United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report
May 1, 2009

The Shoshone Falls of the Snake River
April 17, 2009

This shot of Shoshone Falls was taken on this spring's peak day with nearly 17,000 cfs cascading over the brink. Shoshone's 212 foot drop is taller than Niagara Falls and is one of the most spectacular features along the Snake River. Over 50,000 people visited the "Niagara of the West" this April to witness the high water. The higher flows this spring are the result of the Upper Snake headwaters having above average spring precipitation, an average snowpack and a nearly full reservoir system. As of May 1 the flow over the falls has decreased to about 12,000 cfs due to farmers ramping up water diversions from the river and reservoir managers decreasing releases after meeting flood control space requirements. By summer, the flow over the falls will be more like a trickle compared to what you see in this month's photo.

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

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or
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Internet Web Address
http://www.id.nrcs.usda.gov/snow/

How forecasts are made

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

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be 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 uncertain 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

May 1, 2009

SUMMARY

Warm days in April started melting the low- to mid-elevation snow and produced a rise in streamflow across the state. Current snowpacks range from 76% of average in the Big Wood basin to 120% in some eastern Idaho basins. These near average numbers sound encouraging, but the current snow levels are less than last year and are only 50-90% of their average seasonal peak that occurs in early April. Reservoir operations vary across the state with some such as Magic Reservoir storing as much as they can to delay reservoir releases in order to stretch their irrigation season to more than 85 days. In the Upper Snake, flood control releases are being made from some reservoirs to maintain adequate storage space for the bulk of the snowmelt runoff. The timing and magnitude of future snowmelt streamflow peaks depends on spring precipitation and air temperatures in the next few weeks. Users can expect a shorter high water season than last year with less snow in the mountains this year and melting occurring earlier than last year.

Streamflow forecasts vary by location and elevation ranging from 65-120% of average across the state. These forecasts sound encouraging and if they all happen, would be nice, but more often than not, near normal spring precipitation is needed for the observed runoff volumes to meet the predicted volumes under the 50% Exceedance Forecast Volumes column. April was a good month bringing above average precipitation across southern Idaho. Water users should consider the impacts that a dry spring would have on their runoff. Often, good spring precipitation is a wildcard that can turn a near average snowpack into a winning hand by producing better runoff. Without it, observed runoff volumes may be in the lower exceedance forecast range, such as the 70% Chance of Exceeding Forecast, especially in the central and southern basins where lingering drought conditions are still present. Water users in the Upper Snake and Clearwater basins are in better shape due to last year's fall moisture and good runoff. Overall, most of Idaho's major reservoirs will fill and water supplies should be adequate for most users, but supplies could be tight for users in Magic Reservoir drainage, Big Lost, Little Lost, Oakley and Salmon Falls basins. Above average precipitation in May and June would nearly guarantee a good water supply for the numerous uses and provide better reservoir carryover storage for next year.

SNOWPACK

April weather allowed snow to continue accumulating in most of Idaho's critical water producing zones. However, in mid-April, cool weather gave way to near record high temperatures in parts of southern and western Idaho which kick-started the snowmelt and increased streamflows. Cool weather at month's end stopped the melt and even added a little more snow water content at higher elevations. Delaying the melt is good news and will stretch the water supply out longer where supplies are tight. Current snowpacks range from 65-85% of average in the Owyhee, Weiser, Boise, Big Wood, Little Wood and Big Lost basins to 110-120% in the Oakley, Salmon Falls, and Upper Snake tributaries. Keep in mind these values are only about 50-90% of the seasonal snow peaks that occur in early April. Current snowpacks vary when compared to last year at this time, but most are 70-90% of last year's May 1 values.

PRECIPITATION

April precipitation amounts varied across the state ranging from only 43% of average in the Weiser basin to 130% in eastern Idaho and the Upper Snake basin in Wyoming. The lowest April precipitation amounts fell at the Squaw Flat SNOTEL site along the Weiser–Payette basin divide, where records starts in 1982. From the Big Lost basin to the Payette and north to the Panhandle, April percentages ranged from 60-90% of average. April precipitation amounts were 115-130% of average across the southern Idaho basins that include the Little Lost, Mud lake area, Bear River, and Upper Snake basins. The April precipitation pattern mirrors the water year-to-date precipitation with 100-115% of average amounts across southern and eastern Idaho, except for Henrys Fork basin which is 95%. In the region extending from the Panhandle to the Weiser and across to the Big Wood basin, the water year-to-date precipitation is 85-95% of average. The greatest water year-to-date percentages are 111-115% of average in Mud Lake area, Oakley, Salmon Falls and Bruneau basins. These numbers sound encouraging, but keep in mind that some of the precipitation fell as rain prior to the onset of colder temperatures thus preventing it from building and becoming part of the winter snowpack. This scenario helps improve soil moisture, but good spring rains in May and June are needed now to improve runoff from a near average snowpack.

RESERVOIRS

Most reservoirs in Idaho and western Wyoming are storing average to above average amounts. The exceptions are in central and southern Idaho, which range from 55-75% of average for Magic, Salmon Falls, Oakley, Blackfoot, Owyhee and Wildhorse reservoirs. Upper Snake Reservoirs are all above average except for Palisades Reservoir, which is 90% of average and about half of capacity, in order to maintain flood control space. With an above average snowpack in the Snake River headwaters, water managers are monitoring and managing the water levels accordingly. Coeur d'Alene Lake and Henrys Lake are full and passing water through the system. Reservoirs that are 90% full or greater include Island Park, Little Wood, Arrowrock and Mann Creek. The Payette and Boise reservoir systems are about three-quarters full. The good news is that most reservoirs will fill with the exception of the largest ones, or those that rarely fills; these include Owyhee, Salmon Falls, Oakley, Blackfoot, Bear Lake and Magic reservoirs.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

A mid-April warm spell allowed the snow to start melting and filling streams and rivers across the state. The streams began to recede as quickly as they rose with the cooler temperatures and precipitation the last few days of April and early May. Some SNOTEL sites received new snow in late April and that snow is reflected in the streamflow forecasts. The streams in the Clearwater, Salmon, Upper Snake and the parts of the Bear River basins are forecast at average or better. Streams in the Boise, Weiser, Payette, Wood and Lost basins as well as rivers south of the Snake are forecast for below average volumes. Some of the rivers such as Camas Creek near Blaine, Owyhee River and Weiser River already had their snowmelt streamflow peak and have the some of the lower spring and summer streamflow forecasts in Idaho and south-eastern Oregon. Camas Creek is forecast at 44% of normal and Owyhee streams are forecast at 60-70%. Other low forecasts are in the Wood and Lost basins ranging from 65-85% of average, while the Weiser, Payette and Boise streams are forecast at 75-85% of average. Elsewhere, streams in the Salmon, Clearwater, Panhandle, Upper Snake and Bear basins are forecast at 85-125% of average. The Snake River near Heise is forecast at 108% of average for the May-September period. The highest forecasts are in the Upper Snake River tributaries, Pacific Creek and Salt River, which are forecast at 125% of average.

