United States Department of Agriculture

Natural Resources Conservation Service

Idaho Water Supply Outlook Report
February 1, 2014

Above and Below the Treasure Valley's Inversion – January 19th

High pressure dominated Idaho's weather in January and a persistent inversion settled into the Treasure Valley. For valley residents the gloom of cloudy skies accompanied by moist, cold air seemed to last an eternity; although it was actually closer to two weeks. All the time, escape was only a few miles away. Passing up through the clouds via Bogus Basin Road, exquisite riming gave way to blue skies and sunlight shimmering off the top of a sea of clouds. Even non-skiers were driving towards the sun. On weekends most pullouts above the clouds were filled people in lawn chairs basking in the sun.

Basin Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information:

Contact: Your local county Natural Resources Conservation Service Office
Internet Web Address: http://www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow/
Natural Resources Conservation Service Snow Surveys
9173 West Barnes Drive, Suite C
Boise, Idaho 83709-1574 (208) 378-5740

To join a free email subscription list contact us by email at: IDBOISE-NRCS-SNOW@one.usda.gov

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when the snow melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to produce runoff forecasts. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertainty is in the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT
February 1, 2014

SUMMARY
Where's the snow? Part II – one month later. January brought basically one major storm in the middle of the month. January precipitation ranged from 93% of normal in the Clearwater to 55% in Idaho's central and southern basins. The snowpacks are the lowest in southwest Idaho with the Owyhee and Weiser basins at only 40% of median and gradually increase across to the state to 91% of median in the Clearwater basin and to near normal in the Upper Snake basin. Streamflow forecasts dropped like a boulder, decreasing 25 percentage points or more since January 1 in the Owyhee, Big Wood and Bear rivers. Luckily, the all-important forecast for many southern Idaho irrigators, the Snake River near Heise, only decreased slightly from 89% of average last month to 86% this month. Reservoir storage remains below average across most of the state, basically unchanged from last month. Combining the low reservoir storage with low Streamflow forecasts means irrigation shortages are likely to some degree across Idaho's irrigation lands, but largely depends on your water right and water source. Other impacts are likely depending upon on how you use or enjoy Idaho's precious resources, snow and water.

With two months of winter still to come and storms on the horizon for early to mid-February, hopefully the persistent high pressure ridge that's been over the west becomes a thing of the past. The atmosphere is still very active with a storm track over the mid-west and east that had been missing Idaho and the west. We are still just a few storms away from being back in the game. We have seen in the recent past that winter storms are coming in with a bigger punch and more moisture. Let's hope that Idaho gets back in the jet stream rather than under the high pressure ridge with the storms only hitting the basins along the continental divide.

SNOWPACK
Good news first: the highest snowpacks are near normal in the basins along the continental divide. These include Pend Oreille, Lochsa, Selway, Lehmi, Birch-Medicine Lodge, Upper Snake tributaries in Wyoming, and Smith-Thomas forks in southwestern Wyoming. Now, for the bad news, the lowest snowpacks in Idaho are 31-46% of normal in the Weiser, Mann, Camas, Fish, Little Wood, Bruneau, Reynolds and Owyhee basins. Even these snowpacks are still better than the 15-35% of normal snowpacks in southern Oregon and most of Nevada, and California's snowpacks that are a nearly non-existent at only 6-26% of average. Elsewhere in our state, snowpacks are 50-60% of median in the Payette, Boise, Big Wood, Big Lost, Salmon Falls and Oakley basins. Eastern Idaho's lower elevation drainages are about 65% of median. The snow in the Bear River is 83% of median and near normal for the Snake River above Palisades Reservoir.

PRECIPITATION

You can tell where the low snowpacks are just by looking at the number of SNOTEL stations reporting record low water year to date precipitation totals. About 30 stations are now at or near record low October-January totals since daily precipitation data starts in the early 1980s. The majority of these record setting stations are clustered from the Weiser basin to the Big Lost basin where water year to date is only 45-55% of average. Similar conditions exist south of the Snake River in the Owyhee, Bruneau, Salmon Falls and Oakley basins. A few more record low stations are in the Panhandle Region that has only received about 66% of the normal October-January amount. If it weren't for one mid-January storm, Idaho's January precipitation would have been much worse than reflected by these numbers. January precipitation ranged from 45% of normal in the Bruneau, Little Wood and Big Lost basins to 88% in the Snake basin above Palisades Reservoir. With a couple of early February storms (Feb 1-5) that brought 5-25% of the normal February precipitation so far, let's hope the weather phenomena that created the blocking ridge pattern has dissipated and opened the gates for storms to track across Idaho.

RESERVOIRS

Reservoir storage remains low and basically unchanged from last month across the state. Only Dworshak Reservoir and Priest Lake are storing normal February 1 levels. This is a result of January's below normal precipitation and cold temperatures that kept streams flowing below normal or iced over. One exception is Goose Creek, which flows into Oakley reservoir, that recorded near normal January flows probably because of the abundant September rains. The Idaho Surface Water Supply Index (SWSI) combines current reservoir storage with the five Exceedance Streamflow Forecasts and is very useful in years like this to look at potential irrigation shortages. The next section discusses where irrigation shortages are likely to occur based on current reservoir storage levels, mountain snowpacks, and resulting streamflows. The SWSI are used to illustrate water supply and levels based on the five exceedance forecasts and potential irrigation shortages. Much more detailed information is available on our SWSI page along with historical graphs and analysis tables:
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/id/snow/?cid=stelprdb1240689

STREAMFLOW

Streamflow forecasts held steady in the Clearwater basin at 90-95% of average. Panhandle forecasts decreased slightly and now range from 71% for the Spokane River to normal for the rivers entering from the state from Montana. Streamflow forecasts in the Salmon basin decreased 5-10 percentage points and now range from 55-85% of average. The Weiser River is forecast at only 46% of average while the Payette streams are forecast at 50-60%. With the Boise River forecast at half of average, shortages are likely. The Big Wood River at Hailey is forecast at 40% of average and Camas Creek at only 4%. This puts Magic Reservoir inflow at 7% of average, a near record low runoff volume. With the Little Wood River forecast at 40% of average, shortages are likely with supplies similar to the early 2000s. Mackay Reservoir users can expect shortages as only the 10% Chance of Exceedance forecast would meet adequate irrigation supplies; likewise in the Little Lost River basin. The Henrys Fork and Teton rivers are forecast at 72-85% of normal and do not typically have major shortages except in the lowest runoff years. Streamflow forecasts call for 85-95% of normal volumes in the Wyoming tributaries of the Upper Snake but quickly decease to 55% for Ririe and Blackfoot reservoir inflow. With the Snake River near Heise forecast at 86% of average, irrigation supplies are looking marginal at best and will be more severe if the forecast decreases even more. Runoff volumes of at least 95% of average are needed to provide an adequate surface irrigation supply.

Streamflow forecasts across Idaho's southern border dropped the most as a result of the high pressure dome. The Bear River at Stewart Dam forecast dropped like a boulder, decreasing from 78% of average last month to 30% this month. Bear Lake water users should be able to squeeze another year out of Bear Lake in which storage is 93% of average, 46% full. However, users that rely on the tributaries or smaller reservoirs can expect shortages, as runoff volumes will be similar to last year. Southern Idaho's high desert streamflow forecasts decreased 15-25 percentage points from last month. Shortages are expected in these basins: Owyhee, Salmon Falls and Oakley. Severity still depends on future precipitation and which forecast is used for planning.

Wise conservation and water use, along with the improved delivery and irrigation efficiency made since the last major drought in the early 2000s will help stretch water supplies this year. As mentioned last month, additional dryness this month will decrease the expected volumes even more, while normal or better precipitation is needed to maintain their current levels or start to improve the streamflow forecasts. Users should use all five exdeedance forecasts in their decision making process depending on the February precipitation trends.

Note: The volumes referenced in these narratives are the 50% Chance of Exceeding Forecast, unless otherwise noted. Users may wish to use a different forecast to reduce their risk of having too much or too little water. Forecasts published in this report are produced by the NRCS with the exception of the NWS main-stem Snake River forecasts.

RECREATION

With the inversion now behind us, valley residents can see the mountains and just how bare those mid elevations and south-facing slopes are. Mountain bikers were active on the dry but frozen dust trails in the Boise foothills last month. For those still waiting for more snow for winter recreation, get those skis and sleds ready. The first half of February looks promising for snowy weather. Avalanche forecast centers are still watching the weak faceted layers buried deep in the snowpacks from the past months dry weather. The best looking snowpacks remain along and run the length of Idaho's eastern border paralleling the continental divide. For the river runners looking to win the Four Rivers Idaho Lottery, good luck! For those even thinking about running the Owyhee or Bruneau rivers this spring, you should have your boats on your trailer and ready to go when the rains come, as there won't be much of a rafting season in these high desert rivers from the current snowpack without rain.

