their snowmelt driven peak flows for the season during May. Basin-wide the Upper Clark Fork is forecasted to be 114 percent of average for the June-July time period.

Upper Clark Fork River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

UPPER CLARK FORK RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Little Blackfoot nr Garrison	JUN-JUL	5.8	14.3	20	69%	26	34	29
	JUN-SEP	8.5	18.3	25	69%	32	42	36
Flint Ck nr Southern Cross	JUN-JUL	3.3	5.5	7	103%	8.5	10.7	6.8
	JUN-SEP	4	7	9	100%	11	14	9
Flint Ck bl Boulder Ck	JUN-JUL	17.3	25	31	100%	37	45	31
	JUN-SEP	26	37	44	100%	51	62	44
Lower Willow Ck Reservoir Inflow ²	JUN-JUL	0.32	0.72	1.6	44%	2.5	3.9	3.6
	JUN-SEP	0.72	1.35	2.4	53%	3.4	5	4.5
MF Rock Ck nr Philipsburg	JUN-JUL	20	28	33	97%	38	46	34
	JUN-SEP	26	34	40	98%	46	54	41
Rock Ck nr Clinton	JUN-JUL	84	115	135	103%	155	186	131
	JUN-SEP	109	144	167	102%	190	225	164
Clark Fork R ab Milltown	JUN-JUL	137	210	260	96%	310	385	270
	JUN-SEP	192	280	340	96%	400	490	355
Nevada Ck nr Helmville	JUN-JUL	4.6	6	7	121%	8	9.4	5.8
	JUN-SEP	5.9	7.5	8.6	119%	9.7	11.3	7.2
Blackfoot R nr Bonner	JUN-JUL	365	410	440	135%	470	515	325
	JUN-SEP	460	505	540	133%	575	620	405
Clark Fork R ab Missoula	JUN-JUL	530	630	700	118%	770	870	595
	JUN-SEP	680	800	880	115%	960	1080	765

1) 90% and 10% exceedance probabilities are actually 95% and 5%

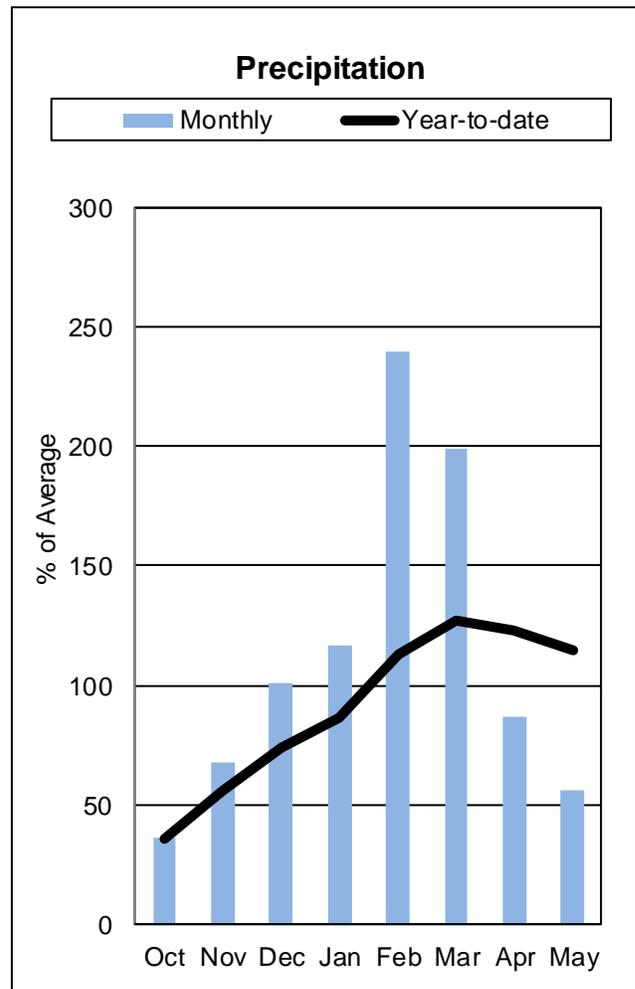
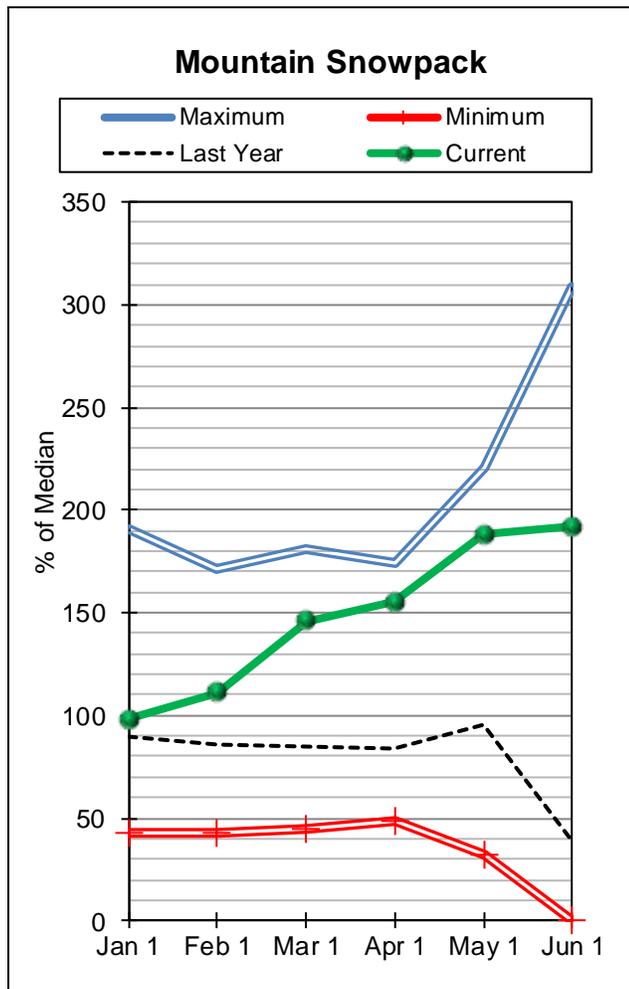
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
EAST FORK ROCK CREEK RES	12.0	12.5	10.6	15.6
GEORGETOWN LAKE	28.8	29.1	29.1	31.0
LOWER WILLOW CREEK RESERVOIR	5.0	4.6	4.7	4.9
NEVADA CREEK RES	11.5	8.0	10.9	12.6
Basin-wide Total	57.4	54.3	55.3	64.1
# of reservoirs	4	4	4	4

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
CLARK FORK ab FLINT CREEK	6	149%	57%
FLINT CREEK	6	149%	57%
ROCK CREEK	2	131%	0%
CLARK FORK ab BLACKFOOT	11	154%	45%
BLACKFOOT	11	154%	45%
UPPER CLARK FORK RIVER BASIN	16	161%	67%

Bitterroot River Basin



Snow has been well above normal in the Bitterroot River basin since February 1st, but May marked the transition to our spring runoff season for the basin. Warm and sunny weather transitioned the low to mid elevations during the first week of the month, and the mid to latter part of the month would bring snowmelt at all elevations. As of June 1st, low elevation SNOTEL sites have melted out and mid elevations are following this trend. Higher elevations still hold 50 to 70 percent of the annual snow water yet to come, which will help to sustain flows into the summer. Basin-wide the Bitterroot River basin has 32 percent of the total snow water remaining, is 159 percent of normal for June 1st, and is 507 percent of last year at this time.

Like most basins west of the divide the Bitterroot River Basin was well below average for precipitation during the month of May. Monthly totals indicate 56 percent of the normal May precipitation, however ample snowfall during the winter keeps the water year to date precipitation since October 1st above average at 115 percent.

Reservoirs in the basin are currently 99 percent of average for June 1st, and 95 percent of last year at this time.

Some minor flooding was reported on the Bitterroot River during the latter part of May, and snowmelt driven peak flows likely occurred during the last week of the month. Considering the magnitude of snowfall that has fallen this winter what has occurred snowmelt wise what has occurred is a best-case scenario. Basin-wide the Bitterroot River Basin is forecasted to be 136 percent of average for the June-July time period, and 217 percent of last year.

Bitterroot River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

BITTERROOT RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
WF Bitterroot R Nr Conner ²	JUN-SEP	72	84	92	164%	100	112	56
Bitterroot R Nr Darby	JUN-JUL	235	255	270	129%	285	305	210
	JUN-SEP	295	320	340	126%	360	385	270
Como Reservoir Inflow ²	JUN-JUL	39	47	52	137%	57	65	38
	JUN-SEP	43	51	57	136%	63	71	42
Bitterroot R nr Missoula	JUN-JUL	700	775	830	138%	885	960	600
	JUN-SEP	780	865	925	131%	985	1070	705

1) 90% and 10% exceedance probabilities are actually 95% and 5%

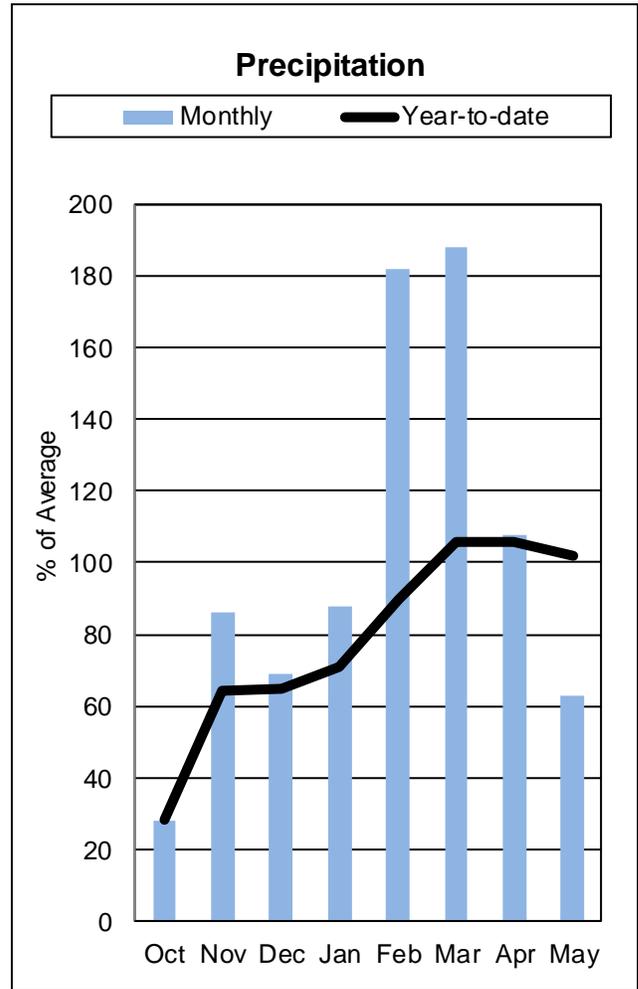
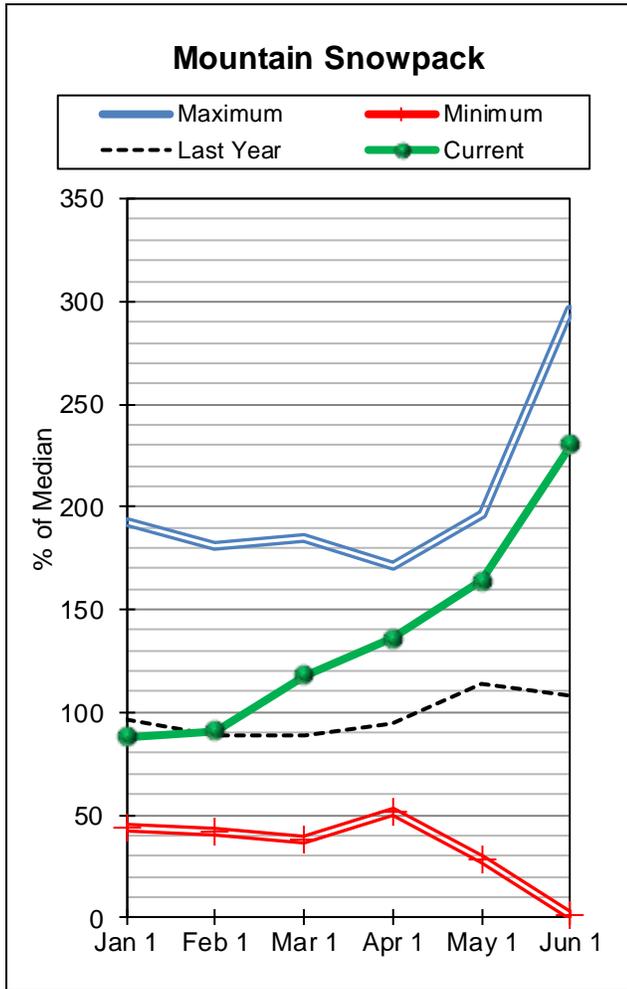
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
PAINTED ROCKS LAKE	34.3	32.4	32.3	31.7
LAKE COMO	30.6	35.8	33.2	34.9
Basin-wide Total	64.9	68.1	65.5	66.6
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
WEST FORK BITTERROOT	2	207%	49%
EAST SIDE BITTERROOT	3	165%	29%
WEST SIDE BITTERROOT	3	229%	51%
BITTERROOT RIVER BASIN	7	192%	38%