Note: Forecasts published in this report are NRCS forecasts. NRCS uses timely SNOTEL data to provide streamflow forecasts. Jointly coordinated published forecasts by the USDA NRCS and the NOAA NWS are available from the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html. The forecast numbers mentioned in this narrative are the volume under the 50% Chance of Exceeding, which means there is a 50% chance the volume will be

greater or less than the given value. Water users may wish to use a lesser exceedance forecast to reduce the risk of coming up water short or greater volume to mitigate high flow potential.

RECREATION

The annual melting of Idaho's seasonal snowpack is nearly here. Thus far, only the lower elevation drainages of the Owyhee and Weiser Rivers and Camas Creek near Blaine have had their seasonal snowmelt peaks. The snowpack is ripe in the higher elevation basins and water will soon start filling tributaries as if they were being driven by a heavy rain. Snowmelt rates will increase from zero (not melting), to a few tenths a day, to an inch or more, and can even exceed two inches per day prior to the snow finally melting out in June or July. Typically, high streamflow levels are observed when the snowpack is melting 0.8 to 1.8 inches per day for several days or a week. This gradual melt of the winter snowfall is nature's way of releasing our annual water supply during the spring and summer when precipitation amounts are less. If the snow melts too fast, it becomes more of challenge to manage and ensure that reservoirs do not fill to beyond their capacity.

In most basins, the May 1 snowpack is less than last year and consequently the duration of extended high flows will be less than last year. However, the magnitude of peak flows may exceed last year's – it all depends on the weather and number of consecutive hot days melting the snowmelt, provided that there is still adequate snow in the high country to melt. The timing of peak flows produced by snowmelt is also a function of day and night temperatures as well as spring rains.

To provide guidance to water managers and river runners, there are a number of graphs on the Idaho NRCS Peak Streamflow Resources page: http://www.id.nrcs.usda.gov/snow/watersupply/peakflow.html. A number of these graphs illustrate the relationships between snow and streamflow peaks for Idaho's major basins. Similar snow years and historic flow exceedance levels are also included as references for this year's conditions. These graphs are manually updated once a week or more during the runoff season.

River runners should note that the Owyhee River remains floatable until streamflow drops to lower levels that make it too difficult to maneuver your boat through. Flows in the Bruneau River will soon be increasing and will peak sometime in May with the onset of warmer weather. The next streams to peak across Idaho are in the central mountains, Snake River headwaters, and northern Idaho. Know your limits when running rivers in the early season as streamflow levels can change rapidly with variable spring weather.

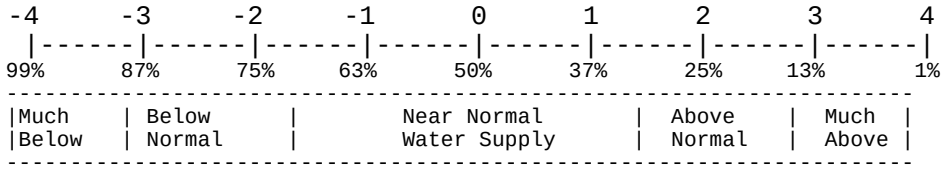
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of May 1, 2009

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 1971 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*
PANHANDLE	0.3	-----	NA
CLEARWATER	0.7	1999/2004	NA
SALMON	0.2	1980/2006	NA
WEISER	-0.5	2002/2005	NA
PAYETTE	-0.5	2003/2005	NA
BOISE	-0.4	2000	-2.4
BIG WOOD	-0.6	2005	-0.6
LITTLE WOOD	0.0	2003	-2.1
BIG LOST	-0.6	1973/1979	-0.3
LITTLE LOST	0.0	2006	0.5
HENRYS FORK	0.8	2006	-3.3
SNAKE (HEISE)	1.7	1999	-1.7
OWYHEE	-2.4	2001	-3.4
OAKLEY	-1.0	2008	-1.2
SALMON FALLS	-0.9	2005	-1.3
BRUNEAU	0.2	1996	NA
BEAR RIVER	-2.4	2002/1991	-3.5

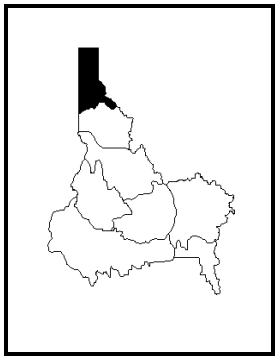
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