Western Snow Conference: April 14-17, 2014 in Durango, Colorado, abstracts submission deadline has been extended. Topics of interest include Dust on Snow and its impacts; see WSC web page for details: http://www.westernsnowconference.org/

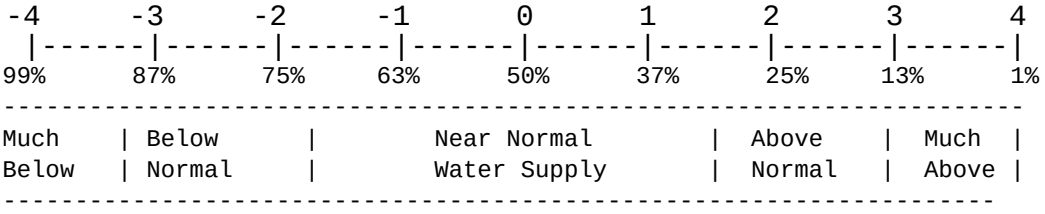
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) February 1, 2014

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1981 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	***SWSI Value***	***Most Recent Year With Similar SWSI Value***	***Agricultural Water Supply Shortage May Occur When SWSI is Less Than***
Northern Panhandle	-2.6	2004/2005	NA
Spokane	-2.1	2007	NA
Clearwater	-0.9	2004	NA
Salmon	-2.1	2005	NA
Weiser	-2.6	2013	NA
Payette	-2.8	1991/2007	NA
Boise	-3.3	1991/2001	-1.5
Big Wood	-3.7	1992/2013	0.5
Little Wood	-3.3	2001/2002	-1.5
Big Lost	-2.3	2003	0.5
Little Lost	-2.1	2007	1.2
Teton	-1.6	2002/2013	-3.9
Henrys Fork	-1.3	2007	-3.4
Snake (Heise)	-1.8	2007/2013	-1.5
Oakley	-2.5	2002/2004	0.2
Salmon Falls	-3.8	1992/2001	-1.0
Bruneau	-3.3	2001/2012	NA
Owyhee	-3.8	1992/2003	-3.4
Bear River	-0.3	1989/2001	-2.7

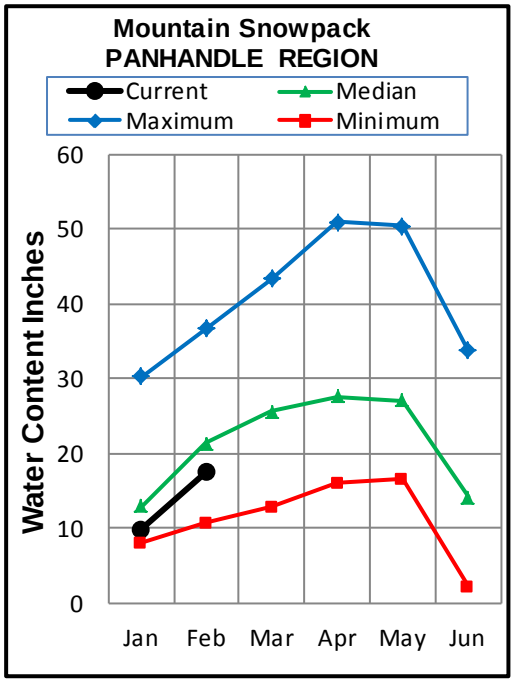
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

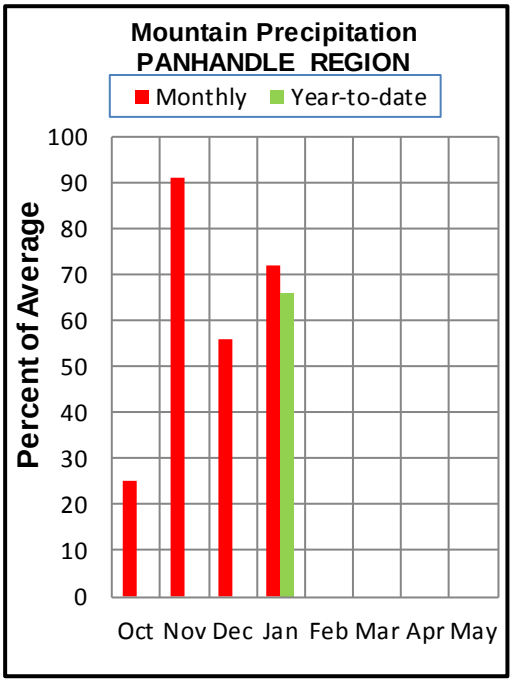


NA=Not Available / Not Applicable; Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION

FEBRUARY 1, 2014





WATER SUPPLY OUTLOOK

The dry trend continued through January in Idaho's Panhandle. Despite a large mid-month storm in January, precipitation for the month was 72% of average for the region. Water year to date precipitation since October 1 is 66% of normal. February 1 snowpacks are near normal for the Pend Oreille basin and 89% for the Kootenai above Bonner's Ferry; thanks to higher snow amounts outside of Idaho in Montana and Canada. For the Panhandle basins inside Idaho, snow ranges from 85% of normal in the St. Joe, down to 72-76% of normal in the Coeur d'Alene, Priest and Spokane basins. Storage in Coeur d'Alene Lake is 45% of average because of the lack of a winter runoff event. April-July streamflow forecasts remain similar to last month for Pend Oreille Lake inflow at 99% of average and the Kootenai River at Leonia at 85%. Other forecasts have dropped since last month. Boundary Creek is forecast at 75%, and the St. Joe River at 80%, both down about five percent from last month. The Priest River and Spokane River near Post Falls forecasts each dropped ten percent and are now 62% and 71%, respectively. The NF Coeur d'Alene River forecast is 66% of normal, down sixteen percent from January 1. A few more winter storms should be enough to provide adequate supplies in this region.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Kootenai R at Leonia (1,2)	APR-JUL	4360	5200	5580	85	5960	6800	6600
	APR-SEP	5260	6060	6430	85	6800	7600	7590
Moyie R at Eastport	APR-JUL	205	260	295	79	330	385	375
	APR-SEP	215	270	305	79	340	395	385
Boundary Ck nr Porthill	APR-JUL	64	78	88	75	98	112	117
	APR-SEP	67	82	92	75	102	117	123
Clark Fork at Whitehorse Rpds (1,2)	APR-JUL	7900	9620	10400	99	11200	12900	10500
	APR-SEP	8750	10600	11400	99	12200	14000	11500
Pend Oreille Lake Inflow (2)	APR-JUL	9620	10900	11700	99	12500	13800	11800
	APR-SEP	10500	11800	12700	99	13600	14900	12800
Priest R nr Priest River (1,2)	APR-JUL	270	420	485	62	550	700	780
	APR-SEP	285	445	520	63	595	755	830
NF Coeur d'Alene R at Enaville	APR-JUL	245	375	460	66	545	675	700
	APR-SEP	275	400	490	66	580	705	740
St. Joe R at Calder	APR-JUL	625	755	840	80	925	1060	1050
	APR-SEP	675	805	895	80	985	1120	1120
Spokane R nr Post Falls (2)	APR-JUL	1070	1440	1690	71	1940	2310	2390
	APR-SEP	1130	1500	1750	71	2000	2370	2480
Spokane R at Long Lake (2)	APR-JUL	1250	1650	1930	74	2210	2610	2620
	APR-SEP	1410	1820	2100	74	2380	2790	2850

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Hungry Horse Lake	3451.	2848.	2973.	2375.
Flathead Lake	1791.	901.5	964.1	955.6
Noxon Rapids Res	335.0	312.9	316.5	315.0
Pend Oreille	1561.	569.9	914.7	753.9
Coeur D'alene	238.5	43.4	66.2	96.3
Priest Lake Nr Coolin	119.3	60.6	50.4	56.7

PANHANDLE REGION
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Kootenai ab Bonners Fer	14	91	89
Moyie River	4	72	78
Priest River	5	66	76
Pend Oreille River	55	107	101
Rathdrum Creek	3	66	60
Coeur d'Alene River	6	92	72
St. Joe River	4	103	85
Spokane River	13	93	75
Palouse River	2	81	69

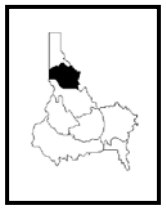
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

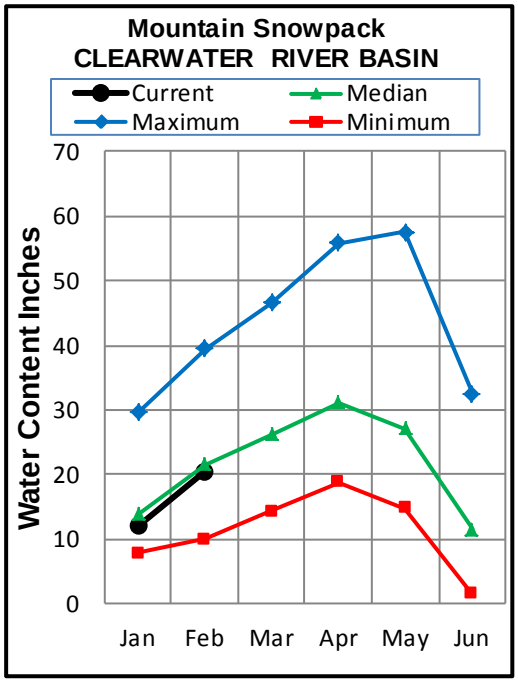
The average is computed for the 1981-2010 base period.