Lower Clark Fork River Basin



Through the middle of February the Lower Clark Fork River Basin was below normal for the year, but substantial storms helped the snowpack build to well above normal levels before snowmelt began. May transitioned the snowpack to active melt, starting at low to mid elevations during the first part of the month, and moving to all elevations after the middle of the month. Low elevation SNOTEL sites have melted out as of June 1st with mid elevation sites nearly melted out. Higher elevation sites still have 70 percent of their annual snow water remaining, however, the bulk of the basin wide snow water has been moved at the water yielding elevations. Basin-wide the Lower Clark Fork River basin has 38 percent of the total snow water remaining, is 230 percent of normal for June 1st, and is 213 percent of last year at this time.

Precipitation in the Lower Clark Fork River basin was below average during the month, helping to keep room in the rivers for the elevated snowmelt during May. Overall the basin received 63 percent of average May precipitation, and ended the month at 102 percent of the water year to date average starting on October 1st.

Reservoirs in the basin are currently 99 percent of average, and 95 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 128 percent of average for the June-July time period, and 161 percent of last year.

Lower Clark Fork River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

LOWER CLARK FORK RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Clark Fork R bl Missoula	JUN-JUL	1260	1420	1530	128%	1640	1800	1200
	JUN-SEP	1500	1690	1810	123%	1930	2120	1470
Clark Fork R at St. Regis ¹	JUN-JUL	1520	1820	1960	128%	2100	2400	1530
	JUN-SEP	1820	2160	2320	123%	2480	2820	1880
Clark Fork R nr Plains ^{1,2}	JUN-JUL	4840	5530	5850	129%	6170	6860	4540
	JUN-SEP	5620	6450	6830	126%	7210	8040	5410
Thompson nr Thompson Falls	JUN-JUL	51	62	69	99%	76	87	70
	JUN-SEP	70	83	92	99%	101	114	93
Prospect Ck at Thompson Falls	JUN-JUL	31	34	37	106%	40	43	35
	JUN-SEP	37	41	44	102%	47	51	43
Clark Fork R at Whitehorse Rapids ^{1,2}	JUN-JUL	5380	6130	6470	128%	6810	7560	5070
	JUN-SEP	6300	7200	7600	125%	8000	8900	6090

1) 90% and 10% exceedance probabilities are actually 95% and 5%

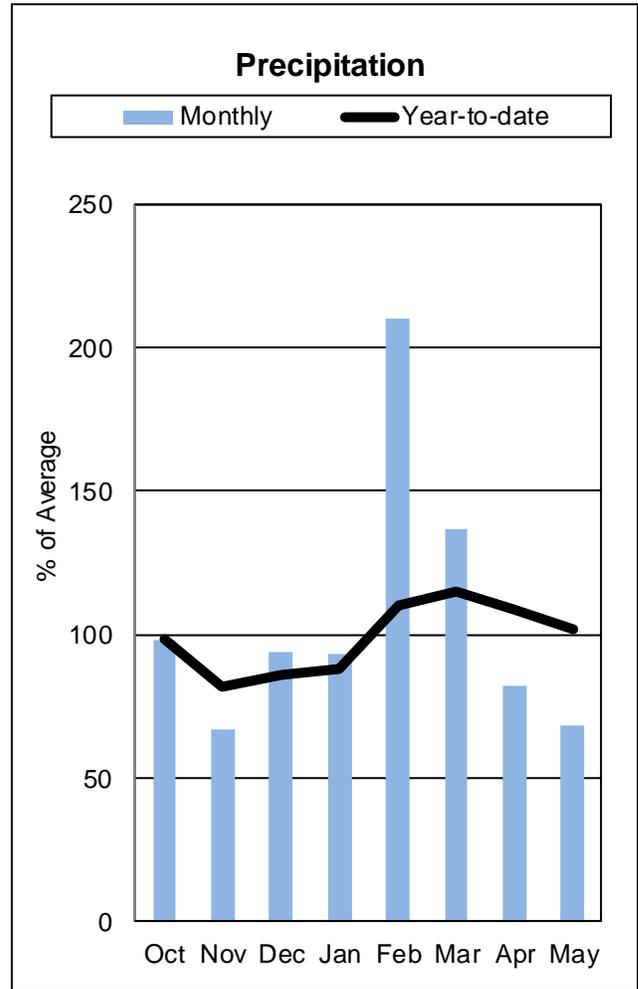
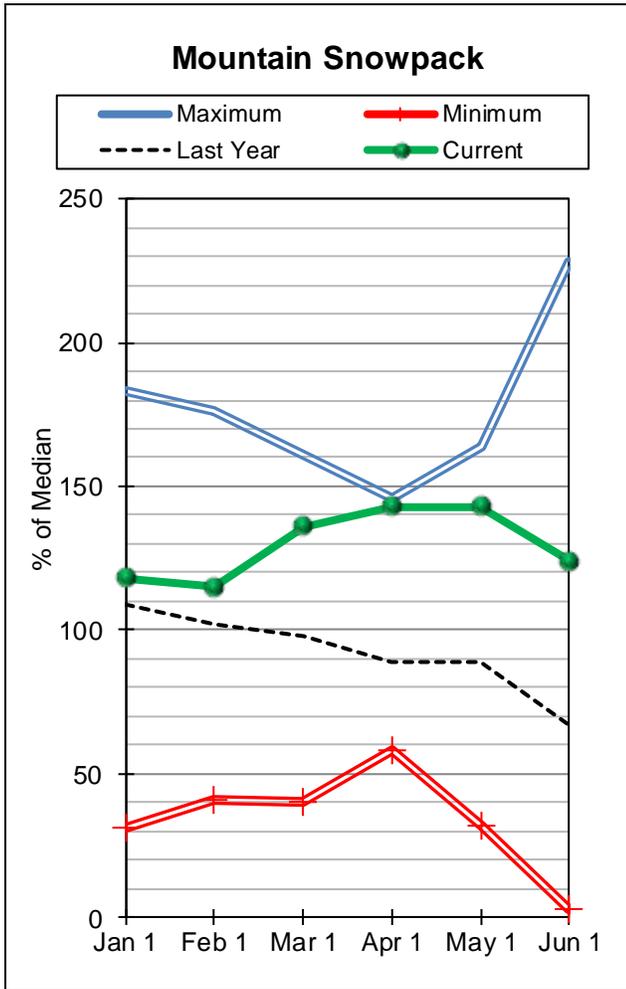
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
NOXON RAPIDS RES	328.7	325.8	324.2	335.0
Basin-wide Total	328.7	325.8	324.2	335.0
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
LOWER CLARK FORK RIVER BASIN	7	230%	108%

Jefferson River Basin



The Jefferson River near Three Forks appears to have reached its snow driven peak flow on May 30th at 9330 cfs and 176 percent of the daily mean. This can be attributed to substantial snow melt over the month of May in the Jefferson River Basin. As of June 1st 11 of the 19 Jefferson River Basin SNOTEL sites were snow free and 35 percent of the basin wide snow water equivalent remained. The Jefferson River basin wide snow water equivalent is currently at 124 percent of normal and 186 percent of last year.

Similar to the majority of the other basins east of the Continental Divide the Jefferson River Basin experienced below average precipitation in May. May precipitation was 68 percent of average and 69 percent of last year. As of June 1st water year to date precipitation was 102 percent of average and 115 percent of last year. Mountain SNOTEL stations received 70 percent of average for the month of May and 72 percent of last year, while valley weather stations received 52 percent of average for the month of May and 43 percent of last year.

Reservoirs in the basin are currently 82 percent of average, and 92 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 125 percent of average for the June-July time period, and 428 percent of last year.

Jefferson River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

JEFFERSON RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lima Reservoir Inflow ²	JUN-JUL	7	15.2	21	68%	26	34	31
	JUN-SEP	8.4	18.9	26	67%	33	44	39
Clark Canyon Inflow ²	JUN-JUL	-17.3	9.1	27	77%	45	71	35
	JUN-SEP	-6.4	24	44	80%	64	94	55
Beaverhead R at Barretts ²	JUN-JUL	-12	14.2	40	82%	66	104	49
	JUN-SEP	-9	28	61	81%	94	144	75
Ruby R Reservoir Inflow ²	JUN-JUL	20	29	35	85%	41	50	41
	JUN-SEP	31	42	49	88%	56	67	56
Big Hole R at Wisdom	JUN-JUL	25	48	63	137%	78	101	46
	JUN-SEP	26	52	70	135%	88	114	52
Big Hole R nr Melrose	JUN-JUL	270	335	380	141%	425	490	270
	JUN-SEP	300	380	435	138%	490	570	315
Jefferson R nr Twin Bridges ²	JUN-JUL	220	325	400	125%	470	575	320
	JUN-SEP	235	370	460	130%	550	685	355
Boulder R nr Boulder	JUN-JUL	32	38	43	134%	48	54	32
	JUN-SEP	34	43	49	132%	55	64	37
Willow Ck Reservoir Inflow ²	JUN-JUL	13.7	16.8	18.9	182%	21	24	10.4
	JUN-SEP	15.2	19.4	22	176%	25	29	12.5
Jefferson R nr Three Forks ²	JUN-JUL	270	385	460	130%	540	655	355
	JUN-SEP	310	450	545	131%	640	780	415