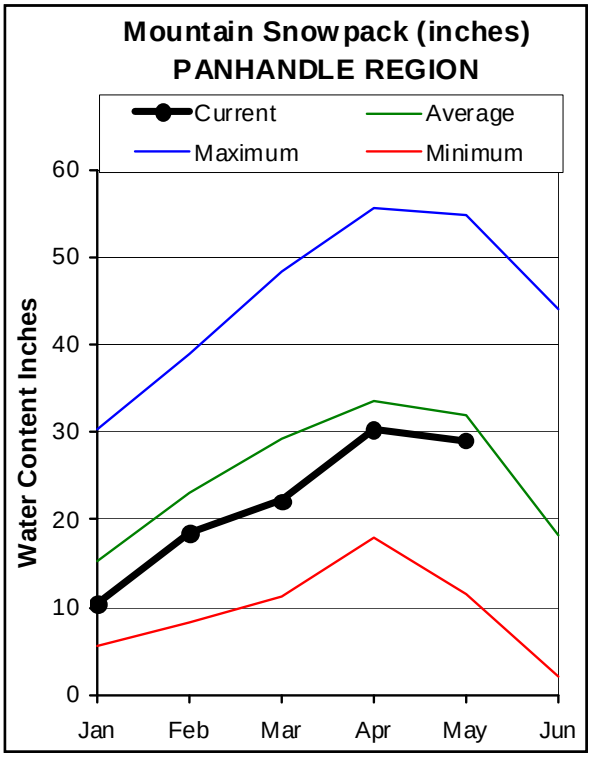


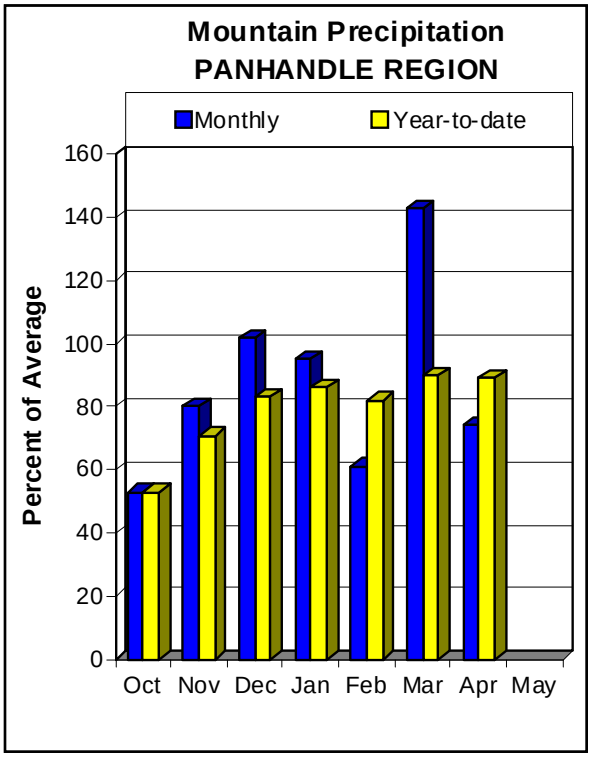
NA = Not Applicable

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
MAY 1, 2009







WATER SUPPLY OUTLOOK

There is nothing extraordinary to say about the Panhandle and Spokane River mountain snowpack on May 1. As a whole, the snow water content is 91% of average, while last year had above average snow and record breaking low-elevation snow. For example, Fourth of July Summit snow course, a low elevation site near Coeur d'Alene, has no snow on May 1 this year, but last year had 14.4 inches of snow water content; the average is 0.3 inches for May 1. Last year also had the most snow since May records started in 1960 at Fourth of July Summit. As of May 1, the best snowpack is found in the Pend Oreille drainage at 99% of average and the lowest snowpack is in the Moyie drainage at 87%. Interestingly, while traveling along the Moyie River in mid-April and visiting with our Canadian neighbors, similar trends were observed with respect to the loss of the valley snowpack and higher elevation snow still remaining to melt. It was noted that the rivers did not increase much with this April melt and hopefully the bulk of flow is still to come. Mountain precipitation in April was only 74% of average in the Panhandle Region. Current spring and summer streamflow forecasts are based on the May 1 snow levels and call for 89-103% of average volumes through July. The best seasonal streamflow forecasts are in the North Fork Coeur d'Alene River and Smith Creek at 100-103% of normal, while the lowest volumes are forecast in the Kootenai, Moyie and St. Joe rivers at near 90% of normal. Boundary Creek, Clark Fork, Priest River and Spokane River are forecasted at near 95% of average for the May-July period.

PANHANDLE REGION
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	MAY-JUL	4670	5220	5470	89	5720	6270	6170
	MAY-SEP	5500	6140	6430	89	6720	7360	7250
MOYIE RIVER at Eastport	MAY-JUL	230	270	295	89	320	360	330
	MAY-SEP	235	280	305	88	330	375	345
SMITH CREEK	MAY-JUL	85	97	105	101	113	125	104
	MAY-SEP	90	103	112	101	121	134	111
BOUNDARY CREEK	MAY-JUL	80	89	95	93	101	110	102
	MAY-SEP	85	94	100	93	106	115	108
CLARK FK at Whitehorse Rpds (1,2)	MAY-JUL	8367	8905	9150	95	9395	9933	9590
	MAY-SEP	9617	10018	10200	95	10382	10783	10700
PEND ORIELLE Lake Inflow (2)	MAY-JUL	9570	9890	10100	95	10300	10600	10600
	MAY-SEP	10700	11000	11200	95	11400	11700	11800
PRIEST near Priest River (1,2)	MAY-JUL	440	545	595	97	645	750	615
	MAY-SEP	495	600	650	97	700	805	670
NF COEUR D'ALENE RIVER at Enaville	MAY-JUL	350	410	455	103	500	560	440
	MAY-SEP	390	455	500	104	545	610	480
ST. JOE at Calder	MAY-JUL	630	705	760	90	815	890	845
	MAY-SEP	690	765	820	90	875	950	910
SPOKANE near Post Falls (2)	MAY-JUL	1310	1480	1600	96	1720	1890	1670
	MAY-SEP	1420	1580	1700	96	1820	1980	1770
SPOKANE at Long Lake (2)	MAY-JUL	1390	1660	1840	96	2020	2290	1910
	MAY-SEP	1570	1850	2040	96	2230	2510	2130

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE		NO REPORT		
FLATHEAD LAKE		NO REPORT		
NOXON RAPIDS		NO REPORT		
PEND OREILLE	1561.3	938.1	835.9	916.7
COEUR D'ALENE	238.5	245.5	170.4	249.7
PRIEST LAKE	119.3	77.6	61.6	102.5

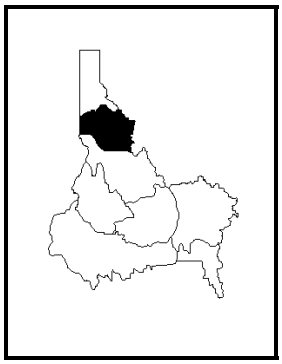
PANHANDLE REGION
Watershed Snowpack Analysis - May 1, 2009

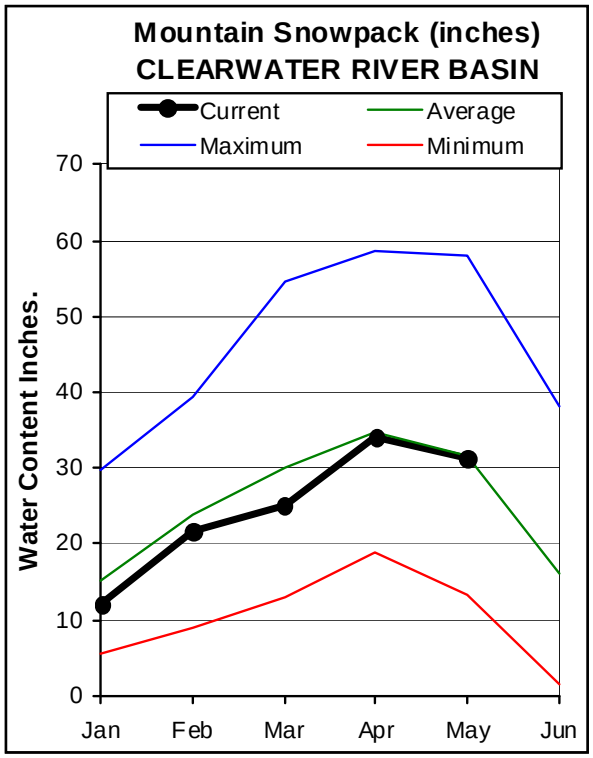
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	28	77	93
Moyie River	9	75	87
Priest River	5	72	94
Pend Oreille River	89	75	99
Rathdrum Creek	1	28	98
Hayden Lake	0	0	0
Coeur d'Alene River	7	53	97
St. Joe River	4	68	93
Spokane River	12	56	95
Palouse River	1	0	0