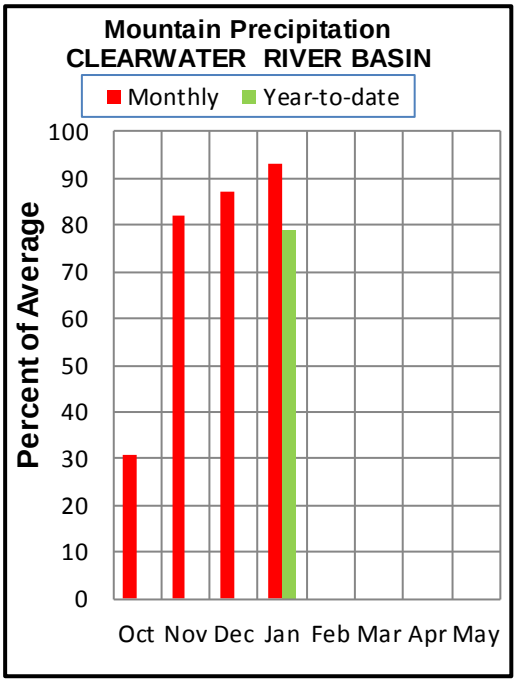
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

CLEARWATER RIVER BASIN

FEBRUARY 1, 2014







WATER SUPPLY OUTLOOK

While precipitation in the Clearwater basin has been consistently less than average this water year, January was closest to normal, receiving 93% of average precipitation. The past three months precipitation was at least 93% of average in the Clearwater. This has help to diminish the effects of the dry October, and leaves the basin's water year to date precipitation at 79% of average. This trend of consistent Nov-Dec-Jan precipitation (relative to other portions of the state) is also reflected in the snowpack. Overall, sites in the Clearwater are reporting 91% of median snow water equivalent as of February 1st. The Lochsa and Selway basins currently have some of the most 'normal' snowpacks in North Idaho at 99 and 104% of median, respectively. Storage at Dworshak Reservoir has continued to rise throughout January and now is approximately 2.33 million acre feet, 100% of average. Streamflow forecasts for the basin have risen slightly over the last month and now range between 91 and 96% of average for all forecast points. The combination of both Dworshak Reservoir level and streamflow forecasts being relatively close to normal have provided the Clearwater with the second highest SWSI value of any basin in the state (-0.9). The Clearwater is one of only three basins in the state that are currently forecasted in the range of having "near normal water supply". The current snowpack and another storm or two should be enough to provide adequate water for river runners, the fish, hydropower producers and more. While this is good for the Clearwater, this is in contrast to many basins to the south that require substantial amounts of water for agriculture.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	APR-JUL	1440	1670	1830	95	1990	2220	1920
	APR-SEP	1530	1770	1930	96	2090	2330	2020
Lochsa R nr Lowell	APR-JUL	1010	1180	1290	91	1400	1570	1410
	APR-SEP	1070	1240	1360	92	1480	1650	1480
Dworshak Reservoir Inflow	APR-JUL	1500	1970	2190	91	2410	2880	2410
	APR-SEP	1640	2120	2340	91	2560	3040	2570
Clearwater R at Orofino (1)	APR-JUL	2780	3670	4080	95	4490	5380	4310
	APR-SEP	2980	3900	4320	95	4740	5660	4540
Clearwater R at Spalding (1,2)	APR-JUL	4420	5810	6440	93	7070	8460	6890
	APR-SEP	4760	6180	6830	94	7480	8900	7270

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Dworshak	3468.	2334.	2509.	2335.

CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
North Fork Clearwater	9	109	92
Lochsa River	2	113	97
Selway River	3	111	104
Clearwater Basin Total	15	106	92

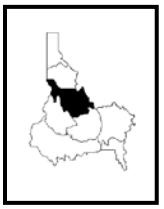
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

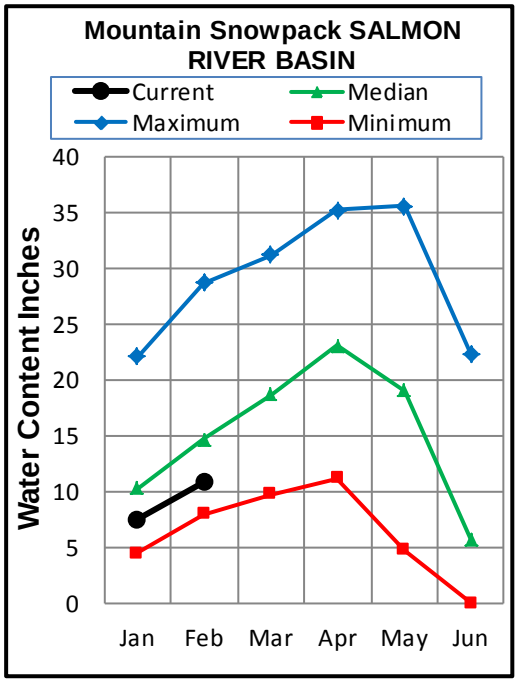
The average is computed for the 1981-2010 base period.

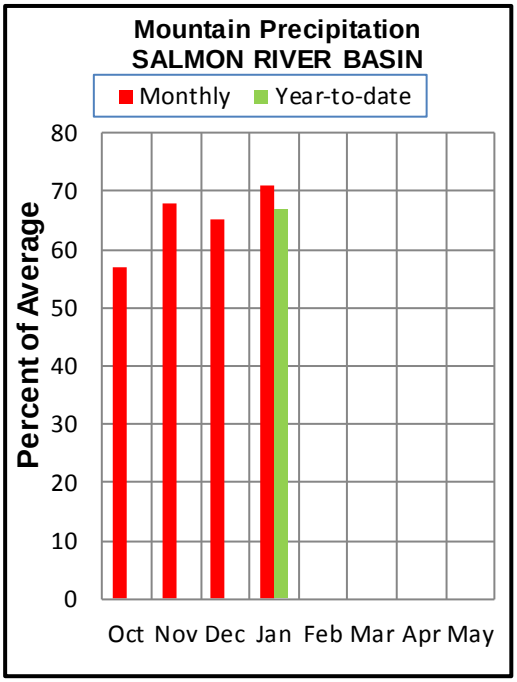
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SALMON RIVER BASIN

FEBRUARY 1, 2014







WATER SUPPLY OUTLOOK

The Salmon River basin received 71% of average January precipitation; this was the closest to normal of any month this water year. This brings the basin to 66% of average precipitation since the water year started October 1, 2013. In general sites in the northern and eastern portions of the basin tended to receive the most precipitation, relative to normal. Overall, the Salmon basin snowpack is 80% of the 1981-2010 median as of February 1. The distribution of this snow is not uniform throughout the basin, ranging from 113% of median for sites representing the Lemhi basin to a low of 63% in the South Fork of the Salmon. In the case of this distribution the Lemhi is definitely the outlier with the Middle Fork, Little Salmon, and Salmon basin above Salmon at 64, 66, and 72% percent of normal, respectively. The streamflow forecast for the Salmon River at White Bird (the farthest downstream forecast point in the basin) is currently at 72% of average. Streamflow forecasts for the various tributaries that contribute to the volume seen at White Bird range from a low of 56% for the Middle Fork to a high of 85% of average for Johnson Creek at Yellow Pine (a tributary of the South Fork). While the rivers of the Salmon basin are not as critical as others for irrigation, a good snowpack and more storms are needed for irrigators along the Lemhi River and upper Salmon River and for river runners.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Salmon R at Salmon (1)	APR-JUL	141	375	480	62	585	820	775
	APR-SEP	173	445	570	63	695	965	900
Lemhi R nr Lemhi	APR-JUL	23	37	48	65	61	82	74
	APR-SEP	31	47	60	67	75	99	90
MF Salmon R at MF Lodge	APR-JUL	116	275	385	56	495	655	690
	APR-SEP	145	325	445	58	565	745	770
SF Salmon R nr Krassel RS	APR-JUL	120	164	193	71	220	265	270
	APR-SEP	127	170	200	69	230	275	290
Johnson Ck at Yellow Pine	APR-JUL	115	143	162	85	181	210	191
	APR-SEP	120	149	168	82	187	215	205
Salmon R at White Bird (1)	APR-JUL	1900	3260	3880	72	4500	5860	5370
	APR-SEP	2150	3660	4340	73	5020	6530	5940