1) 90% and 10% exceedance probabilities are actually 95% and 5%

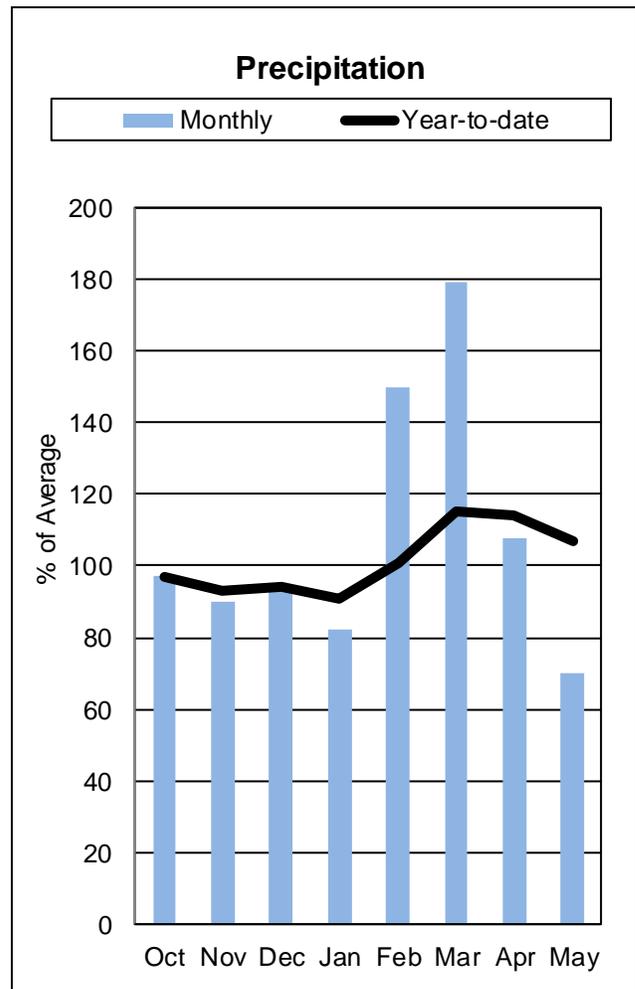
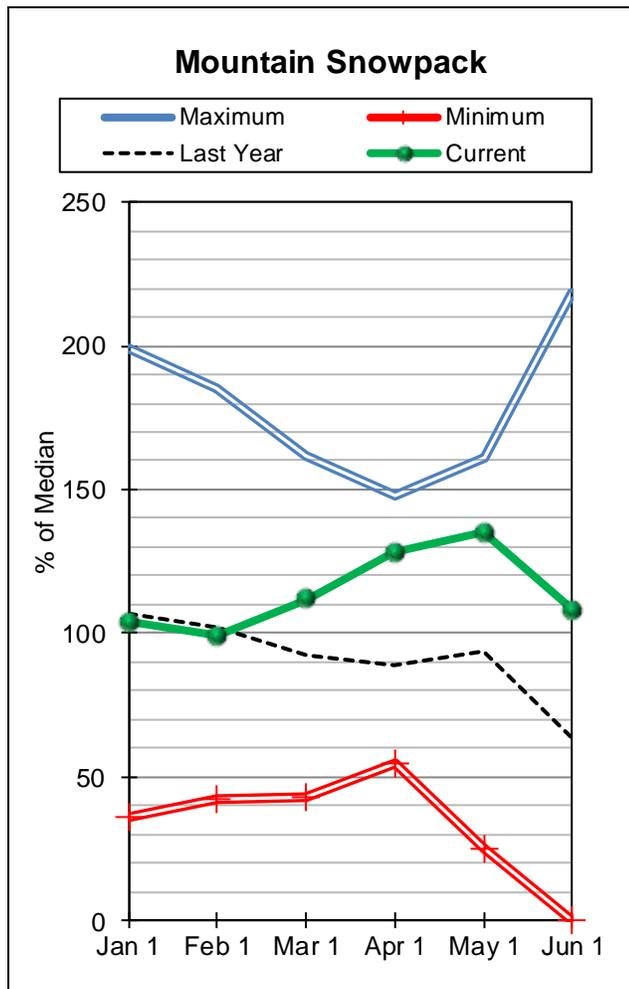
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
LIMA RESERVOIR	51.6	57.8	61.4	84.0
CLARK CANYON RES	104.6	121.8	137.1	255.6
RUBY RIVER RESERVOIR	37.6	30.9	37.1	38.8
Basin-wide Total	193.9	210.5	235.6	378.4
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
BEAVERHEAD	8	105%	73%
RUBY	5	110%	69%
BIGHOLE	8	139%	74%
BOULDER	3	139%	46%
JEFFERSON RIVER BASIN	19	124%	67%

Madison River Basin



Substantial snowmelt occurred in the Madison River basin over the month of May. However, as of June 1st only 3 of the 11 SNOTEL sites in the basin were snow free. After reaching maximum snow water equivalent near the end of April the basin has since experienced a 60 percent reduction of snow water equivalent. The Madison River basin wide snow water equivalent is currently at 108 percent of normal and 171 percent of last year.

Similar to the majority of the other basins east of the Continental Divide the Madison River Basin experienced below average precipitation in May. May precipitation was 70 percent of average and 89 percent of last year. As of June 1st water year to date precipitation was 107 percent of average and 121 percent of last year.

Reservoirs in the basin are currently 97 percent of average, and 98 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 109 percent of average for the June-July time period, and 176 percent of last year.

Madison River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

MADISON RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Hebgen Reservoir Inflow ²	JUN-JUL	151	177	194	109%	210	235	178
	JUN-SEP	245	275	295	105%	315	345	280
Ennis Reservoir Inflow ²	JUN-JUL	290	330	360	109%	385	425	330
	JUN-SEP	425	475	510	105%	540	590	485

1) 90% and 10% exceedance probabilities are actually 95% and 5%

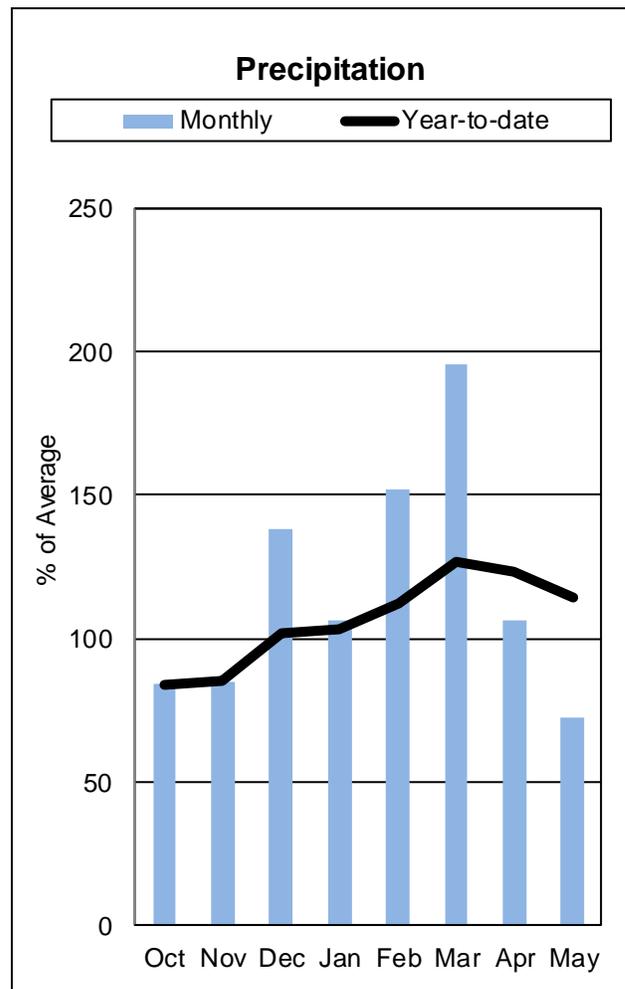
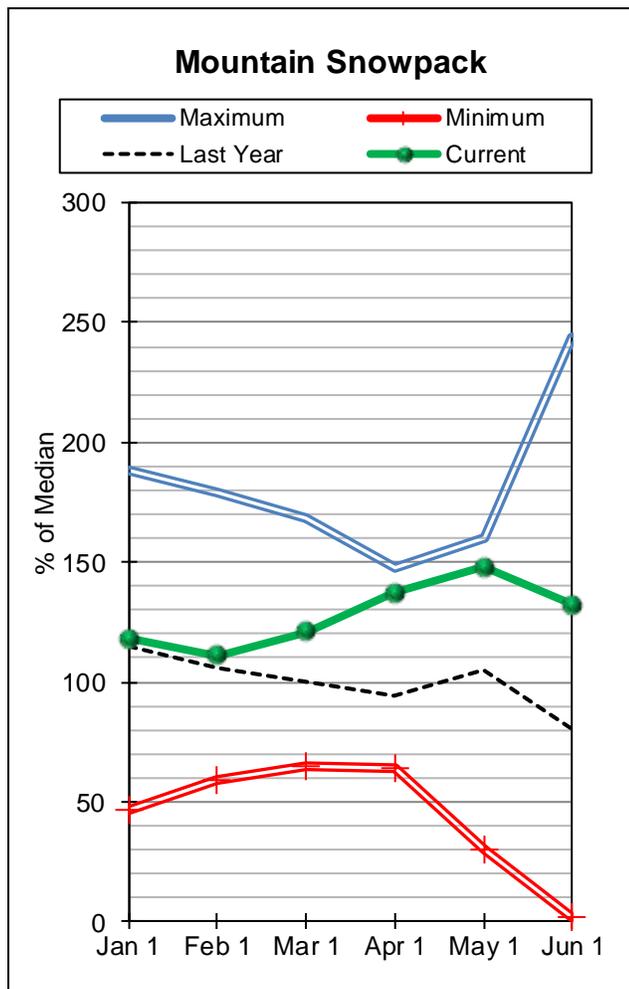
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
ENNIS LAKE - LOWER MADISON RES	32.9	36.6	35.6	41.0
HEBGEN LAKE	326.7	331.0	336.2	377.5
Basin-wide Total	359.5	367.6	371.8	418.5
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
MADISON abv HEBGEN LAKE	4	110%	46%
MADISON blw HEBGEN LAKE	7	108%	71%
MADISON RIVER BASIN	11	108%	63%

Gallatin River Basin



The month of May in the Gallatin River Basin yielded a forgiving combination of warm sunny and cool overcast weather. Residents near the East Gallatin River watched a lot of water drain from the Bridger Range over the month of May. The Bridger’s reached peak snow water equivalent on May 13th and have since seen about a 60 percent reduction at upper elevations. The higher elevation SNOTEL sites at the upper end of the Gallatin River Basin still have approximately 40 to 60 percent of this year’s peak snow water equivalent and are 111 percent of normal for June 1st. Basin wide snow water equivalent is currently 132 percent of normal for June 1st and 164 percent of last year.

May precipitation was 72 percent of average and 71 percent of last year. As of June 1st water year to date precipitation was 114 percent of average and 120 percent of last year. Mountain SNOTEL stations received 74 percent of average for the month of May and 76 percent of last year, while valley weather stations received 61 percent of average for the month of May and 49 percent of last year.

Reservoirs in the basin are currently 92 percent of average, and 81 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 132 percent of average for the June-July time period, and 197 percent of last year.