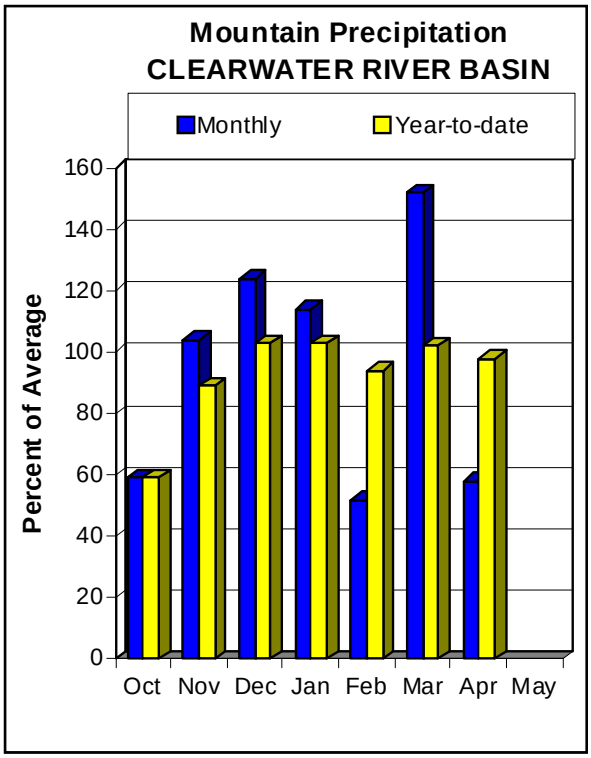
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

CLEARWATER RIVER BASIN
MAY 1, 2009







WATER SUPPLY OUTLOOK

The Clearwater mountains are hanging on to an average snowpack for May 1. It is difficult to describe the pattern of snow with respect to elevation or geographic location in the overall basin or sub-basins. For example, the snow ranges from 85-135% of average in the North Fork Clearwater basin. Cool Creek SNOTEL site at an elevation of 6,280 feet is 85% of average snowpack, while Crater Meadows SNOTEL site, 5,960 feet, is 116% of average snow; both sites are in the North Fork drainage. The Selway drainage snowpack is 116% of normal. Overall, the snowpack in the Clearwater basin is average. This is great considering that the April monthly precipitation was only 58% of average. Water year-to-date precipitation is average for this time of year. The Selway River has the highest forecast at 114% of average. The Lochsa River and Clearwater River at Spalding are forecast at slightly above average. Dworshak Reservoir inflow is forecast at 94% of normal because the snowpack in the North Fork Clearwater drainage is variable and lagging behind the rest of the basins. The snowpack is ripe and waiting for a string of warm days to start melting. SNOTEL sites indicate anywhere from 12 to 50 inches of water is present and waiting to melt from the mountains. The next few weeks of weather will determine the timing and magnitude of peak streamflows. There will good flows for whitewater river runners and fishing as the season progresses. Dworshak Reservoir is currently 67% full, 95% of average, and will fill.

CLEARWATER RIVER BASIN
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Selway R nr Lowell	MAY-JUL	1711	1856	1955	114	2054	2199	1720
	MAY-SEP	1785	1949	2060	113	2171	2335	1830
Lochsa R nr Lowell	MAY-JUL	1155	1247	1310	105	1373	1465	1250
	MAY-SEP	1221	1322	1390	105	1458	1559	1330
DWORSHAK RESV Inflow (1,2)	MAY-JUL	1389	1706	1850	94	1994	2311	1970
	MAY-SEP	1506	1852	2010	94	2168	2514	2130
CLEARWATER R at Orofino (1)	MAY-JUL	3375	3891	4125	111	4359	4875	3730
	MAY-SEP	3577	4129	4380	110	4631	5183	3990
CLEARWATER at Spalding (1,2)	MAY-JUL	4719	5517	5880	102	6243	7041	5770
	MAY-SEP	5044	5901	6290	102	6679	7536	6190

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2310.3	1743.2	2421.3

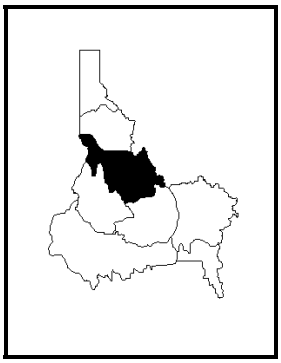
CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - May 1, 2009

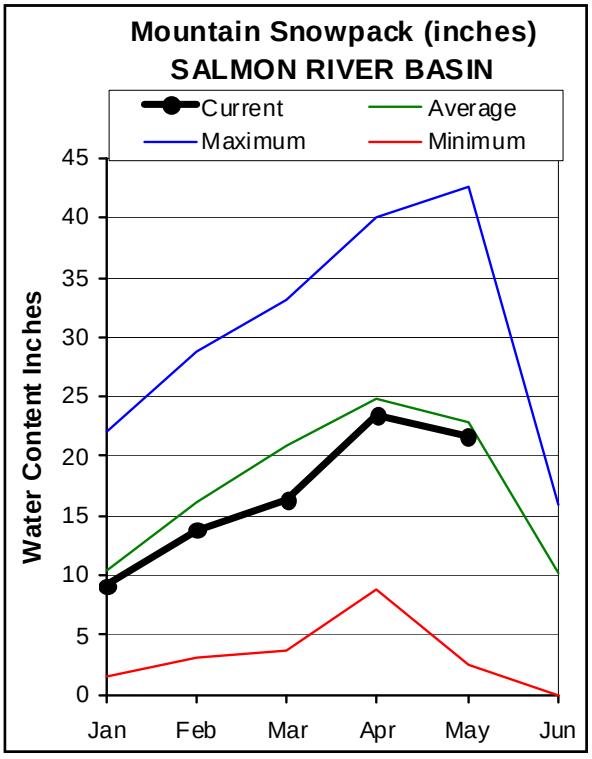
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	70	98
Lochsa River	3	61	95
Selway River	4	76	116
Clearwater Basin Total	16	70	100

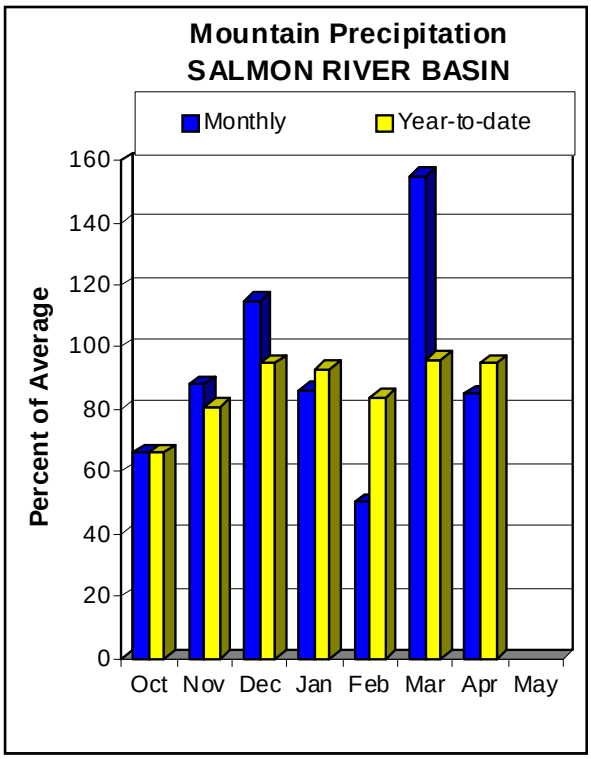
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