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Salmon River ab Salmon	8	65	72
Lemhi River	6	105	113
Middle Fork Salmon Rive	3	58	64
South Fork Salmon River	3	60	63
Little Salmon River	4	77	66
Salmon Basin Total	23	79	80

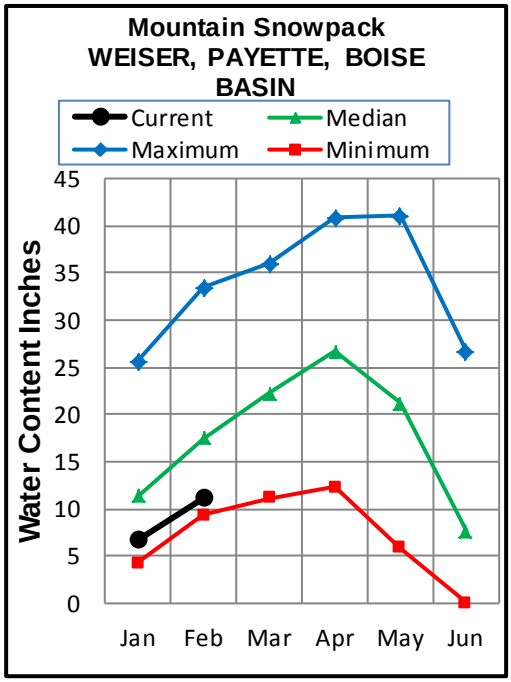
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

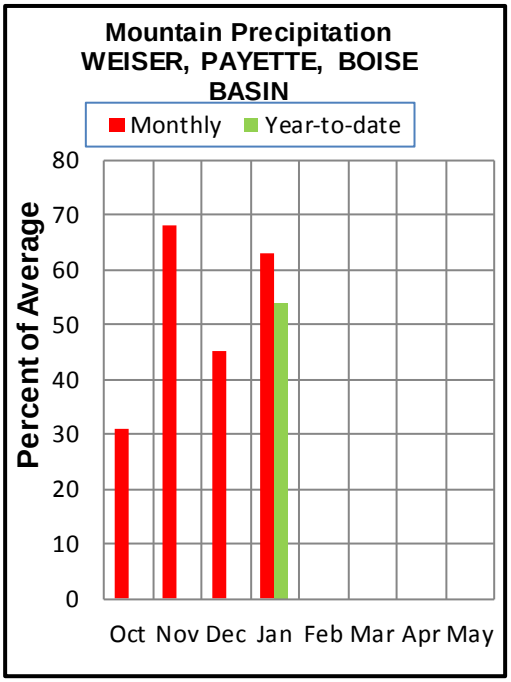
The average is computed for the 1981-2010 base period.

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

WEISER, PAYETTE, BOISE RIVER BASINS

FEBRUARY 1, 2014





WATER SUPPLY OUTLOOK

For much of January high pressure trapped cold fog in the Treasure Valley, while there were blue skies and sun shine in the mountains. Jackson Peak SNOTEL, near the divide between the Boise and Payette Rivers experienced 16 straight days without precipitation from January 13-29. Monthly precipitation ranged from 52% of normal in the Weiser Basin, to 60% in the Payette and 69% in the Boise. Water year precipitation since October 1 is 54% of average across these basins. Snowpacks are the lowest since 2001 in the Boise and Payette basins, and the lowest on record in the Weiser based on records dating back to 1982. Combined reservoir storage is 96% of average, 61% of capacity, for Cascade and Deadwood reservoirs. Combining Anderson Ranch, Arrowrock and Lucky Peak reservoirs, the Boise system is storing 85% of average and 45% of capacity. Streamflow forecasts across the region range from 42% of average for the SF Boise River to 62% for the SF Payette River. Main stem forecasts are: 46% of average, 183,000 acre-feet for the Weiser River; 52% of average, 850,000 acre-feet for the Payette near Horseshoe Bend; and 51% of average, 695,000 acre-feet for the Boise near Boise based on April-July forecasts. The Surface Water Supply Index which combines reservoir storage with historic and forecasted streamflow indicates that water will be tighter than last year in all three basins. Boise River water users should brace for shortages, unless the weather pattern changes and the mountains receive abundant snowfall between now and April or the spring is extremely wet. Based on current reservoir storage only the 10% chance of exceedance forecast would produce enough streamflow to provide an adequate water supply for the Boise River's numerous water users.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	FEB-JUL	80	205	285	46	375	615	615
	APR-JUL	44	120	166	45	220	365	370
	APR-SEP	53	134	183	46	240	390	400
SF Payette R at Lowman	APR-JUL	168	210	245	61	280	335	400
	APR-SEP	193	245	280	62	320	385	455
Deadwood Resv Inflow (1,2)	APR-JUL	21	49	62	50	75	103	123
	APR-SEP	22	53	67	51	81	112	131
Lake Fork Payette R nr McCall	APR-JUL	38	45	51	64	57	66	80
	APR-SEP	39	47	53	64	59	69	83
NF Payette R at Cascade (1,2)	APR-JUL	98	225	280	58	335	460	485
	APR-SEP	87	215	275	56	335	465	495
NF Payette R nr Banks (2)	APR-JUL	174	275	345	55	415	515	625
	APR-SEP	149	260	335	52	410	520	640
Payette R nr Horseshoe Bend (1,2)	APR-JUL	360	680	825	56	970	1290	1480
	APR-SEP	290	675	850	52	1030	1410	1630
Boise R nr Twin Springs (1)	FEB-JUL	167	340	420	62	500	675	680
	APR-JUL	148	290	355	61	420	560	585
	APR-SEP	168	320	390	61	460	610	635
SF Boise R at Anderson Ranch Dam (1,2	FEB-JUL	4.0	166	240	44	315	475	540
	APR-JUL	1.50	132	196	41	260	400	475
	APR-SEP	1.79	148	215	42	280	430	510
Mores Ck nr Arrowrock Dam	FEB-JUL	35	61	83	52	109	152	159
	APR-JUL	24	41	55	48	71	99	115
	APR-SEP	25	43	58	49	75	104	119
Boise R nr Boise (1,2)	FEB-JUL	265	650	825	54	1000	1390	1520
	APR-JUN	215	455	565	50	675	915	1140
	APR-JUL	137	475	630	50	785	1120	1260
	APR-SEP	200	540	695	51	850	1190	1360

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Mann Creek	11.1	0.6	3.1	3.6
Cascade	693.2	438.7	520.9	455.5
Deadwood	161.9	80.8	97.1	87.9
Anderson Ranch	450.2	132.9	270.2	256.4
Arrowrock	272.2	230.0	206.7	174.8
Lucky Peak	293.2	92.0	97.9	103.5
Lake Lowell (deer Flat)	165.2	13.4	118.9	92.8

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2014

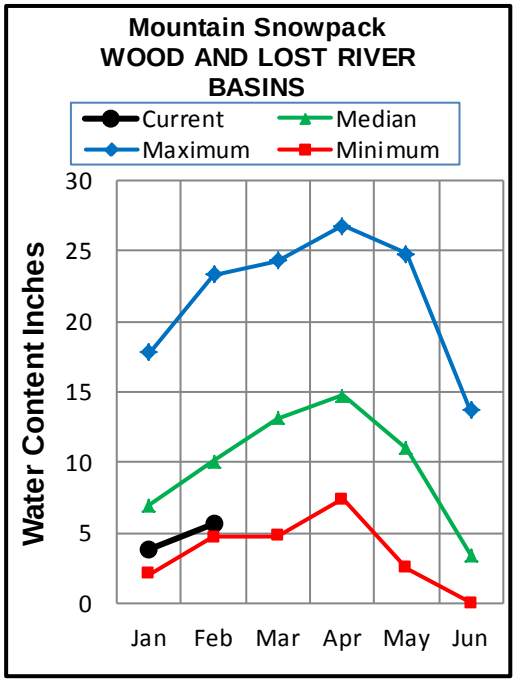
Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Mann Creek	1	43	36
Weiser River	7	52	39
North Fork Payette	8	69	60
South Fork Payette	5	69	62
Payette Basin Total	14	70	61
Middle & North Fork Boi	5	84	65
South Fork Boise River	7	63	56
Mores Creek	5	99	57
Boise Basin Total	14	78	58
Canyon Creek	2	73	24