Gallatin River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

GALLATIN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gallatin R nr Gateway	JUN-JUL	265	300	325	127%	350	385	255
	JUN-SEP	335	375	405	127%	435	475	320
Hyalite Reservoir Inflow ²	JUN-JUL	13.2	14.7	15.7	122%	16.7	18.2	12.9
	JUN-SEP	15.8	17.7	19	121%	20	22	15.7
Gallatin R at Logan	JUN-JUL	245	300	335	137%	370	425	245
	JUN-SEP	305	375	420	135%	470	540	310

1) 90% and 10% exceedance probabilities are actually 95% and 5%

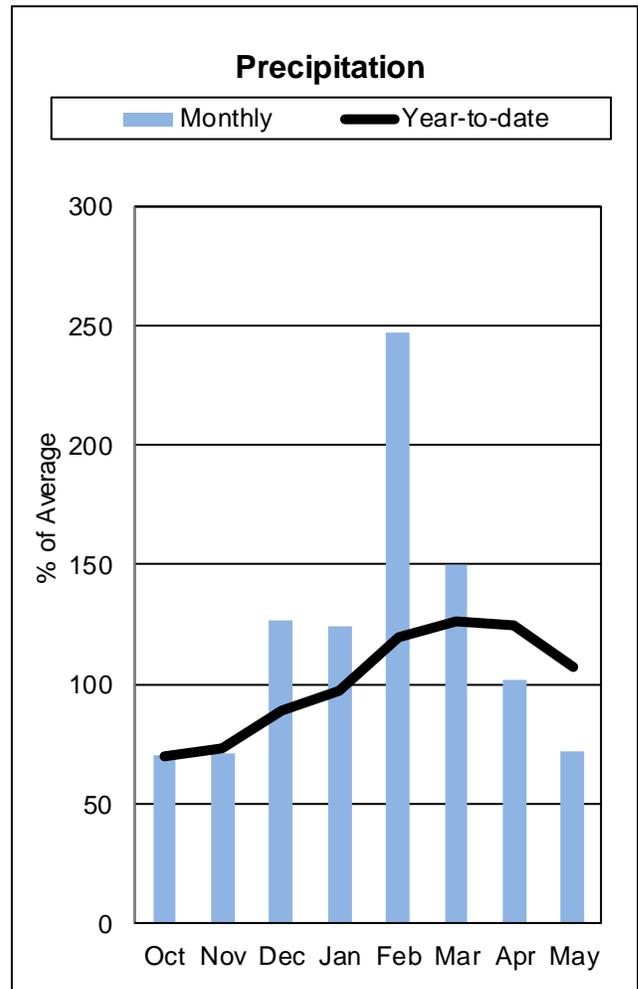
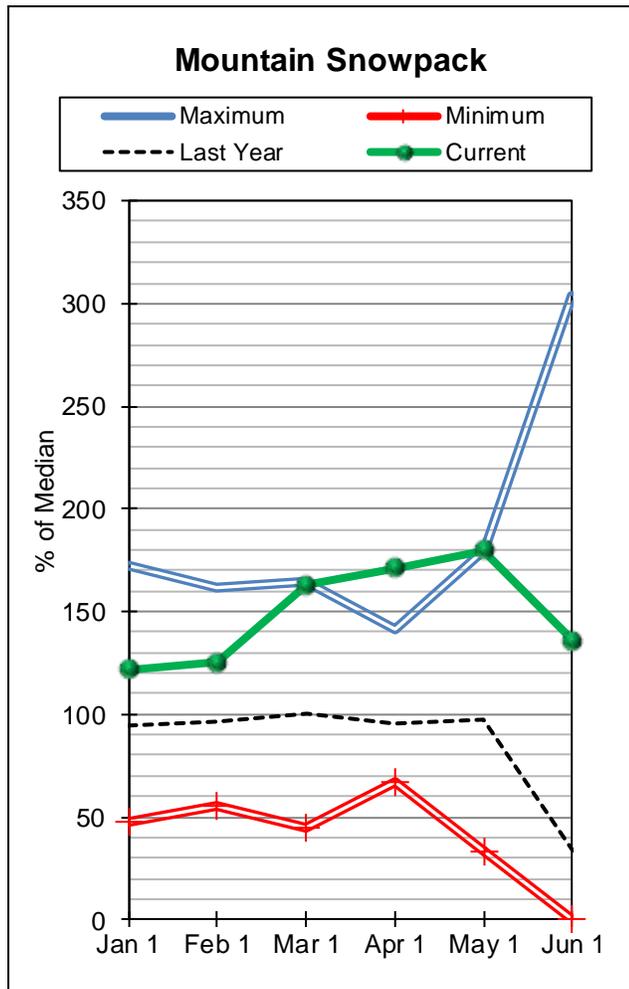
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
MIDDLE CREEK RES	7.9	9.8	8.6	10.2
Basin-wide Total	7.9	9.8	8.6	10.2
# of reservoirs	1	1	1	1

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
UPPER GALLATIN	3	111%	76%
HYALITE	2	149%	105%
BRIDGER	2	290%	0%
GALLATIN RIVER BASIN	7	132%	80%

Missouri Mainstem River Basin



The snow in the Missouri Mainstem River basin finally ended on May 1st reaching peak snow water equivalent for the year. Luckily, May brought favorable weather patterns to deal with the abundance of snow received this winter and spring, bringing the snowmelt in waves during the month. The first week of the month started snowmelt at low to mid elevations and Low elevation SNOTEL sites melted out during the third week of May. Higher elevations transitioned to more active melt after the middle part of the month and have been actively melting through June 1st. Currently high elevation sites have 30 to 60 percent of the annual snow water remaining to enter the river system and sustain flows. Basin-wide the Missouri Mainstem River basin has 29 percent of the total snow water remaining, is 136 percent of normal for June 1st, and is 403 percent of last year at this time.

The region around Helena was well below average for the month of May in terms of precipitation, receiving only 72 percent of the normal May total. The snowfall during the winter has helped to keep the water year to date precipitation at 107 percent of average, and now that the bulk of snowmelt has occurred, additional precipitation is welcome.

Reservoirs in the basin are currently 102 percent of average, and 107 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 130 percent of average for the June-July time period, and 164 percent of last year.

Missouri Mainstem Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

MISSOURI MAINSTEM BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Missouri R at Toston ²	JUN-JUL	830	1050	1200	128%	1350	1570	940
	JUN-SEP	1020	1320	1520	125%	1730	2030	1220
Dearborn R nr Craig	JUN-JUL	26	40	50	125%	60	74	40
	JUN-SEP	28	44	55	120%	66	82	46
Missouri R at Fort Benton ²	JUN-JUL	1190	1550	1790	127%	2030	2380	1410
	JUN-SEP	1570	2040	2350	124%	2670	3140	1900
Missouri R nr Virgelle ²	JUN-JUL	1400	1780	2040	128%	2300	2680	1600
	JUN-SEP	1800	2290	2620	124%	2950	3440	2120
Missouri R nr Landusky ²	JUN-JUL	1570	1940	2200	129%	2460	2830	1710
	JUN-SEP	1990	2490	2830	125%	3170	3670	2260
Missouri R bl Fort Peck Dam ²	JUN-JUL	1460	1930	2250	132%	2570	3040	1710
	JUN-SEP	1650	2340	2800	129%	3260	3950	2170
Lake Sakakawea Inflow ²	JUN-JUL	4860	6010	6790	134%	7570	8720	5060
	JUN-SEP	5330	7020	8180	133%	9330	11000	6150

1) 90% and 10% exceedance probabilities are actually 95% and 5%

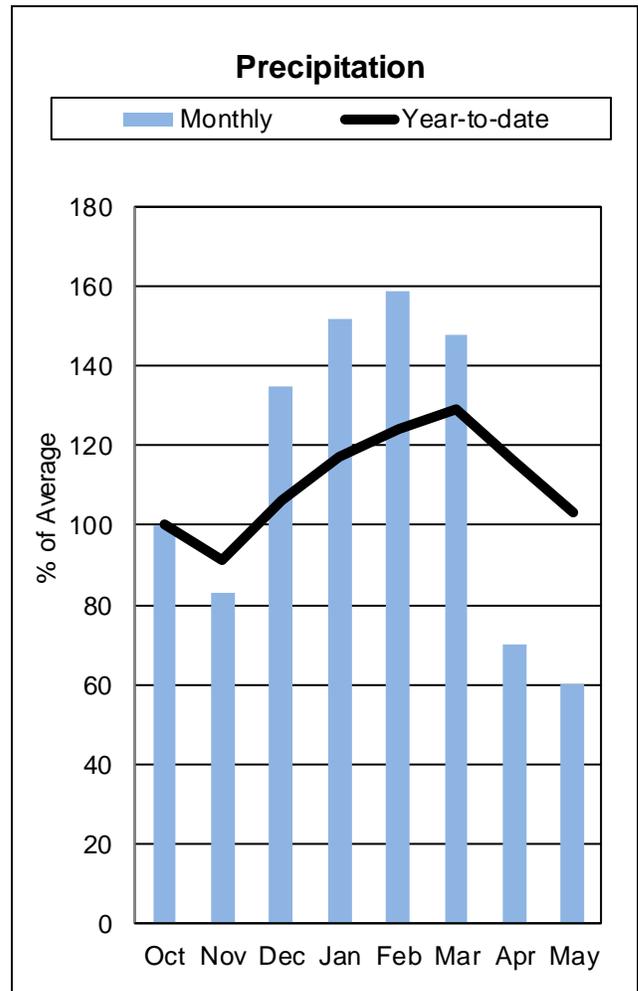
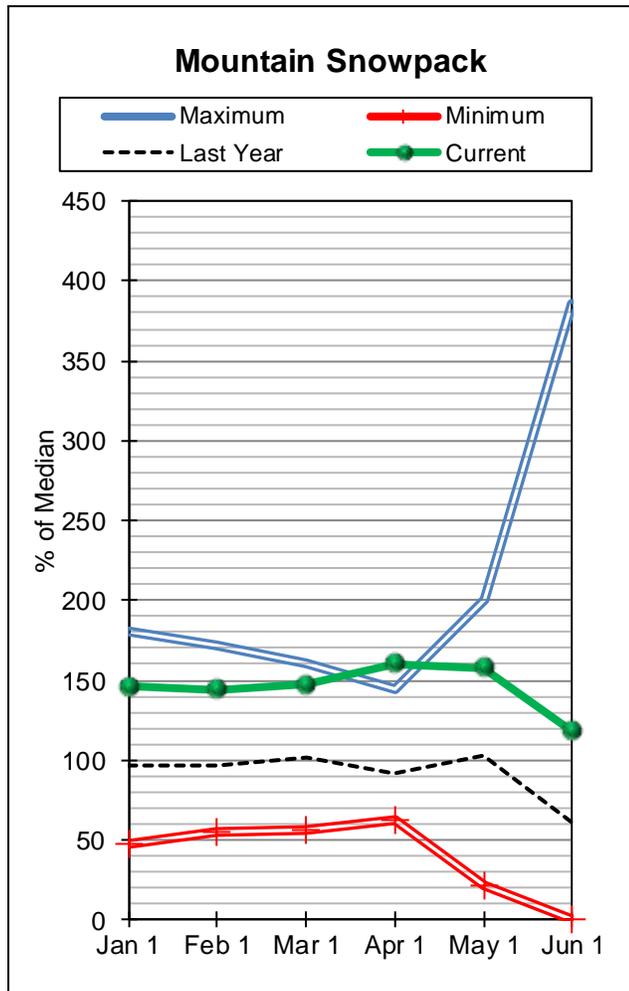
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
CANYON FERRY LAKE	1519.5	1500.8	1639.0	2043.0
HELENA VALLEY RESERVOIR	7.7	8.7	7.9	9.2
LAKE HELENA	10.9	11.0	10.9	12.7
HAUSER LAKE & LAKE HELENA	74.0	74.1	73.8	74.6
HOLTER LAKE	81.0	80.6	80.4	81.9
FORT PECK LAKE	13841.6	12900.8	13383.0	18910.0
Basin-wide Total	15534.7	14575.9	15195.0	21131.4
# of reservoirs	6	6	6	6

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
HEADWATERS MAINSTEM	5	136%	34%
SMITH-JUDITH-MUSSELSHELL	9	118%	61%
SUN-TETON-MARIAS	5	189%	86%
MAINSTEM ab FT PECK RES	18	152%	65%
MILK RIVER BASIN	3		
MISSOURI MAINSTEM BASIN	21	152%	65%

Smith-Judith-Musselshell River Basins



After reaching the 3rd highest basin wide snow water equivalent on record this year, the Smith-Judith-Musselshell River basin has seen substantial snow melt. Fortunately weather patterns in May were optimal for preventing major flooding. As of June 1st 5 of the 9 Smith-Judith-Musselshell River basin SNOTEL sites were snow free. All 5 of the sites are below 7000 feet in elevation. Approximately 17 percent of the basin wide snow water equivalent remains. The Smith-Judith-Musselshell River basin wide snow water equivalent is currently at 118 percent of normal and 272 percent of last year.