SALMON RIVER BASIN
MAY 1, 2009







WATER SUPPLY OUTLOOK

As of May 1, the Salmon basin snowpack as a whole is 102% of average. This year, the sub-basins of the Salmon range from 81% of normal in the South Fork of the Salmon headwaters up to 120% of average in the Lemhi basin. Last year, all of the SNOTEL sites had average to twice average snowpacks on May 1 and overall the basin was 120% of average. April monthly precipitation could not keep up with March's abundant moisture, but still delivered 85% of average precipitation across the Salmon basin. The higher elevation sites received more than 120% of average precipitation, but the stations near the Payette divide received only half the normal precipitation. It's a test of patience if you are looking for peak streamflows. The spring weather will control how the remaining snow will melt. Last year, the snowpack started melting quickly with warm temperatures in mid-May and then slowed down with cooler temperatures. Near to above average streamflow volumes are predicted for this coming summer and will provide adequate water supplies and a long recreation season. The Middle Fork Salmon River is forecast at 113% of average; while the Lemhi River, Salmon River above Salmon, and Salmon River at White Bird are forecast at 99-105% of average.

SALMON RIVER BASIN
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	MAY-JUL	603	739	800	105	861	997	760
	MAY-SEP	715	880	955	106	1030	1195	900
Lemhi R nr Lemhi	MAY-JUL	50	63	72	103	82	98	70
	MAY-SEP	67	82	92	103	103	121	89
MF Salmon at MF Lodge	MAY-JUL	635	727	790	113	853	945	700
	MAY-SEP	717	826	900	115	974	1083	785
Salmon at White Bird (1)	MAY-JUL	3945	4760	5130	100	5500	6315	5150
	MAY-SEP	4384	5317	5740	99	6163	7096	5780

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

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

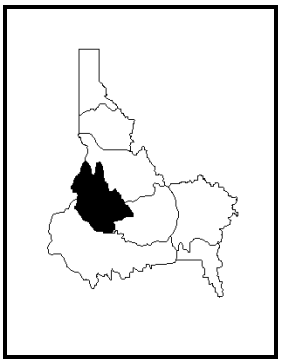
SALMON RIVER BASIN
Watershed Snowpack Analysis - May 1, 2009

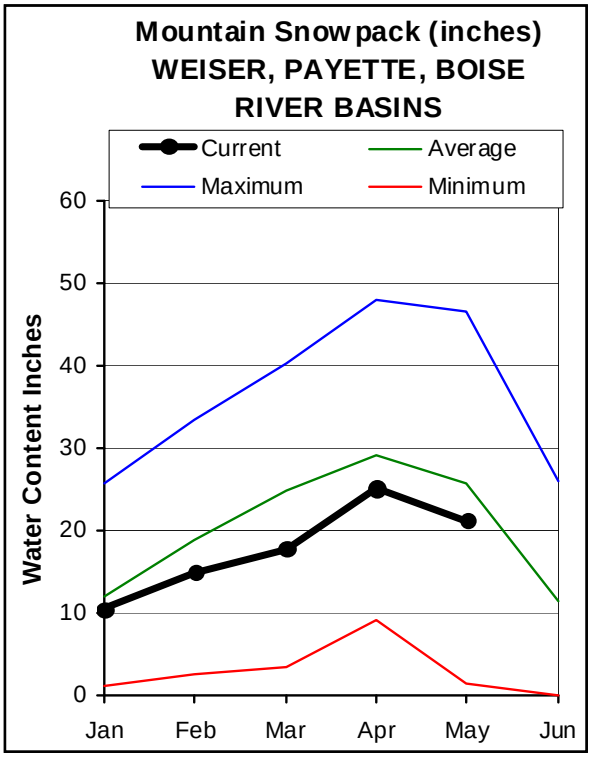
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	93	101
Lemhi River	7	111	120
Middle Fork Salmon River	3	83	91
South Fork Salmon River	3	72	81
Little Salmon River	4	59	95
Salmon Basin Total	26	86	102

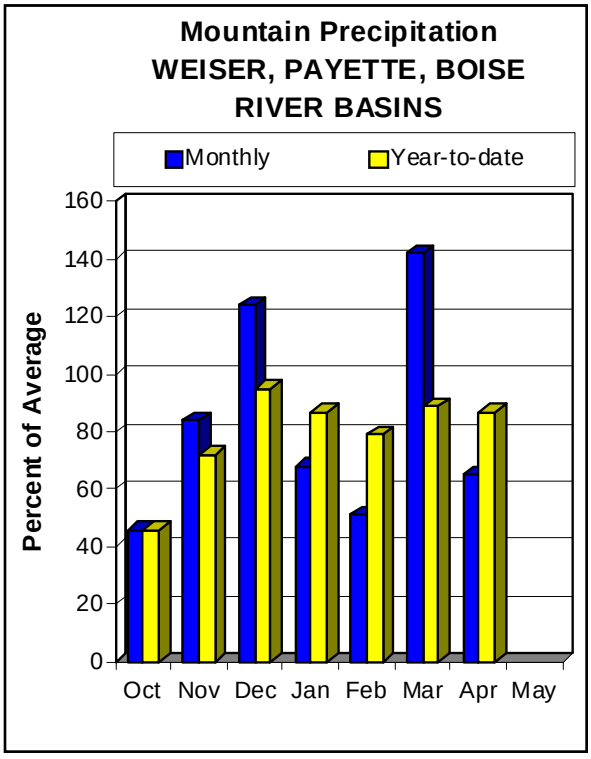
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