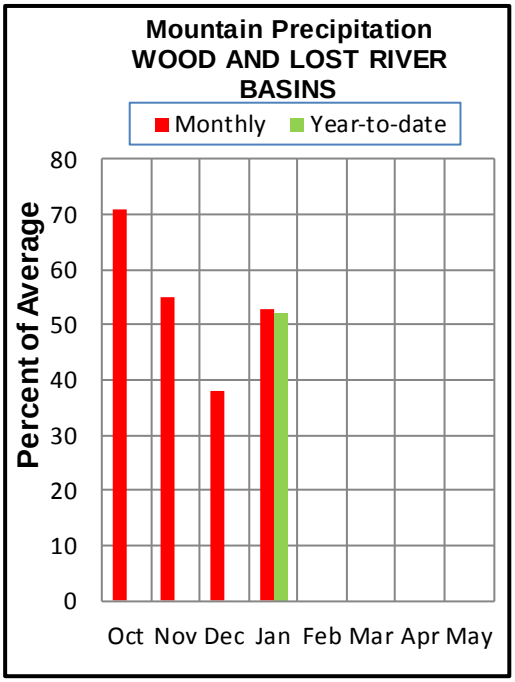
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.
The average is computed for the 1981-2010 base period.

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

WOOD and LOST RIVER BASINS

FEBRUARY 1, 2014





WATER SUPPLY OUTLOOK

Except for a few days of blizzard conditions, January was another dry month in Central Idaho. January's monthly precipitation was 53% of the normal with most of the snowfall occurring during a gusty storm over the second weekend of the month. The rest of the month was dry. Water year to date precipitation since October 1 is 52% of normal. Snowpacks are 39% of normal for the Little Wood basin, 50% for the Big Wood and Big Lost, and 82% for the Little Lost. Historical snow indexes rank the February 1 snowpack among the lowest going back to 1961. Only 1991, 1987 and 1977 had less snow in the Little Wood basin. Snowpacks are the 5th lowest on record in the Big Wood and Big Lost basins. Reservoir storage ranges from 23-57% of capacity. Streamflow forecasts dropped since last month making the water supply picture even tighter. The Big Wood River below Magic 50% chance of exceedance forecast is for 20,000 acre-feet, 8% of average; this would be a new record low April-September volume based on data back to 1917. To date, the lowest April-September volume occurred in 1992 with 24,200 acre-feet. Magic Reservoir is storing 43,100 acre-feet, 23% of capacity and 63% of average. Combining the Big Wood forecast with Magic's storage yields a water supply similar to last year with 63,000 acre-feet, far short of the 275,000 acre-feet needed for an adequate irrigation supply. Shortages are also expected across the other three basins based on the 50% chance of exceedance forecasts and current reservoir storage. Shortages are nearly inevitable in the Big Wood, Big Lost and Little Lost basins as these basins need runoff equal to or greater than the 10% chance of exceedance forecasts to provide an adequate amount. Little Wood water users have a better chance of getting through the summer, but still need wetter than normal future precipitation.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Big Wood R at Haily (1)	APR-JUL	39	80	95	40	133	210	235
	APR-SEP	45	90	105	40	148	240	265
Big Wood R ab Magic Res	APR-JUL	0.000	6.0	17.2	10	60	110	170
	APR-SEP	0.000	7.3	17.2	9	63	118	182
Camas Ck nr Blaine	APR-JUL	0.000	0.50	3.2	4	9.7	26	82
	APR-SEP	0.000	0.60	3.3	4	9.9	26	83
Big Wood R bl Magic Dam (2)	APR-JUL	0.000	7.5	17.2	7	81	160	250
	APR-SEP	0.000	8.0	20	8	85	170	265
Little Wood R ab High Five Ck	MAR-JUL	6.1	18.6	31	40	46	75	77
	MAR-SEP	7.0	21	34	41	51	81	82
	APR-JUL	11.3	21	29	42	38	55	69
	APR-SEP	12.8	23	32	43	42	60	75
Little Wood R near Carey	MAR-JUL	7.8	21	34	40	50	78	86
	MAR-SEP	8.4	23	36	39	53	83	92
	APR-JUL	5.6	17.8	30	39	45	74	77
	APR-SEP	6.2	19.1	32	39	48	78	83
Big Lost R at Howell Ranch	APR-JUL	16.0	59	89	56	119	162	159
	APR-SEP	18.4	68	102	57	136	186	180
Big Lost R Below Mackay Res	APR-JUL	25	45	60	49	90	135	123
	APR-SEP	27	50	75	50	110	165	150
Little Lost R nr Howe	APR-JUL	10.8	15.5	19.1	68	23	30	28
	APR-SEP	12.7	18.5	23	68	28	36	34
Camas Ck at Camas	APR-JUL	0.40	2.5	6.6	24	14.8	25	28

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Magic	191.5	43.1	18.4	68.9
Little Wood	30.0	12.0	16.0	16.3
Mackay	44.4	25.4	31.9	26.0

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Big Wood ab Hailey	8	49	55
Camas Creek	3	59	26
Big Wood Basin Total	11	50	50
Fish Creek	3	37	31
Little Wood River	7	40	39
Big Lost River	6	36	47
Little Lost River	3	70	82
Birch-Medicine Lodge Cr	2	94	105
Camas-Beaver Creeks	3	52	51

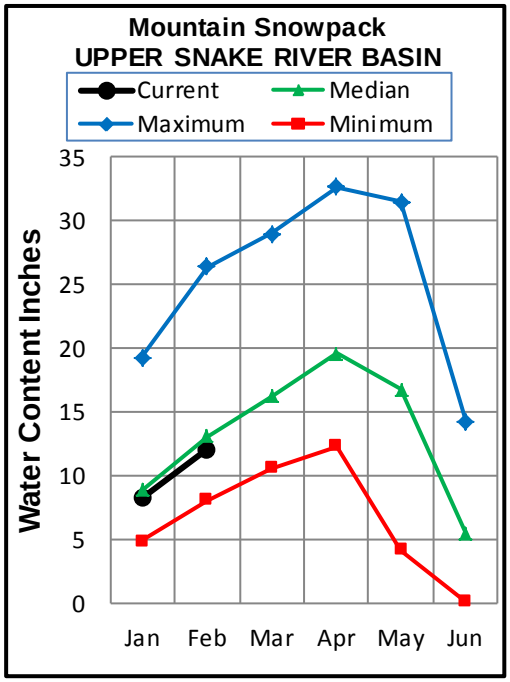
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

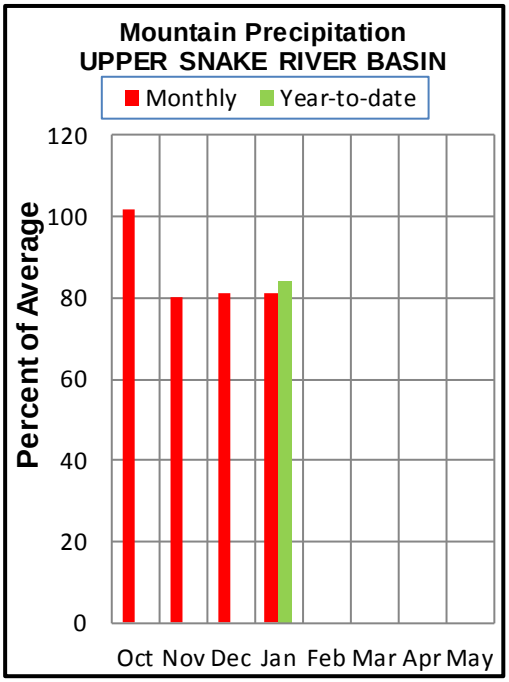
The average is computed for the 1981-2010 base period.