Precipitation in the central mountains east of the Continental Divide and north was the lowest in the state during the month of May. The Smith-Judith-Musselshell River basin received a well below average 60 percent of the normal May precipitation during the month, but has remains above average for the water year to date precipitation due to the above normal snow that fell this winter. Currently the basin is 103 percent of average since October 1st, and is 93 percent of last year at this time.

Reservoirs are mostly full in the basin and are currently 141 percent of average for June 1st, and 95 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 140 percent of average for the June-July time period, and 269 percent of last year. Due to the lack of water left to the snowpack, additional streamflow snowmelt driven peaks are not anticipated.

Smith-Judith-Musselshell Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

SMITH-JUDITH-MUSSELSHELL	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Sheep Ck nr White Sulphur Springs	JUN-JUL	6.7	8.9	10.4	128%	11.9	14.1	8.1
	JUN-SEP	8.3	11.3	13.3	122%	15.3	18.3	10.9
Smith R bl Eagle Ck ²	JUN-JUL	51	71	85	157%	99	119	54
	JUN-SEP	57	85	103	158%	121	149	65
NF Musselshell R nr Delpine	JUN-JUL	0.47	1.26	2.4	120%	3.6	5.2	2
	JUN-SEP	0.85	2.3	3.3	118%	4.2	5.7	2.8
SF Musselshell R ab Martinsdale	JUN-JUL	5.7	16.9	25	125%	32	43	20
	JUN-SEP	7.5	19.5	28	122%	36	48	23
Musselshell R at Harlowton ²	JUN-JUL	-6.5	19.7	37	132%	55	81	28
	JUN-SEP	-3.3	23	41	137%	59	85	30
Musselshell R nr Roundup ²	JUN-JUL	2.6	28	45	132%	62	87	34
	JUN-SEP	4.3	30	47	138%	64	89	34

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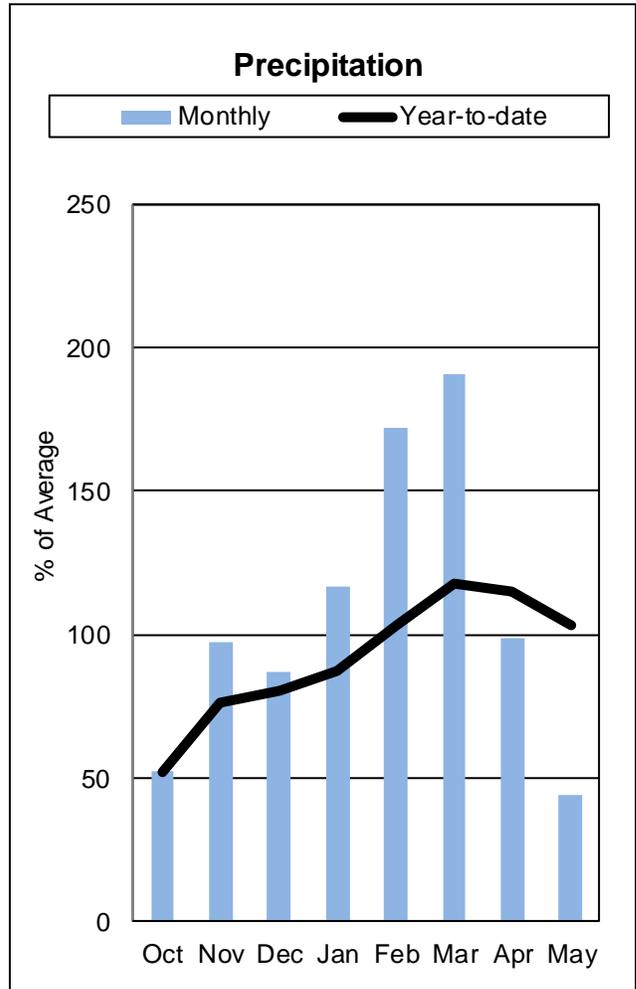
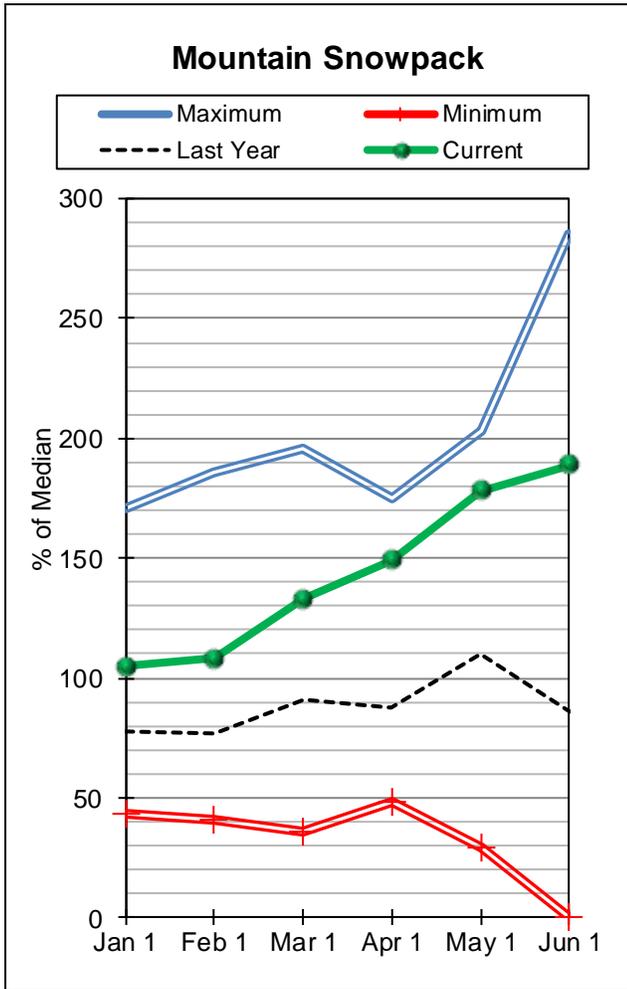
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
SMITH RIVER RES	11.6	11.1	9.9	10.6
ACKLEY LAKE	4.6	3.5	4.6	7.0
BAIR RES	7.3	5.2	4.9	7.0
MARTINSDALE RES	19.8	10.1	15.2	23.1
DEADMAN'S BASIN RES	74.7	52.6	49.2	72.2
Basin-wide Total	117.9	82.6	83.8	119.9
# of reservoirs	5	5	5	5

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
SMITH	6	116%	60%
HIGHWOOD	7	133%	110%
JUDITH	4	129%	90%
MUSSELSHELL	2		
SMITH-JUDITH-MUSSELSHELL	9	118%	61%

Sun-Teton-Marias River Basins



Peak snow water equivalent for the basin was experienced during the last week in April in the Sun Teton Marias River Basin, and May started the transition to an active spring melt pattern. During the last two weeks of the month sunny days with above average temperatures have melted out low to mid elevation SNOTEL sites, and as of June 1st higher elevation sites have 45 to 60 percent of the annual snow water remaining to enter the river systems. Basin-wide the St. Mary- Milk River basin has 35 percent of the total snow water remaining, is 189 percent of normal for June 1st, and is 221 percent of last year at this time.

East of divide in the northern basins precipitation was well below average for the month of May, receiving 44 percent of the normal May total. Water Year to Date precipitation continues to be above average since October 1st at 103 percent of average

Reservoirs in the basin are currently 101 percent of average, and 97 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 132 percent of average for the June-July time period, and 166 percent of last year.

Sun-Teton-Marias

Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

SUN-TETON-MARIAS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gibson Reservoir Inflow	JUN-JUL	205	240	260	124%	280	315	210
	JUN-SEP	250	285	310	124%	335	370	250
Two Medicine R nr Browning ²	JUN-JUL	82	96	105	128%	114	128	82
	JUN-SEP	92	107	118	126%	129	144	94
Badger Ck nr Browning	JUN-JUL	40	50	57	124%	64	74	46
	JUN-SEP	52	64	72	118%	80	92	61
Swift Reservoir Inflow ²	JUN-JUL	26	32	37	123%	41	47	30
	JUN-SEP	36	43	49	120%	54	62	41
Dupuyer Ck nr Valier	JUN-JUL	0.5	2.6	5.7	106%	8.8	13.2	5.4
	JUN-SEP	0.8	3.5	7.1	103%	10.7	16.1	6.9
Cut Bank Ck nr Browning	JUN-JUL	33	41	46	121%	51	59	38
	JUN-SEP	39	47	53	120%	59	67	44
Marias R nr Shelby ²	JUN-JUL	110	176	220	154%	265	330	143
	JUN-SEP	115	189	240	152%	290	365	158
Teton R nr Dutton	JUN-JUL	1	17.4	30	125%	43	61	24
	JUN-SEP	1	21	36	124%	51	73	29