WEISER, PAYETTE, BOISE RIVER BASINS
MAY 1, 2009







WATER SUPPLY OUTLOOK

Below normal precipitation combined with a warm spell started snow melt in Idaho's west central mountains. The Weiser basin had the least precipitation, 43% of average, the third lowest April precipitation since 1982 when records begin. Squaw Flat SNOTEL site along the Weiser–Payette basin divide received the lowest April precipitation since daily high elevation SNOTEL records started in 1982. Only 1.6 inches fell this April; the previous low was 1.8 inches in 1985, while the maximum is 9.0 inches in 1996. Average April monthly precipitation at this site is 4.3 inches. Conditions were not quite as bad in the Boise and Payette basins which had 63% and 74% of average April precipitation, respectively. The warm temperatures in mid-April kicked snowmelt into gear and caused streams to rise; melt was observed at even the highest SNOTEL sites, such as Vienna Mine at 8,960 feet, while the warm spell was enough to melt out most of the lower elevation sites below 5,700 feet. Despite the melt, snowpacks are about 80% of average in the Weiser and Boise basins, and 90% in the Payette basin. A cool spell in the last week of April slowed melt and even brought a little additional snow to many sites. Cool temperatures delay snow melt and decrease irrigation demand, this helps preserve water for various uses later in the summer. Reservoirs across the region are storing average or better amounts. The Boise system is 78% of capacity and the Payette system is slightly less at 73% of capacity. Elsewhere, Mann Creek Reservoir in the Weiser basin is nearly full and Lake Lowell is 87% of capacity. This month, streamflow forecasts shift periods from starting in April to starting in May. The Payette River near Horseshoe Bend is forecast at 79% of average, while the Boise River near Twin Springs is forecast at 82% and the Weiser River near Weiser is forecast for 78% of average. Despite disappointing April precipitation, the Boise Surface Water Supply Index, which combines current reservoir storage with the streamflow forecasts, still shows that even the 90% chance of exceedance forecast should meet demand in the Boise basin.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Weiser R nr Weiser (1)	MAY-JUL	100	165	200	78	238	334	255
	MAY-SEP	118	188	225	79	265	366	285
SF Payette R at Lowman	MAY-JUL	251	280	300	79	321	354	380
	MAY-SEP	293	326	350	81	374	412	435
Deadwood Resv Inflow (1,2)	MAY-JUL	67	84	91	78	98	115	116
	MAY-SEP	72	91	100	80	109	128	125
Lake Fork Payette R nr McCall	MAY-JUL	54	60	65	86	70	77	76
	MAY-SEP	56	63	68	86	73	81	79
NF Payette R at Cascade (1,2)	MAY-JUL	232	303	335	81	367	438	415
	MAY-SEP	233	314	350	81	386	467	435
NF Payette R nr Banks (2)	MAY-JUL	307	368	410	78	452	513	525
	MAY-SEP	312	379	425	77	471	538	550
Payette R nr Horseshoe Bend (1,2)	MAY-JUL	787	954	1030	79	1106	1273	1310
	MAY-SEP	875	1057	1140	80	1223	1405	1430
Boise R nr Twin Springs (1)	MAY-JUL	296	381	420	82	459	544	510
	MAY-SEP	329	422	465	82	508	601	565
SF BOISE at Anderson Ranch Dam (1,2)	MAY-JUL	202	283	320	74	357	438	430
	MAY-SEP	223	310	350	75	390	477	465
MORES CK nr Arrowrock Dam	MAY-JUL	35	49	59	75	70	88	79
	MAY-SEP	38	52	63	74	75	94	85
BOISE near Boise (1,2)	MAY-JUL	645	786	850	79	914	1055	1080
	MAY-SEP	731	882	950	80	1018	1169	1190

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	10.7	10.8	10.5
CASCADE	693.2	523.2	434.2	462.5
DEADWOOD	161.9	98.8	73.3	103.4
ANDERSON RANCH	450.2	325.3	178.3	302.3
ARROWROCK	272.2	246.2	243.2	180.9
LUCKY PEAK	293.2	222.3	234.2	207.9
LAKE LOWELL (DEER FLAT)	165.2	144.3	85.8	141.5

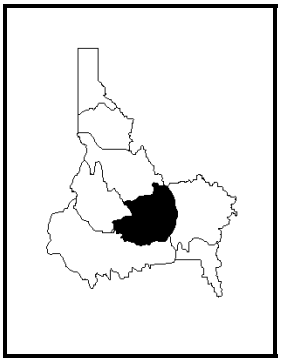
WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - May 1, 2009

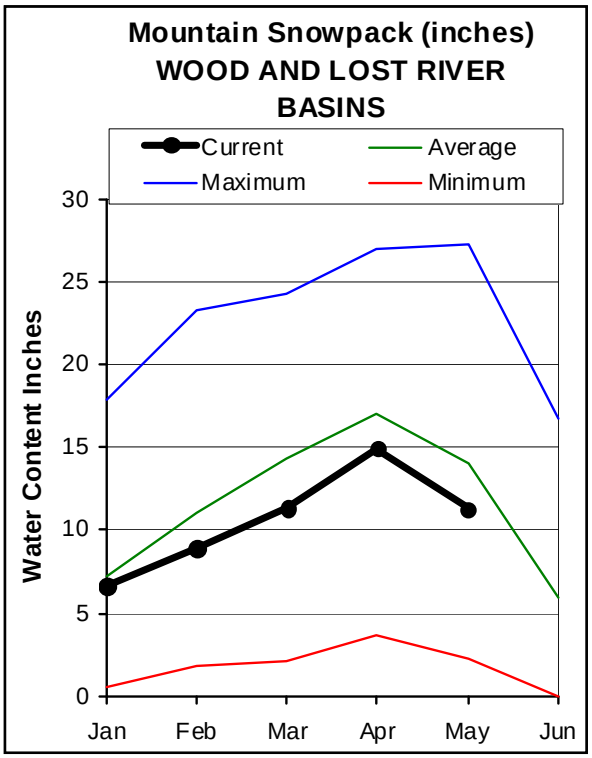
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	38	58
Weiser River	3	43	79
North Fork Payette	8	64	92
South Fork Payette	5	72	86
Payette Basin Total	14	66	90
Middle & North Fork Boise	5	78	79
South Fork Boise River	6	80	80
Mores Creek	4	58	86
Boise Basin Total	12	71	81
Canyon Creek	1	0	0

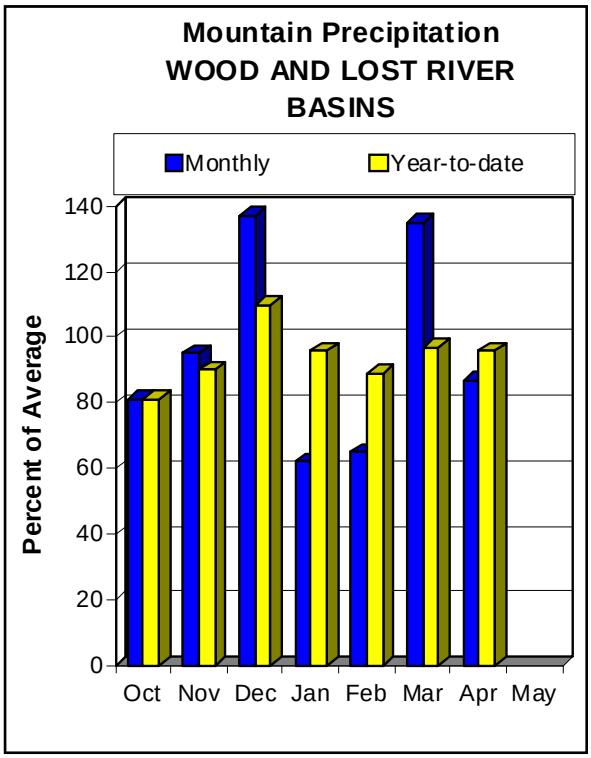
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