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

UPPER SNAKE BASIN

FEBRUARY 1, 2014





WATER SUPPLY OUTLOOK

The Upper Snake contains Idaho's best snowpack; unfortunately water supplies will still be tight. January precipitation was 81% of normal for the month. Water year precipitation since October 1 is 84% of normal. The snowpack above Palisades Reservoir is 95% of its median value and some headwater basins have slightly above normal snow; these include Pacific Creek, Gros Ventre, Hoback, Greys and Salt. The Henrys Fork side of the basin has slightly less snow at 86% of median. Combined reservoir storage in the Henrys Fork reservoirs is 72% of capacity, 90% of average, while the Upper Snake's combined storage in Jackson Lake and Palisades Reservoir is only 30% of capacity, 51% of average, fourth lowest since Palisades was completed in the late 1950s. Basin-wide the 8 reservoirs upstream from American Falls are storing 44% of capacity, 70% of average. Streamflow forecasts dropped a few percent from last month and range from 80-100% of average for most rivers, the exceptions are in the Willow, Blackfoot and Portneuf basins which are forecast at 55-65%. The Snake River at Heise April-September 50% Chance of Exceedance Forecast is for 3.2 million acre-feet, 86% of average. Combined with reservoir storage this would mean a shortage of 377,000 acre-feet. If conditions turned wetter than normal, the 30% Chance of Exceedance Forecast indicates that a marginally adequate water supply might still be possible. Water users should be prepared for possible shortages especially if drier than normal conditions spread east into Wyoming. The good news is that weather forecasts indicate a good probability for above normal precipitation through the third week of February.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Henrys Fork nr Ashton (2)	APR-JUL	315	380	430	81	485	565	530
	APR-SEP	435	515	575	81	635	735	710
Henrys Fork nr Rexburg (2)	APR-JUL	900	1070	1180	84	1290	1460	1400
	APR-SEP	1220	1400	1530	85	1660	1840	1790
Falls R nr Ashton (2)	APR-JUL	240	280	310	85	340	385	365
	APR-SEP	290	335	370	85	405	460	435
Teton R nr Driggs	APR-JUL	74	95	111	72	128	156	154
	APR-SEP	93	120	141	73	163	199	193
Teton R nr St. Anthony	APR-JUL	192	240	280	77	320	385	365
	APR-SEP	235	295	340	78	390	465	435
Snake R at Flagg Ranch	APR-JUL	320	375	415	89	455	510	465
	APR-SEP	345	410	450	88	490	555	510
Snake R nr Moran (1,2)	APR-JUL	485	610	670	88	730	855	765
	APR-SEP	535	680	745	88	810	955	845
Pacific Ck At Moran	APR-JUL	119	144	161	98	178	205	164
	APR-SEP	126	152	170	98	188	215	173
Buffalo Fork ab Lava nr Moran	APR-JUL	215	250	275	98	300	335	280
	APR-SEP	245	285	310	97	335	375	320
Snake R nr Alpine (1,2)	APR-JUL	1320	1690	1860	86	2030	2400	2170
	APR-SEP	1530	1960	2150	86	2340	2770	2500
Greys R nr Alpine	APR-JUL	205	260	295	97	330	385	305
	APR-SEP	240	305	345	96	385	450	360
Salt R nr Etna	APR-JUL	114	198	255	85	310	395	300
	APR-SEP	149	250	315	85	380	480	370
Snake R nr Irwin (1,2)	APR-JUL	1820	2350	2590	86	2830	3360	3010
	APR-SEP	2140	2740	3010	86	3280	3880	3500
Snake R nr Heise (2)	APR-JUL	1920	2500	2770	85	3040	3620	3240
	APR-SEP	2270	2940	3240	86	3540	4210	3780
Willow Ck nr Ririe	MAR-JUL	8.3	20	36	54	46	72	67
Blackfoot R ab Res nr Henry	APR-JUN	14.0	26	35	58	44	60	60
Snake R nr Blackfoot (1,2)	APR-JUL	2330	3020	3340	78	3660	4350	4260
	APR-SEP	2850	3690	4080	78	4470	5310	5220
Portneuf R at Topaz	MAR-JUL	30	40	47	62	55	68	76
	MAR-SEP	38	49	58	62	67	83	93
Snake R at Neeley (1,2)	APR-JUL	680	1640	2070	78	2500	3460	2650
	APR-SEP	555	1590	2060	73	2530	3570	2810

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Henrys Lk Nr Lake	90.4	73.4	90.8	80.1
Island Park	135.2	85.9	100.8	100.0
Grassy Lake	15.2	13.4	12.7	11.9
Jackson Lake	847.0	200.2	618.2	431.2
Palisades Res Nr Irwin	1400.	482.9	559.4	911.2
Ririe Lake Nr Ririe	80.5	43.3	46.4	38.7
Blackfoot Res Nr Henry	348.7	155.1	222.9	176.3
American Falls	1672.	943.7	1104.	1116.

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Henrys Fork-Falls River	7	83	84
Teton River	6	92	83
Henrys Fork above Rexbu	13	86	84
Snake above Jackson Lak	9	94	87
Pacific Creek	3	102	108
Gros Ventre River	4	113	102
Hoback River	5	114	104
Greys River	4	116	107
Salt River	5	114	105
Snake above Palisades	28	105	96
Willow Creek	7	81	62
Blackfoot River	4	85	66
Portneuf River	6	109	66
Snake abv American Fall	45	97	87

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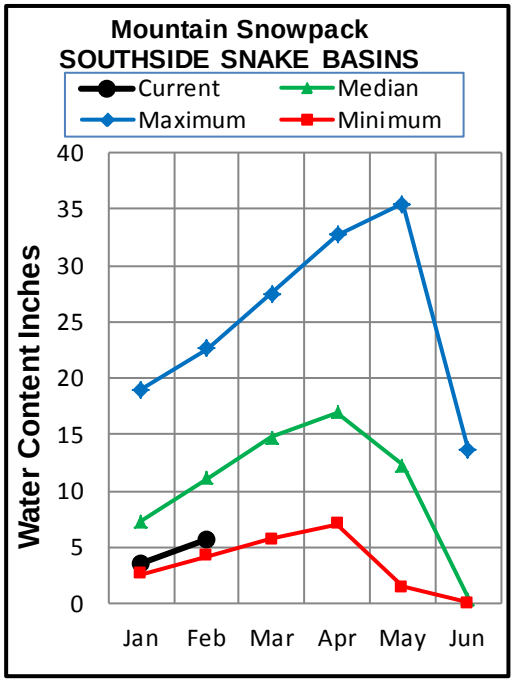
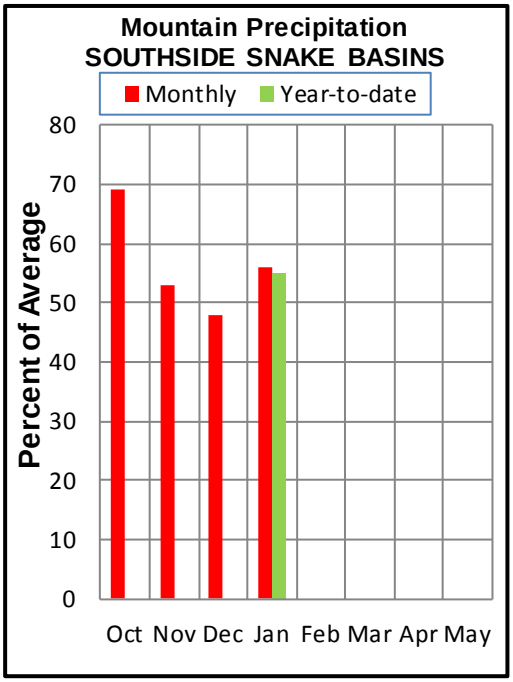
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS

FEBRUARY 1, 2014





WATER SUPPLY OUTLOOK

With snowpacks lower than any years in recent memory, adequate water supplies are seriously doubtful south of the Snake River. January precipitation was 56% of normal for the month, just one percentage point better than water year precipitation since October 1 which is a meager 55%. Snowpacks are 41% of median in the Owyhee basin, 44% in the Bruneau, 53% in Salmon Falls, and 52% in the Oakley area. Based on historic data the Owyhee snowpack is 2nd lowest since 1977. Historic data goes back to 1961 in the other basins and this year ranks 5th lowest in the Bruneau, 7th lowest in Salmon Falls and 9th lowest in Oakley. The years with lower snowpacks occurred between 1961 and 1994. Stated another way, the 2014 snowpack is the least amount of snow measured in recent memory, including the numerous drought years since 2000. Unless conditions change drastically expect a disappointing runoff. Streamflow forecasts are 32% of average for Salmon Falls Creek, 35% for the Owyhee River below the dam, 41% for Bruneau River, and 43% for Oakley Reservoir Inflow. These forecasts dropped ten to twenty-five percent from last month. Oakley Reservoir at 80% of average, 24% of capacity, has the most storage while Salmon Falls is storing 34% of average, 8% of capacity. Owyhee Reservoir storage is currently 77,800 acre-feet only 11% of capacity; this amount is very similar to 2004 the 2nd lowest year since 1936 when the dam was built. Water supplies are expected to be short of an adequate amount across these basins based on Surface Water Supply Index calculations which combine streamflow and reservoir storage; these reveal water shortages based on the 50% Chance of Exceedance Forecasts. Even adding current reservoir storage to the best forecast, which only has a 10% of occurring, indicates supplies will still be inadequate for the Oakley and Salmon Falls users. A wet spring could help stretch minimal water supplies, especially in the Owyhee basin thanks to its large catchment area. Weather forecasts through the third week of February indicate a high likelihood of above normal precipitation; hopefully this is the start of a turn around.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Goose Ck ab Trapper Ck nr Oakley	MAR-JUL	1.80	4.7	8.6	39	11.5	18.0	22
	MAR-SEP	1.90	5.0	9.1	38	12.5	19.7	24
Trapper Ck nr Oakley	MAR-JUL	1.90	2.7	3.5	59	4.0	5.0	5.9
	MAR-SEP	2.4	3.6	4.5	63	5.0	6.0	7.1
Oakley Reservoir Inflow	MAR-JUL	8.4	12.0	12.1	43	18.5	24	28
	MAR-SEP	9.3	13.3	13.6	44	20	27	31
Salmon Falls Ck nr San Jacinto	MAR-JUN	8.0	17.0	25	32	35	51	77
	MAR-JUL	8.0	17.5	26	32	36	54	81
	MAR-SEP	9.0	19.0	28	33	39	58	85
Bruneau R nr Hot Springs	MAR-JUL	31	59	84	41	113	163	205
	MAR-SEP	33	63	89	41	119	172	215
Reynolds Ck at Tollgate	MAR-JUL	0.60	1.50	3.0	34	4.5	7.0	8.8
Owyhee R nr Gold Ck (2)	MAR-JUL	1.67	3.7	5.8	21	8.5	14.0	28
	MAR-SEP	1.24	2.9	4.7	17	7.1	11.8	27
	APR-JUL	0.180	1.04	2.3	10	4.3	9.0	22
Owyhee R nr Rome	FEB-JUL	10.0	55	193	33	300	500	580
	FEB-SEP	11.9	48	205	34	310	505	595
	APR-SEP	8.0	40	144	39	220	320	365
Owyhee R bl Owyhee Dam (2)	FEB-JUL	68	151	225	35	315	470	635
	FEB-SEP	85	173	250	38	340	505	665
	APR-SEP	55	119	176	43	245	365	405

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Oakley Reservoir Near Oakley	75.6	18.1	20.1	22.5
Salmon Falls Reservoir	182.6	14.6	29.9	43.3
Wild Horse Re Nr Gold Creek	71.5	13.0	25.5	33.2
Lake Owyhee Near Nyssa	715.0	77.8	280.7	345.3
Brownlee	1420.	1287.	1226.	1189.

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Raft River	2	61	59
Goose-Trapper Creeks	2	57	52
Salmon Falls Creek	6	57	55
Bruneau River	6	51	48
Reynolds Creek	6	62	46
Owyhee Basin Total	10	43	33
Owyhee Basin SNOTEL	7	49	41

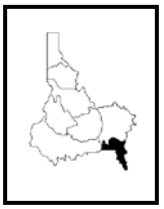
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

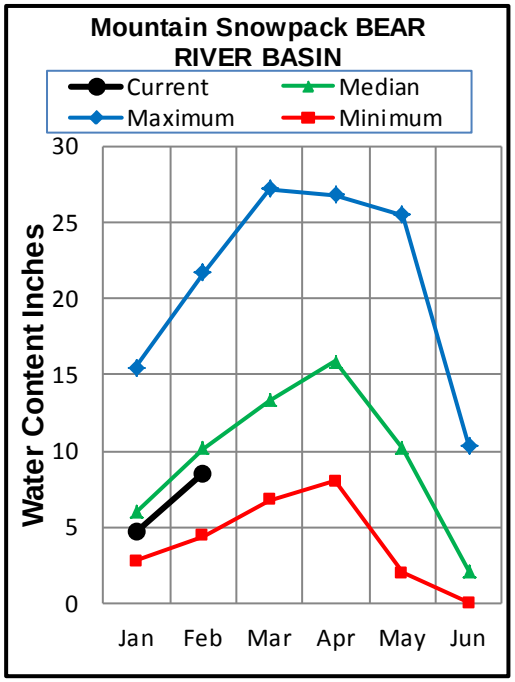
The average is computed for the 1981-2010 base period.

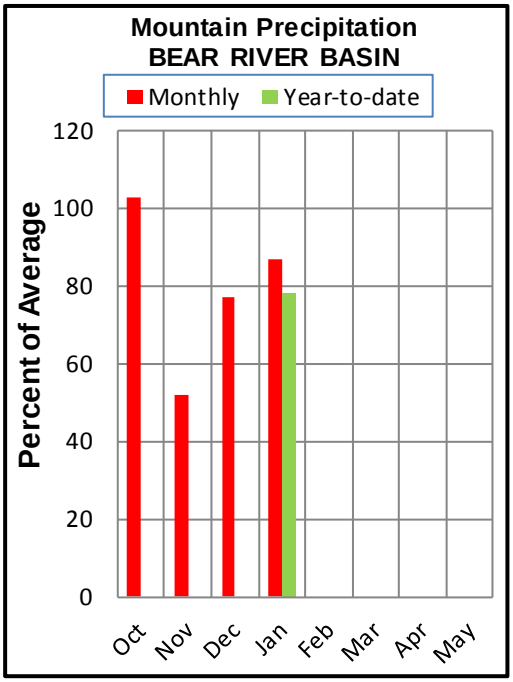
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

BEAR RIVER BASIN

FEBRUARY 1, 2014







WATER SUPPLY OUTLOOK

Conditions in the Bear River Basin are similar to last year, which means the basin could be poised for its third drier than normal year in a row. January precipitation was 87% of normal, but still better than many parts of Idaho. Water year precipitation since October is 78%. Snow is 83% of normal for the basin upstream of the Idaho-Utah border, while the headwaters above the Idaho-Wyoming border have 90% of normal snow. Streamflow forecasts are 84% of average for the Bear River near the Utah-Wyoming State Line and 80% for Smiths Fork. The forecast for the Bear River below Stewart Dam is 62,000 acre-feet or 30% of average for the April-September period. Runoff the past two years was 22,000 acre-feet, 11% of average in 2013; and 40,000 acre-feet, 20% of average in 2012. Fortunately the size of Bear Lake is paying dividends as water users will continue to tap into the record 2011 runoff, some of which is still stored in Bear Lake. Bear Lake contains 655,300 acre-feet, 46% of capacity. Wise conservation and allocation of this water should provide adequate amounts for those with Bear Lake water. Those without storage water should expect similar supplies as the past two seasons. Users above Bear Lake, who don't have access to storage water, should be prepared for another water emergency which results in regulation to the diversions in Idaho and Wyoming according to the Bear River Compact. Overall, the Bear River is in better shape than much of Idaho where reservoir storage is lacking. The Bear's snowpack is also within striking distance of normal if an active weather pattern returns. 150% of normal precipitation is needed for the final two months of the snow accumulation season to return the snowpack to normal levels by April 1.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2014

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	58	82	94	84	115	139	112
	APR-SEP	64	91	102	83	127	153	123
Bear R ab Res nr Woodruff	APR-JUL	28	84	106	88	161	217	121
	APR-SEP	5.2	77	111	87	173	245	128
Big Ck nr Randolph	APR-JUL	0.44	1.73	2.5	66	3.5	4.8	3.8
Smiths Fk nr Border	APR-JUL	40	61	71	80	90	111	89
	APR-SEP	46	70	86	83	102	126	104
Bear R bl Stewart Dam	FEB-JUL	2.2	10.8	73	34	135	227	215
	FEB-SEP	2.4	12.8	82	34	151	253	240
	MAR-JUL	2.0	5.2	66	32	127	216	205
	MAR-SEP	2.3	10.1	78	34	146	246	230
	APR-JUL	1.83	11.0	55	30	110	192	183
	APR-SEP	2.0	10.2	62	30	125	217	205
Little Bear R at Paradise	APR-JUL	1.23	13.8	24	59	34	49	41
Logan R nr Logan	APR-JUL	14.3	44	64	58	84	114	111
Blacksmith Fork nr Hyrum	APR-JUL	7.5	22	30	70	42	56	43

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
Bear Lake	1421.	774.3	880.4	703.8
Montpelier Ck Res	4.0	1.2	1.4	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - February 1, 2014

Watershed	Number of Data Sites	This Year as % of Last Yr	Median
Smiths & Thomas Forks	4	110	100
Bear River ab WY-ID lin	10	110	90
Montpelier Creek	2	91	80
Mink Creek	1	85	61
Cub River	1	83	65
Bear River ab ID-UT lin	18	93	83
Malad River	1	82	66