1) 90% and 10% exceedance probabilities are actually 95% and 5%

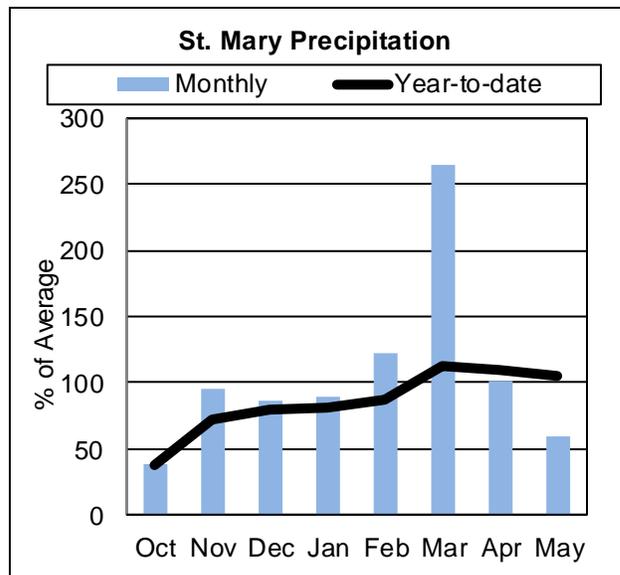
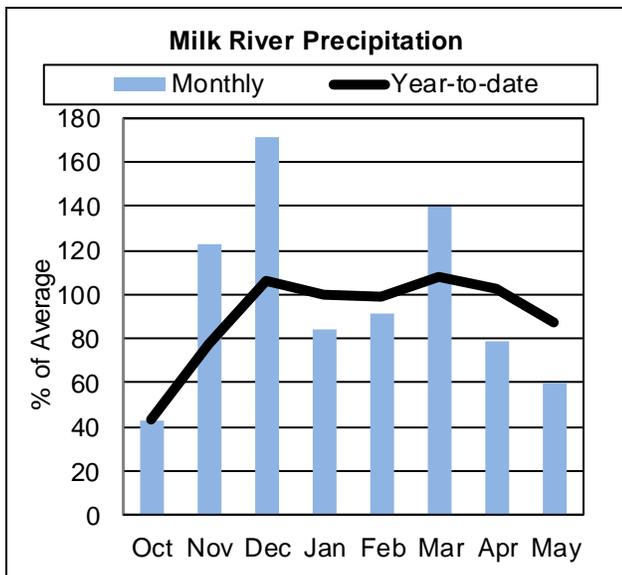
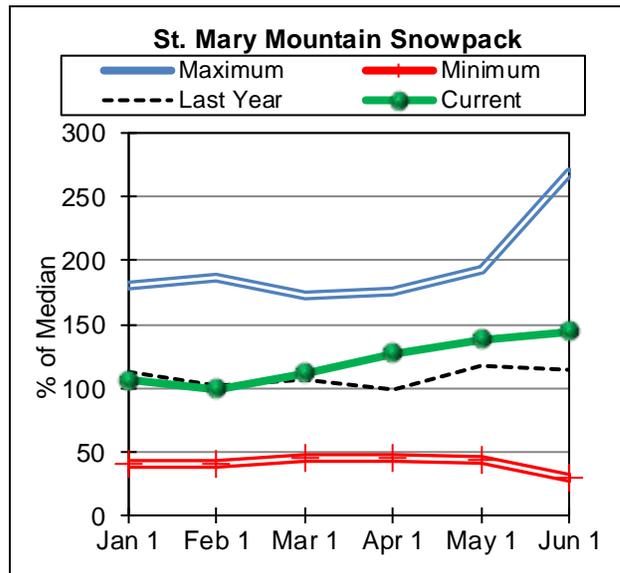
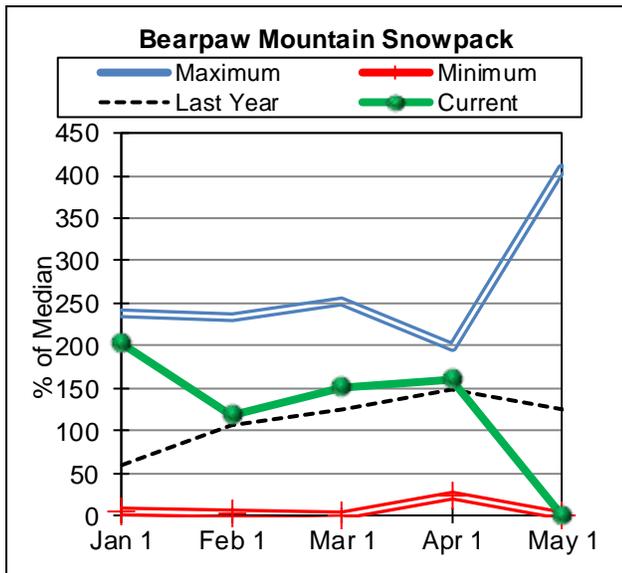
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
GIBSON RES	82.4	98.2	89.8	99.1
PISHKUN RES	30.0	30.4	29.8	32.0
WILLOW CREEK	30.0	30.9	28.3	32.2
LOWER TWO MEDICINE LAKE	12.6	12.5	12.0	11.9
FOUR HORNS LAKE	11.2	12.5	11.6	19.2
SWIFT RES	12.0	21.8	23.1	30.0
LAKE FRANCES	75.6	56.9	73.9	112.0
LAKE ELWELL (TIBER)	823.0	849.4	796.1	1347.0
Basin-wide Total	1076.8	1112.7	1064.6	1683.4
# of reservoirs	8	8	8	8

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
SUN	7	133%	110%
TETON	3	287%	0%
MARIAS	3	151%	112%
SUN-TETON-MARIAS	5	189%	86%

St. Mary and Milk River Basins



As the plow drivers in Glacier National Park clear the Going to the Sun Road nature has been clearing the snowpack across the basin during the month of May. While most of the low to mid elevation snowcover across the basin has melted, higher elevations continue to have well above normal snowpack for this time of year. Flattop Mountain SNOTEL in Glacier National Park still has 79 percent of the annual snow water to melt through spring into summer and is 144 percent of normal for June 1st. The upper elevations in the St. Mary-Milk River basins typically hold onto snow later than many basins in the state, but much of the snow water at water yielding elevations has been moved. Basin-wide the St. Mary- Milk River basin has 55 percent of the total snow water remaining, is 144 percent of normal for June 1st, and is 127 percent of last year at this time.

Like most of Montana precipitation in the St. Mary – Milk River Basin was below average for the month of May receiving 95 percent of the normal monthly total. Water Year to Date precipitation is the lowest in the state, dropping again from May 1st to slightly below normal at 95 percent, due in large part to the precipitation in the Milk River basin over the last two months. .

Reservoirs in the basin are currently 127 percent of average, and 96 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 110 percent of average for the June-July time period, and 110 percent of last year.

St. Mary & Milk Basins Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

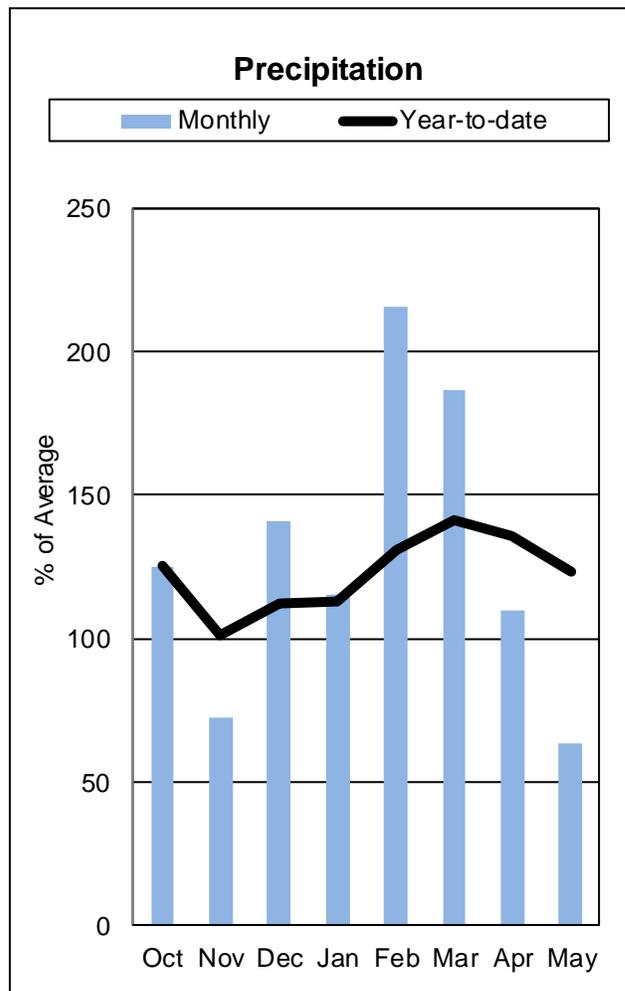
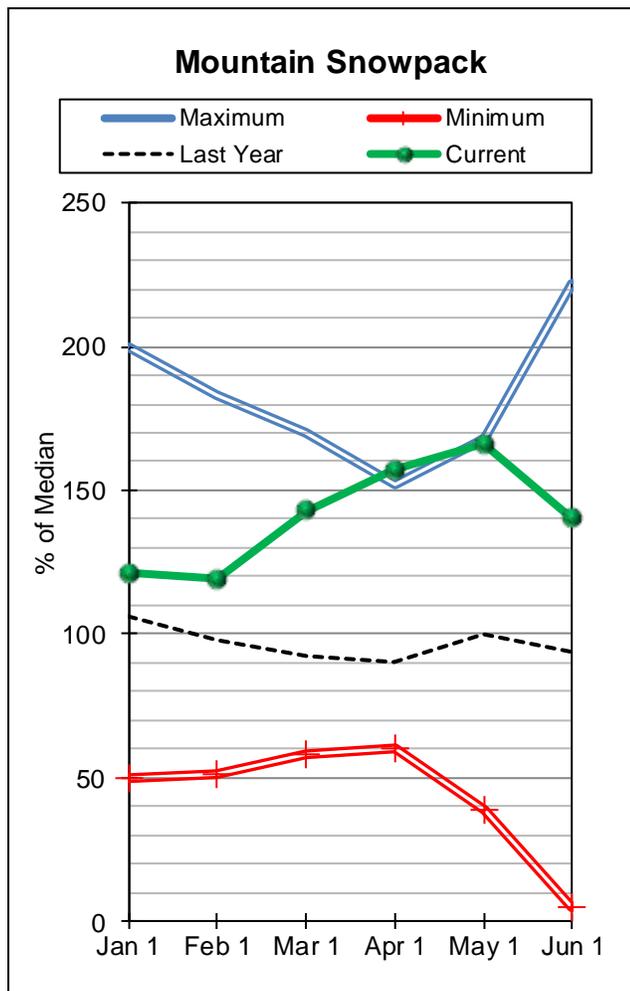
ST. MARY & MILK BASINS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Sherburne Inflow	JUN-JUL	51	59	64	114%	69	77	56
	JUN-SEP	65	74	80	113%	86	95	71
St. Mary R nr Babb ²	JUN-JUL	210	240	260	111%	280	310	235
	JUN-SEP	265	300	320	108%	345	380	295
St. Mary R at Intl Boundary ²	JUN-JUL	230	275	300	109%	330	370	275
	JUN-SEP	295	340	370	107%	405	450	345
Milk R at Western Crossing of Intl Bndry, AB	No Forecast Issued							
Milk R at Eastern Crossing of Intl Bndry	No Forecast Issued							

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
- 2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
- 3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
SHERBURNE LAKE RESERVOIR	47.1	44.7	31.8	64.3
FRESNO RES	79.5	89.7	71.9	127.0
NELSON RES	56.0	55.9	40.0	66.8
Basin-wide Total	182.7	190.3	143.7	258.1
# of reservoirs	3	3	3	3

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
ST. MARY	2	144%	114%
BEARPAW MOUNTAINS	3		
CYPRESS HILLS, CANADA	0		
MILK RIVER BASIN	3		
ST. MARY & MILK BASINS	5	144%	114%

Upper Yellowstone River Basin



Upper Yellowstone River Basin residents watched many MT FWP access points close over the month of May due to high water. However, thanks to optimal weather patterns, major flooding was prevented. The basin reached its peak snow water equivalent on April 19th and has since seen a 56 percent reduction from the peak. A majority of the lower elevation SNOTEL sites are now melted out and the Upper Yellowstone River basin wide snow water equivalent is currently at 140 percent of normal and 214 percent of last year.

The Upper Yellowstone experienced below average precipitation during the month of May. May precipitation was 63 percent of average and 54 percent of last year. As of June 1st water year to date precipitation was 123 percent of average and 131 percent of last year. Mountain SNOTEL stations received 59 percent of average for the month of May and 58 percent of last year, while valley weather stations received 72 percent of average for the month of May and 48 percent of last year.

Reservoirs in the basin are currently 103 percent of average, and 100 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 134 percent of average for the June-July time period, and 185 percent of last year.