WOOD and LOST RIVER BASINS
MAY 1, 2009







WATER SUPPLY OUTLOOK

April precipitation was hit or miss in the Wood and Lost basins with 97% of average falling in the Little Lost basin and only 66-70% falling in the Big Lost, and Big and Little Wood basins. May 1 snowpacks are just under 80% of normal in the Big Lost and Wood basins, while the above average precipitation in the Little Lost basin kept its snow at 97% of normal. Little Wood Reservoir is almost full at 94% of capacity, Mackay Reservoir has an average amount at 71% of capacity, while Magic Reservoir lags at 58% of average, 45% of capacity. This month, the streamflow forecast period shifts from starting with April to starting with May; this means comparing previous month forecasts with this one is like comparing apples with oranges. One way to level the field is to use the Daily Guidance Streamflow Forecasts on our website. These products use a consistent forecast period throughout the water year and allow you to see how the forecasts have evolved. The general trend for the Big Wood, Little Wood, and Big Lost rivers was a drop in the forecasted volume when compared to April 1. The first of month forecast for the May-July period has the Little Lost River at 89% of average; this is the best forecast in these basins. Little Wood River above Five Mile Creek is forecast for 72% of average and the Big Wood River above Magic Reservoir is forecast for 70%. Camas Creek near Blaine is forecast at only 44%. The Surface Water Supply Index, which takes into account current reservoir storage and streamflow forecasts, indicates that supplies will be tight especially in the Big Lost, Big Wood and Little Lost basins. Water users should consider using the lower volume streamflow forecasts (70% and 90% chance of exceedance forecasts) to base their decision on, especially since the cumulative drought effects may take their toll after another below average snowpack this year.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	MAY-JUL	100	140	160	71	182	235	225
	MAY-SEP	115	161	185	71	210	272	260
Big Wood R ab Magic Reservoir	MAY-JUL	57	92	115	70	138	173	165
	MAY-SEP	63	100	125	70	151	188	179
Camas Ck nr Blaine	MAY-JUL	4.0	11.6	19.0	44	28	45	43
	MAY-SEP	4.6	12.4	20	46	29	46	44
BIG WOOD below Magic Dam (2)	MAY-JUL	62	105	135	66	165	208	205
	MAY-SEP	68	114	145	66	176	222	220
LITTLE WOOD R abv High Five Ck	MAY-JUL	25	35	42	72	50	63	58
	MAY-SEP	28	39	47	72	56	71	65
LITTLE WOOD near Carey (2)	MAY-JUL	25	36	43	69	50	61	62
	MAY-SEP	28	40	48	69	56	68	70
BIG LOST at Howell Ranch	MAY-JUL	90	112	128	79	145	172	162
	MAY-SEP	104	129	148	80	168	200	186
BIG LOST blw Mackay Resv	MAY-JUL	76	89	98	76	107	120	129
	MAY-SEP	92	109	120	76	131	148	159
Little Lost R nr Howe	MAY-JUL	17.4	21	24	89	27	32	27
	MAY-SEP	20	25	29	83	32	38	35

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	86.9	64.2	150.4
LITTLE WOOD	30.0	28.1	14.7	24.3
MACKAY	44.4	31.5	30.6	34.6

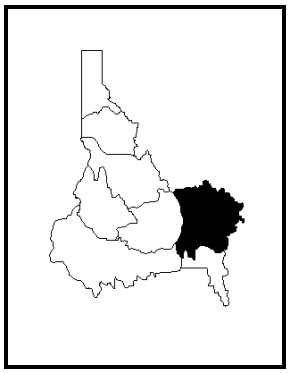
WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - May 1, 2009

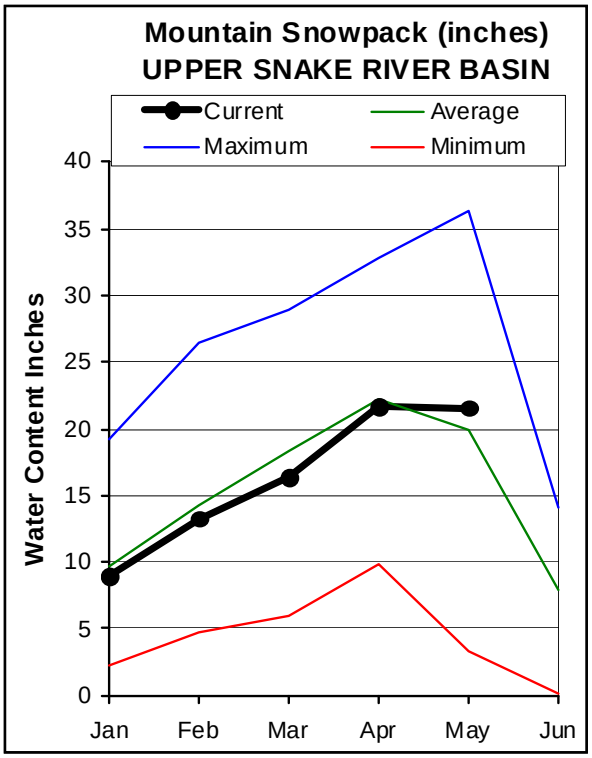
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	7	77	78
Camas Creek	2	0	0
Big Wood Basin Total	9	72	76
Fish Creek	0	0	0
Little Wood River	4	68	79
Big Lost River	4	82	78
Little Lost River	3	93	97
Birch-Medicine Lodge Cree	2	114	116
Camas-Beaver Creeks	2	91	110

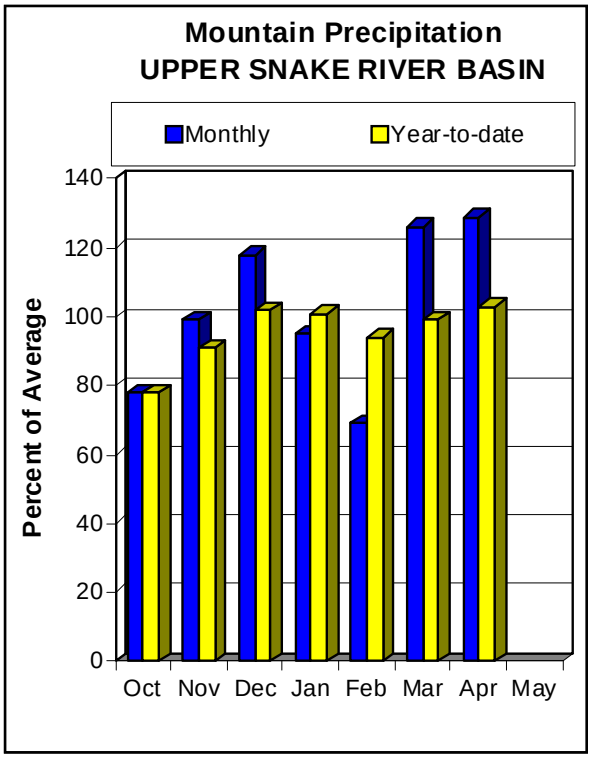
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