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

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

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

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: Streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point**. (Revised Dec 2011).**

Panhandle River Basins

Kootenai R at Leonia, MT
+ Lake Koocanusa storage change

Moyie R at Eastport – no corrections

Smith Creek nr Porthill – no corrections

Boundary Ck nr Porthill – no corrections

Clark Fork R at Whitehorse Rapids
+ Hungry Horse storage change
+ Flathead Lake storage change
+ Noxon Rapids Res storage change

Pend Oreille Lake Inflow
+ Pend Oreille R at Newport, WA
+ Hungry Horse storage change
+ Flathead Lake storage change
+ Noxon Rapids storage change
+ Pend Oreille Lake storage change
+ Priest Lake storage change

Priest R nr Priest R
+ Priest Lake storage change

NF Coeur d'Alene R at Enaville - no corrections

St. Joe R at Calder- no corrections

Spokane R nr Post Falls
+ Coeur d'Alene Lake storage change

Spokane R at Long Lake, WA
+ Coeur d'Alene Lake storage change
+ Long Lake, WA storage change

Clearwater River Basin

Selway R nr Lowell - no corrections

Lochsa R nr Lowell - no corrections

Dworshak Res Inflow
+ Clearwater R nr Peck
- Clearwater R at Orofino
+ Dworshak Res storage change

Clearwater R at Orofino - no corrections

Clearwater R at Spalding
+ Dworshak Res storage change

Salmon River Basin

Salmon R at Salmon - no corrections

Lemhi R nr Lemhi – no corrections

MF Salmon R at MF Lodge – no corrections

SF Salmon R nr Krassel Ranger Station – no corrections

Johnson Creek at Yellow pine – no corrections

Salmon R at White Bird - no corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser - no corrections

SF Payette R at Lowman - no corrections

Deadwood Res Inflow
+ Deadwood R bl Deadwood Res nr Lowman
+ Deadwood Res storage change

Lake Fork Payette R nr McCall – no corrections

NF Payette R at Cascade
+ Cascade Res storage change
+ Payette Lake storage change

NF Payette R nr Banks
+ Cascade Res storage change
+ Payette Lake storage change

Payette R nr Horseshoe Bend
+ Cascade Res storage change
+ Deadwood Res storage change
+ Payette Lake storage change

Boise R nr Twin Springs - no corrections

SF Boise R at Anderson Ranch Dam
+ Anderson Ranch Res storage change

Mores Ck nr Arrowrock Dam – no corrections

Boise R nr Boise
+ Anderson Ranch Res storage change
+ Arrowrock Res storage change
+ Lucky Peak Res storage change

Wood and Lost River Basins

Big Wood R at Hailey - no corrections

Big Wood R ab Magic Res
+ Big Wood R at Stanton Crossing nr Bellevue
+ Willow Ck

Camas Ck nr Blaine – no corrections

Big Wood R bl Magic Dam nr Richfield
+ Magic Res storage change

Little Wood R ab High Five Ck – no corrections

Little Wood R nr Carey
+ Little Wood Res storage change

Big Lost R at Howell Ranch - no corrections

Big Lost R bl Mackay Res nr Mackay
+ Mackay Res storage change

Little Lost R bl Wet Ck nr Howe - no corrections

Upper Snake River Basin

Henrys Fork nr Ashton
+ Henrys Lake storage change
+ Island Park Res storage change

Falls R nr Ashton
+ Grassy Lake storage change
+ Diversions from Falls R ab nr Ashton

Teton R nr Driggs - no corrections

Teton R nr St. Anthony
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R ab St. Anthony
+ Teton Dam for water year 1976 only

Henrys Fork nr Rexburg
+ Henrys Lake storage change
+ Island Park Res storage change
+ Grassy Lake storage change
+ 7 Diversions from Henrys Fk btw Ashton to St. Anthony
+ 21 Diversions from Henrys Fk btw St. Anthony to Rexburg
+ 3 Diversions from Falls R ab Ashton
+ 6 Diversions from Falls R nr Ashton to Chester
Snake R nr Flagg Ranch, WY – no corrections
Snake R nr Moran, WY
+ Jackson Lake storage change
Pacific Ck at Moran, WY - no corrections
Buffalo Fork ab Lava nr Moran, WY - no corrections
Gros Ventre R at Kelly, WY - no corrections
Snake R ab Res nr Alpine, WY
+ Jackson Lake storage change
Greys R nr Alpine, WY - no corrections
Salt R R nr Etna, WY - no corrections
Snake R nr Irwin
+ Jackson Lake storage change
+ Palisades Res storage change
Snake R nr Heise
+ Jackson Lake storage change
+ Palisades Res storage change
Willow Ck nr Ririe
+ Ririe Res storage change
The forecasted natural volume for Willow Creek nr Ririe does not include an adjustment for Grays Lake water diverted from Willow Creek drainage through the Clarks Cut diversion and into Blackfoot Reservoir.
Blackfoot R ab Res nr Henry
+ Blackfoot Res storage change
The forecasted Blackfoot Reservoir Inflow includes Grays Lake water diverted from the Willow Creek drainage through the Clarks Cut diversion and into Blackfoot Reservoir.
Portneuf R at Topaz - no corrections
Snake R at Neeley
+ Jackson Lake storage change
+ Palisades Res storage change
+ American Falls storage change
+ Teton Dam for water year 1976 only

Southside Snake River Basins
Goose Ck nr Oakley - no adjustments
Trapper Ck nr Oakley - no adjustments
Oakley Res Inflow - *flow does not include Birch Creek*
+ Goose Ck
+ Trapper Ck
Salmon Falls Ck nr San Jacinto, NV - no corrections
Bruneau R nr Hot Springs - no corrections
Reynolds Ck at Tollgate - no corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Res storage change
Owyhee R nr Rome, OR – no Corrections
Owyhee R bl Owyhee Dam, OR
+ Owyhee Res storage change
+ Diversions to North and South Canals

Bear River Basin
Bear R nr UT-WY Stateline, UT- no corrections
Bear R abv Res nr Woodruff, UT- no corrections
Big Ck nr Randolph, UT - no corrections
Smiths Fork nr Border, WY - no corrections
Bear R bl Stewart Dam nr Montpelier
+ Bear R bl Stewart Dam
+ Rainbow Inlet Canal
Little Bear R at Paradise, UT - no corrections
Logan R nr Logan, UT - no corrections
Blacksmith Fk nr Hyrum, UT - no corrections

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec 2011)**

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	NRCS Capacity	NRCS Capacity Includes
Panhandle Region						
Hungry Horse	39.73	---	3451.00	---	3451.0	Active
Flathead Lake	Unknown	---	1791.00	---	1791.0	Active
Noxon Rapids	Unknown	---	335.00	---	335.0	Active
Pend Oreille	406.20	112.40	1042.70	---	1561.3	Dead + Inactive + Active
Coeur d'Alene	Unknown	13.50	225.00	---	238.5	Inactive + Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead + Inactive + Active
Clearwater Basin						
Dworshak	Unknown	1452.00	2016.00	---	3468.0	Inactive + Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	Unknown	46.70	646.50	---	693.2	Inactive + Active
Deadwood	Unknown	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive + Active
Arrowrock	Unknown	---	272.20	---	272.2	Active
Lucky Peak	Unknown	28.80	264.40	13.80	293.2	Inactive + Active
Lake Lowell	7.90	5.80	159.40	---	165.2	Inactive + Active
Wood/Lost Basins						
Magic	Unknown	---	191.50	---	191.5	Active
Little Wood	Unknown	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	Unknown	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active + Surcharge
Grassy Lake	Unknown	---	15.18	---	15.2	Active
Jackson Lake	Unknown	---	847.00	---	847.0	Active
Palisades	44.10	155.50	1200.00	---	1400.0	Dead + Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	Unknown	---	348.73	---	348.7	Active
American Falls	Unknown	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	0.00	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active + Inactive
Wildhorse	Unknown	---	71.50	---	71.5	Active
Owyhee	406.83	---	715.00	---	715.0	Active
Brownlee	0.45	444.70	975.30	---	1420.0	Inactive + Active
Bear River Basin						
Bear Lake	5000.00	119.00	1302.00	---	1421.0 includes 119	Active + Inactive: that can be released
Montpelier Creek	0.21	---	3.84	---	4.0	Dead + Active

Interpreting Water Supply Forecasts

Introduction
Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1981-2010. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of .having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for
A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example
Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the **90** percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

Weiser, Payette, Boise River Basins
Streamflow Forecasts – January 2006

Forecast Point	Forecast Period	Chance of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000 AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	690

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

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