Upper Yellowstone River Basin Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

UPPER YELLOWSTONE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Yellowstone R at Yellowstone Lake Outlet	JUN-JUL	505	550	580	125%	610	655	465
	JUN-SEP	700	765	805	123%	850	915	655
Yellowstone R at Corwin Springs	JUN-JUL	1200	1320	1400	135%	1490	1610	1040
	JUN-SEP	1480	1640	1750	132%	1860	2020	1330
Yellowstone R at Livingston	JUN-JUL	1350	1500	1610	136%	1710	1860	1180
	JUN-SEP	1680	1870	2000	132%	2140	2330	1520
Shields R nr Livingston	JUN-JUL	34	64	85	137%	106	136	62
	JUN-SEP	39	75	100	132%	125	161	76
Boulder R at Big Timber	JUN-JUL	205	230	250	125%	270	295	200
	JUN-SEP	225	255	280	124%	305	335	225
Mystic Lake Inflow ²	JUN-JUL	45	50	53	113%	56	61	47
	JUN-SEP	61	68	72	114%	76	83	63
Stillwater R nr Absarokee ²	JUN-JUL	325	365	390	120%	415	455	325
	JUN-SEP	385	440	475	119%	510	565	400
Clarks Fk Yellowstone R nr Belfry	JUN-JUL	440	480	505	144%	530	570	350
	JUN-SEP	490	540	575	146%	605	655	395
Cooney Reservoir Inflow	JUN-JUL	16.8	23	28	127%	32	39	22
	JUN-SEP	26	33	39	126%	44	52	31
Yellowstone R at Billings	JUN-JUL	2370	2720	2950	136%	3180	3520	2170
	JUN-SEP	2770	3230	3540	133%	3860	4320	2660

1) 90% and 10% exceedance probabilities are actually 95% and 5%

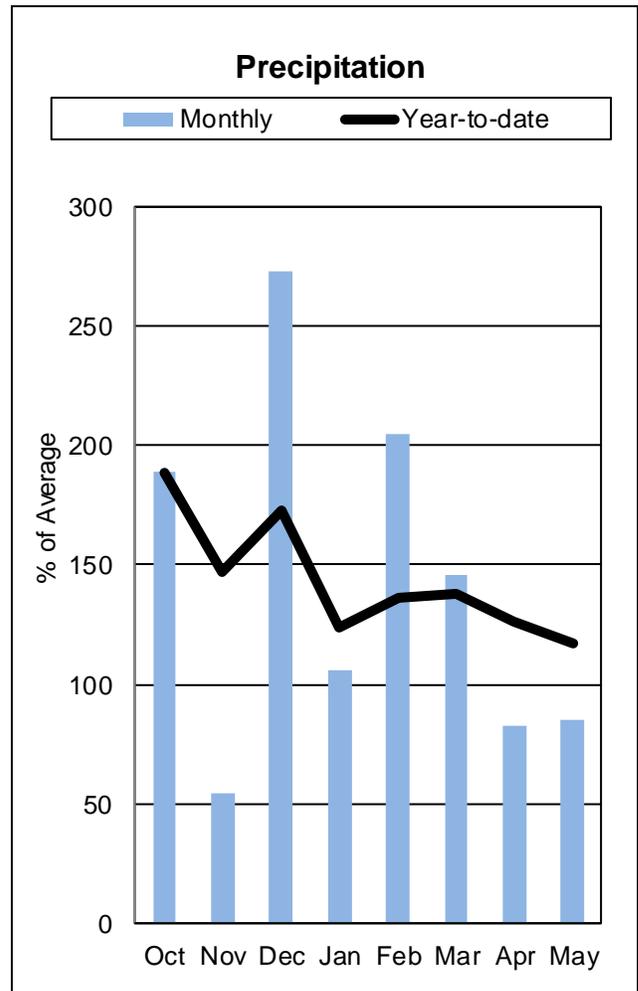
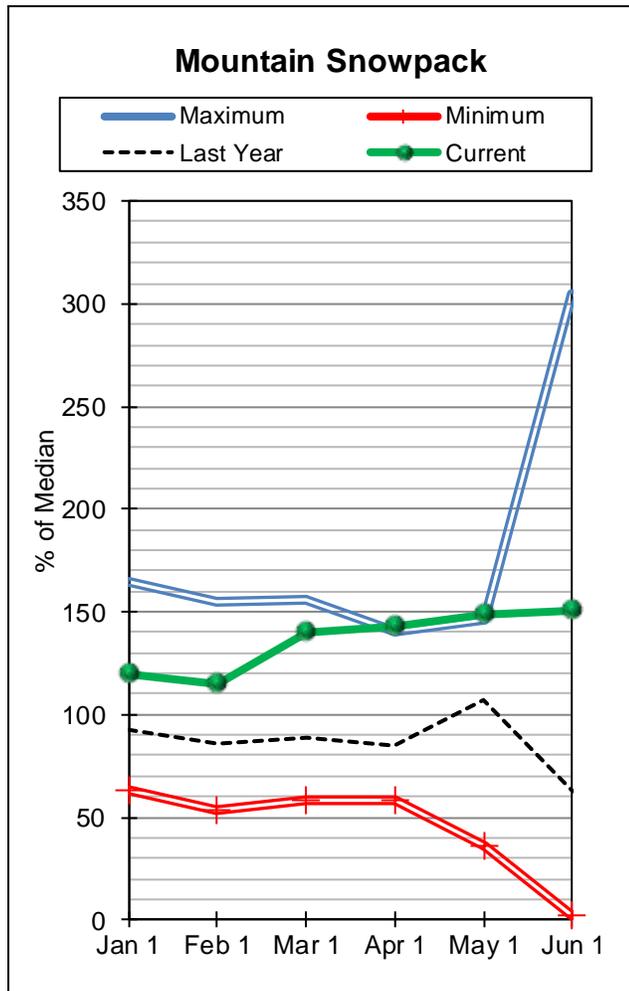
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
MYSTIC LAKE	7.8	7.4	5.8	21.0
COONEY RES	22.6	23.0	23.7	27.4
Basin-wide Total	30.4	30.4	29.5	48.4
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
YELLOWSTONE ab LIVINGSTON	9	136%	71%
SHIELDS	4	162%	26%
BOULDER-STILLWATER	3	116%	82%
RED LODGE-ROCK CREEK	2	183%	24%
CLARK'S FORK	7	147%	67%
UPPER YELLOWSTONE RIVER BASIN	22	140%	65%

Lower Yellowstone River Basin



As indicated by the magnitude of flows in the Lower Yellowstone River Basin, May was a month of substantial snow melt throughout the basin. At the end of May and beginning of June some rivers saw some minor flooding due to snowmelt outside of Sheridan, WY and across the Montana border on the Tongue River. As of June 1st, 14 of the 29 operational SNOTEL sites in the basin were snow free. Basin wide approximately 30% of the snow water equivalent remains. The Lower Yellowstone River Basin wide snow water equivalent is currently at 151 percent of normal and 229 percent of last year.

The Lower Yellowstone experienced above average precipitation during the month of May. May precipitation was 85 percent of average and 54 percent of last year. Due to the well above normal snowfall experienced this winter the basin continues to be well above average for water year to date precipitation since October 1st, and is 117 percent of average and 108 percent of last year as of June 1st.

Reservoirs in the basin are currently 93 percent of average, and 84 percent of last year at this time.

Streamflow prospects continue to be well above average for the June-July time period and are forecasted to be 134 percent of average for the June-July time period, and 204 percent of last year.

Lower Yellowstone River Basin (Wyoming) Streamflow Forecasts - June 1, 2014

Forecast Exceedance Probabilities for Risk Assessment
Chance that actual volume will exceed forecast

LOWER YELLOWSTONE RIVER BASIN (Wyoming)	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bighorn R nr St. Xavier ²	JUN-JUL	840	1020	1150	125%	1270	1460	920
	JUN-SEP	890	1130	1290	128%	1460	1700	1010
Little Bighorn R nr Hardin	JUN-JUL	54	71	83	157%	94	111	53
	JUN-SEP	64	85	98	148%	112	132	66
Tongue R nr Dayton ²	JUN-JUL	50	59	66	135%	72	82	49
	JUN-SEP	61	72	80	129%	87	99	62
Big Goose Ck nr Sheridan	JUN-JUL	36	41	45	145%	49	54	31
	JUN-SEP	43	49	53	136%	57	63	39
Little Goose Ck nr Bighorn	JUN-JUL	22	25	27	141%	29	32	19.1
	JUN-SEP	30	33	36	133%	39	42	27
Tongue River Reservoir Inflow ²	JUN-JUL	117	144	162	147%	180	205	110
	JUN-SEP	133	166	189	141%	210	245	134
Yellowstone R at Miles City ²	JUN-JUL	3380	3910	4260	133%	4620	5140	3200
	JUN-SEP	3850	4590	5100	132%	5600	6340	3870
Powder R at Moorehead	JUN-JUL	85	118	140	152%	162	194	92
	JUN-SEP	100	140	167	152%	193	235	110
Powder R nr Locate	JUN-JUL	85	128	157	155%	186	230	101
	JUN-SEP	98	152	189	155%	225	280	122
Yellowstone R nr Sidney ²	JUN-JUL	3380	4000	4420	136%	4840	5450	3240
	JUN-SEP	3750	4620	5210	136%	5810	6680	3840

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Reservoir Storage End of May, 2014	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)
BIGHORN LAKE	750.5	908.2	848.0	1356.0
TONGUE RIVER RES	83.5	80.6	52.6	79.1
Basin-wide Total	834.0	988.9	900.6	1435.1
# of reservoirs	2	2	2	2

Watershed Snowpack Analysis June 1, 2014	# of Sites	% Median	Last Year % Median
WIND RIVER (Wyoming)	10	115%	42%
SHOSHONE RIVER (Wyoming)	4	135%	55%
BIGHORN RIVER (Wyoming)	14	144%	66%
LITTLE BIGHORN (Wyoming)	2	182%	81%
TONGUE RIVER (Wyoming)	6	182%	84%
POWDER RIVER (Wyoming)	6	292%	180%
LOWER YELLOWSTONE RIVER BASIN (WY)	29	151%	66%

Montana Site Report

MONTANA	Network	Elevation	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
ALBRO LAKE	SNOTEL	8300'	33	15.2	12.2	125%	8.0	66%
AMBROSE	SC	6480'						
ARCH FALLS	SC	7350'						
ASHLEY DIVIDE	SC	4820'						
BADGER PASS	SNOTEL	6900'	53	28.2	17.2	164%	18.6	108%
BANFIELD MOUNTAIN	SNOTEL	5600'	3	1.2	0.0		0.0	
BAREE CREEK	SC	5500'						
BAREE MIDWAY	SC	4600'						
BAREE TRAIL	SC	3800'						
BARKER LAKES	SNOTEL	8250'	39	13.9	11.0	126%	8.9	81%
BASIN CREEK	SNOTEL	7180'	0	0.0	0.3	0%	0.0	0%
BASSOO PEAK	SC	5150'						
BEAGLE SPRINGS	SNOTEL	8850'	0	0.0	0.0		0.0	
BEAR BASIN	SC	8150'						
BEAR MOUNTAIN	SNOTEL	5400'	77	42.6	26.7	160%	32.4	121%
BEARTOOTH LAKE	SNOTEL	9360'	63	27.3	17.1	160%	14.9	87%
BEAVER CREEK	SNOTEL	7850'	23	8.3	6.4	130%	2.1	33%
BIG SNOWY	SC	7150'						
BISSON CREEK	SNOTEL	4920'	0	0.0	0.0		0.0	
BLACK BEAR	SNOTEL	8170'	60	27.9	24.5	114%	14.0	57%
BLACK MOUNTAIN	SC	7750'						
BLACK PINE	SNOTEL	7210'	0	0.0	0.0		0.0	
BLACKTAIL	SC	5650'						
BLACKTAIL MTN	SNOTEL	5650'	0	0.0			0.0	
BLOODY DICK	SNOTEL	7600'	0	0.0	0.0		0.0	
BOTS SOTS	SC	7750'						
BOULDER MOUNTAIN	SNOTEL	7950'	30	9.5	9.1	104%	2.5	27%
BOX CANYON	SNOTEL	6670'	0	0.0	0.0		0.0	
BOXELDER CREEK	SC	5100'	0	0.0	0.0		0.0	
BRACKETT CREEK	SNOTEL	7320'	21	9.0	3.1	290%	0.0	0%
BRISTOW CREEK	SC	3900'						
BRUSH CREEK TIMBER	SC	5000'						
BULL MOUNTAIN	SC	6600'						
BURNT MTN	SNOTEL	5880'	0	0.0	0.0		0.0	
CABIN CREEK	SC	5200'						
CALVERT CREEK	SNOTEL	6430'	0	0.0	0.0		0.0	
CAMP SENIA	SC	7890'						
CANYON	SNOTEL	7870'	0	0.0	0.0		0.0	
CARROT BASIN	SNOTEL	9000'	51	19.3	22.6	85%	18.2	81%
CARROT BASIN	SC	9000'						
CHESSMAN RESERVOIR	SC	6200'						
CHICAGO RIDGE	SC	5800'						
CHICKEN CREEK	SC	4060'	0	0.0	0.0		0.0	
CLOVER MEADOW	SNOTEL	8600'	23	8.5	10.4	82%	8.9	86%
COLE CREEK	SNOTEL	7850'	41	16.8	9.2	183%	2.2	24%
COMBINATION	SNOTEL	5600'	0	0.0	0.0		0.0	
COPPER BOTTOM	SNOTEL	5200'	0	0.0			0.0	
COPPER CAMP	SNOTEL	6950'	39	20.2			5.8	
COPPER CAMP	SC	6950'						
COPPER MOUNTAIN	SC	7700'						
COTTONWOOD CREEK	SC	6400'						
COYOTE HILL	SC	4200'					0.0	
CREVICE MOUNTAIN	SC	8400'						

CRYSTAL LAKE	SNOTEL	6050'	0	0.0	0.0		0.3	
DAD CREEK LAKE	SC	8800'						
DAISY PEAK	SNOTEL	7600'	2	0.5	0.0		0.0	
DALY CREEK	SNOTEL	5780'	0	0.0	0.0		0.0	
DARKHORSE LAKE	SNOTEL	8600'	70	30.5	26.0	117%	21.6	83%
DEADMAN CREEK	SNOTEL	6450'	0	0.0	0.0		0.0	
DESERT MOUNTAIN	SC	5600'						
DISCOVERY BASIN	SC	7050'	12	4.9	0.2	2450%	0.0	0%
DIVIDE	SNOTEL	7800'	0	0.0	0.0		0.0	
DIX HILL	SC	6400'	0	0.0			0.0	
DUPUYER CREEK	SNOTEL	5750'	0	0.0	0.0		0.0	
EAGLE CREEK	SC	7000'						
EAST BOULDER MINE	SNOTEL	6335'	1	0.1			0.0	
EL DORADO MINE	SC	7800'						
ELK HORN SPRINGS	SC	7800'						
ELK PEAK	SNOTEL	7600'	37	16.9			1.7	
ELK PEAK	SC	8000'						
EMERY CREEK	SNOTEL	4350'	0	0.0	0.0		0.0	
EMERY CREEK	SC	4350'						
FATTY CREEK	SC	5500'						
FISH CREEK	SC	8000'						
FISHER CREEK	SNOTEL	9100'	74	37.1	28.1	132%	24.5	87%
FLATTOP MTN.	SNOTEL	6300'	95	46.6	32.3	144%	36.8	114%
FLEECER RIDGE	SC	7500'						
FOREST LAKE	SC	6400'						
FOUR MILE	SC	6900'						
FREIGHT CREEK	SC	6000'						
FROHNER MEADOW	SNOTEL	6480'	0	0.0	0.0		0.0	
GARVER CREEK	SNOTEL	4250'	0	0.0	0.0		0.0	
GIBBONS PASS	SC	7100'						
GOAT MOUNTAIN	SC	7000'						
GOVERNMENT SADDLE	SC	5270'						
GRAVE CREEK	SNOTEL	4300'	0	0.0	0.0		0.0	
GRIFFIN CREEK DIVIDE	SC	5150'						
HAND CREEK	SNOTEL	5035'	0	0.0	0.0		0.0	
HAWKINS LAKE	SNOTEL	6450'	26	11.4	12.2	93%	1.4	11%
HAYMAKER	SC	8050'						
HEBGEN DAM	SC	6550'						
HELL ROARING DIVIDE	SC	5770'	51	23.7	11.3	210%	14.1	125%
HERRIG JUNCTION	SC	4850'	33	14.8	0.3	4933%	0.0	0%
HIGHWOOD DIVIDE	SC	5650'						
HIGHWOOD STATION	SC	4600'						
HOLBROOK	SC	4530'						
HOODOO BASIN	SNOTEL	6050'	89	42.4	23.5	180%	25.6	109%
HUMBOLDT GULCH	SNOTEL	4250'	0	0.0	0.0		0.0	
JAKES CANYON	SC	9040'						
JOHNSON PARK	SC	6450'						
KISHENEHN	SC	3890'						
KRAFT CREEK	SNOTEL	4750'	0	0.0			0.0	
LAKE CAMP	SC	7780'						
LAKE CREEK	SC	6100'						
LAKEVIEW CANYON	SC	6930'						
LAKEVIEW RIDGE	SNOTEL	7400'	0	0.0	0.0		0.0	
LEMHI RIDGE	SNOTEL	8100'	0	0.0	0.0		0.0	
LICK CREEK	SNOTEL	6860'	2	0.9	0.0		0.0	
LITTLE PARK	SC	7400'						
LOGAN CREEK	SC	4300'						
LOLO PASS	SNOTEL	5240'	14	7.9	0.0		0.0	

LONE MOUNTAIN	SNOTEL	8880'	29	13.8	8.4	164%	8.0	95%
LOOKOUT	SNOTEL	5140'	5	1.6	0.0		0.0	
LOWER TWIN	SNOTEL	7900'	42	16.1	13.5	119%	7.9	59%
LUBRECHT FLUME	SNOTEL	4680'	0	0.0	0.0		0.0	
LUBRECHT FOREST NO 3	SC	5450'						
LUBRECHT FOREST NO 4	SC	4650'						
LUBRECHT FOREST NO 6	SC	4040'						
LUBRECHT HYDROPLOT	SC	4200'						
LUPINE CREEK	SC	7380'						
MADISON PLATEAU	SNOTEL	7750'	17	5.9	6.2	95%	0.0	0%
MANY GLACIER	SNOTEL	4900'	0	0.0	0.0		0.0	
MARIAS PASS	SC	5250'						
MINERAL CREEK	SC	4000'						
MONUMENT PEAK	SNOTEL	8850'	34	14.4	15.3	94%	11.7	76%
MOSS PEAK	SNOTEL	6780'	81	40.3	28.4	142%	28.9	102%
MOULTON RESERVOIR	SC	6850'						
MOUNT ALLEN NO 7	SC	5700'						
MOUNT LOCKHART	SNOTEL	6400'	27	12.9	4.5	287%	0.0	0%
MUDD LAKE	SC	7650'						
MULE CREEK	SNOTEL	8300'	31	11.3	9.4	120%	7.5	80%
N FK ELK CREEK	SNOTEL	6250'	0	0.0	0.0		0.0	
NEVADA RIDGE	SNOTEL	7020'	13	5.6	2.5	224%	0.0	0%
NEW WORLD	SC	6900'						
NEZ PERCE CAMP	SNOTEL	5650'	0	0.0	0.0		0.0	
NOISY BASIN	SNOTEL	6040'	72	33.7	28.5	118%	25.4	89%
NORRIS BASIN	SC	7550'						
NORTH FORK JOCKO	SNOTEL	6330'	69	35.6	21.2	168%	22.6	107%
NORTHEAST ENTRANCE	SNOTEL	7350'	0	0.0	0.0		0.0	
ONION PARK	SNOTEL	7410'	5	2.4	2.4	100%	0.5	21%
OPHIR PARK	SC	7150'	15	6.7	3.2	209%	0.0	0%
PARKER PEAK	SNOTEL	9400'	53	21.2	13.8	154%	6.6	48%
PETERSON MEADOWS	SNOTEL	7200'	12	4.0	1.3	308%	0.0	0%
PICKFOOT CREEK	SNOTEL	6650'	0	0.0	0.0		0.0	
PIKE CREEK	SNOTEL	5930'	0	0.0			0.0	
PIPESTONE PASS	SC	7200'						
PLACER BASIN	SNOTEL	8830'	45	18.5	13.1	141%	11.7	89%
POORMAN CREEK	SNOTEL	5100'	30	15.9	0.8	1988%	2.7	338%
PORCUPINE	SNOTEL	6500'	0	0.0	0.0		0.0	
POTOMAGETON PARK	SC	7150'						
RED MOUNTAIN	SC	6000'	16	6.8	1.0	680%		
REVAIS	SC	4800'			0.0			
ROCK CREEK MDWS	SC	3400'						
ROCKER PEAK	SNOTEL	8000'	33	15.1	10.6	142%	5.0	47%
ROCKY BOY	SNOTEL	4700'	0	0.0	0.0		0.0	
ROLAND SUMMIT	SC	5120'						
S FORK SHIELDS	SNOTEL	8100'	27	10.6	9.0	118%	3.2	36%
SACAJAWEA	SNOTEL	6550'	0	0.0	0.0		0.0	
SADDLE MTN.	SNOTEL	7940'	50	27.5	13.3	207%	6.5	49%
SHORT CREEK	SNOTEL	7000'	0	0.0	0.0		0.0	
SHOWER FALLS	SNOTEL	8100'	56	24.4	17.0	144%	17.8	105%
SKALKAHO SUMMIT	SNOTEL	7250'	22	10.2	9.5	107%	0.0	0%
SLEEPING WOMAN	SNOTEL	6150'	0	0.0	0.0		0.0	
SLIDE ROCK MOUNTAIN	SC	7100'						
SPOTTED BEAR MOUNTAIN	SC	7000'						
SPUR PARK	SNOTEL	8100'	43	17.5	13.9	126%	12.2	88%
STAHL PEAK	SNOTEL	6030'	74	36.9	25.8	143%	24.1	93%
STAHL PEAK	SC	6030'						
STEMPLE PASS	SC	6600'						

STORM LAKE	SC	7780'						
STRINGER CREEK	SNOTEL	6550'	0	0.0	0.0		0.0	
STRYKER BASIN	SC	6180'	67	33.9	20.1	169%	19.4	97%
STUART MOUNTAIN	SNOTEL	7400'	63	31.3	18.8	166%	18.3	97%
TAYLOR ROAD	SC	4080'	0	0.0	0.0		0.0	
TEN MILE LOWER	SC	6600'						
TEN MILE MIDDLE	SC	6800'						
TEPEE CREEK	SNOTEL	8000'	0	0.0	1.8	0%	0.0	0%
TIMBERLINE CREEK	SC	8850'						
TIZER BASIN	SNOTEL	6880'	0	0.0	0.0		0.0	
TRINKUS LAKE	SC	6100'						
TRUMAN CREEK	SC	4060'						
TWELVEMILE CREEK	SNOTEL	5600'	0	0.0	0.0		0.0	
TWENTY-ONE MILE	SC	7150'						
TWIN LAKES	SNOTEL	6400'	58	29.9	16.5	181%	8.4	51%
UPPER HOLLAND LAKE	SC	6200'						
WALDRON	SNOTEL	5600'	0	0.0	0.0		0.0	
WARM SPRINGS	SNOTEL	7800'	57	25.1	17.0	148%	11.3	66%
WEASEL DIVIDE	SC	5450'						
WEST YELLOWSTONE	SNOTEL	6700'	0	0.0	0.0		0.0	
WHISKEY CREEK	SNOTEL	6800'	0	0.0	0.0		0.0	
WHITE ELEPHANT	SNOTEL	7710'	0	0.0	4.4	0%	0.0	0%
WHITE MILL	SNOTEL	8700'	53	23.4	16.9	138%	9.9	59%
WOLVERINE	SNOTEL	7650'	0	0.0	0.0		0.0	
WOOD CREEK	SNOTEL	5960'	0	0.0	0.0		0.0	
WRONG CREEK	SC	5700'						
WRONG RIDGE	SC	6800'						
YOUNTS PEAK	SNOTEL	8350'			3.2		0.0	0%
Basin Index						148%	78%	
# of sites						100	100	

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Montana
Water Supply Outlook
Report
Natural Resources Conservation Service