UPPER SNAKE BASINS
MAY 1, 2009







WATER SUPPLY OUTLOOK

April precipitation in the Upper Snake was 129% of average, greatest in the state, and nearly twice the amount that fell last April. Thumb Divide and Snake River Station SNOTEL sites, both in Yellowstone Park, had the greatest precipitation with 169% and 154% of average amounts for the month. Precipitation was above average at all sites except Sedgwick Peak SNOTEL south of Lava Hot Springs which saw 96% of average. Precipitation since October stands at 103% of average. April precipitation fell as rain at lower elevation sites increasing snowmelt; at high elevation sites it was cold enough for additional snow accumulation allowing five sites to exceed there normal seasonal peak amounts by May 1. Overall, the snowpack for the Upper Snake is 111% of average and 88% of the average seasonal peak amount. The Salt River basin along the Idaho-Wyoming border has 129% of average snowpack and is farthest ahead of average. Total reservoir storage in the Upper Snake system was drawn down in April to prepare for snowmelt; these releases produced spectacular results at Shoshone Falls as pictured on this month's cover. As of May 1, the eight major reservoirs are 77% of capacity, 105 % of average, and, with the exception of Blackfoot Reservoir, the system is expected to fill later this spring. After another above normal month, the water supply picture has only become better. The Snake River at Heise is forecast for 110% of average for the May-July period, while the Henry's Fork near Rexburg is forecast for 95%. Good reservoir storage combined with this winter's average to snowpack will mean good flows for Idaho's Snake River water users.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	50% (Most Probable) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK nr Ashton (2)	MAY-JUL	361	419	460	102	503	571	450
	MAY-SEP	521	593	645	100	699	782	645
HENRYS FORK near Rexburg (2)	MAY-JUL	1087	1190	1260	95	1330	1433	1330
	MAY-SEP	1465	1584	1665	94	1746	1865	1780
Falls R nr Ashton	MAY-JUL	248	284	310	93	337	379	335
FALLS RIVER nr Ashton (2)	MAY-SEP	302	344	375	93	407	456	405
Teton R nr Driggs	MAY-JUL	114	131	143	100	156	176	143
	MAY-SEP	146	169	185	98	202	228	188
Teton R nr St. Anthony	MAY-JUL	274	313	340	96	369	413	355
	MAY-SEP	336	382	415	95	449	502	435
Snake River At Flagg Ranch	MAY-JUL	486	524	550	121	576	614	455
	MAY-SEP	530	575	605	120	635	680	505
SNAKE nr Moran (1,2)	MAY-JUL	722	820	865	115	910	1008	750
	MAY-SEP	802	914	965	115	1016	1128	840
Pacific Ck At Moran	MAY-JUL	157	183	200	125	217	243	160
	MAY-SEP	166	192	210	126	228	254	167
SNAKE abv Resv nr Alpine (1,2)	MAY-JUL	1955	2196	2305	107	2414	2655	2160
	MAY-SEP	2192	2486	2620	104	2754	3048	2530
Greys R Nr Alpine	MAY-JUL	305	332	350	117	368	395	300
	MAY-SEP	361	393	415	117	437	469	355
Salt R Nr Etna	MAY-JUL	271	318	350	125	382	429	280
	MAY-SEP	344	401	440	122	479	537	360
SNAKE nr Irwin (1,2)	MAY-JUL	2875	3150	3275	110	3400	3675	2980
	MAY-SEP	3317	3635	3780	107	3925	4243	3520
SNAKE near Heise (2)	MAY-JUL	3145	3344	3480	110	3616	3815	3170
	MAY-SEP	3656	3888	4045	108	4202	4434	3760
WILLOW CREEK nr Ririe (2)	MAY-JUL	48	59	66	110	73	84	60
Blackfoot R ab Res nr Henry	MAY-JUN	28	42	53	95	66	87	56
Portneuf R at Topaz	MAY-JUL	41	49	54	83	60	69	65
	MAY-SEP	54	64	70	83	77	87	84
Snake River at Neeley	MAY-JUL	1825	2475	2770	105	3065	3715	2640
	MAY-SEP	1878	2595	2920	100	3245	3962	2910

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	90.3	82.8	87.4
ISLAND PARK	135.2	125.1	114.7	123.2
GRASSY LAKE	15.2	13.6	13.9	12.7
JACKSON LAKE	847.0	671.9	361.1	471.1
PALISADES	1400.0	777.3	725.9	862.6
RIRIE	80.5	64.0	46.4	56.2
BLACKFOOT	348.7	142.4	105.6	256.3
AMERICAN FALLS	1672.6	1640.1	1305.6	1493.8

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - May 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	This Year as % of Average
Henrys Fork-Falls River	7	84	103
Teton River	8	81	98
Henrys Fork above Rexburg	15	82	101
Snake above Jackson Lake	6	91	113
Pacific Creek	2	93	123
Gros Ventre River	3	104	110
Hoback River	5	94	93
Greys River	5	108	115
Salt River	5	102	129
Snake above Palisades	23	94	109
Willow Creek	7	69	137
Blackfoot River	3	65	93
Portneuf River	6	80	130
Snake abv American Falls	40	88	111

* 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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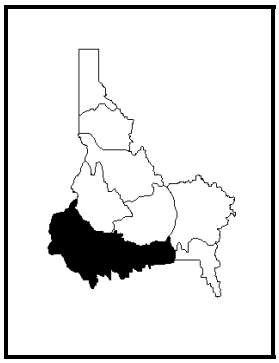
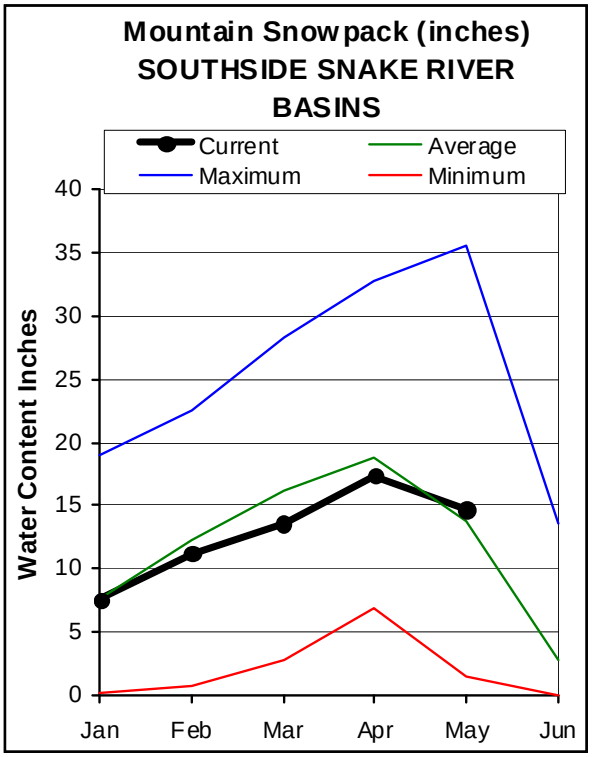
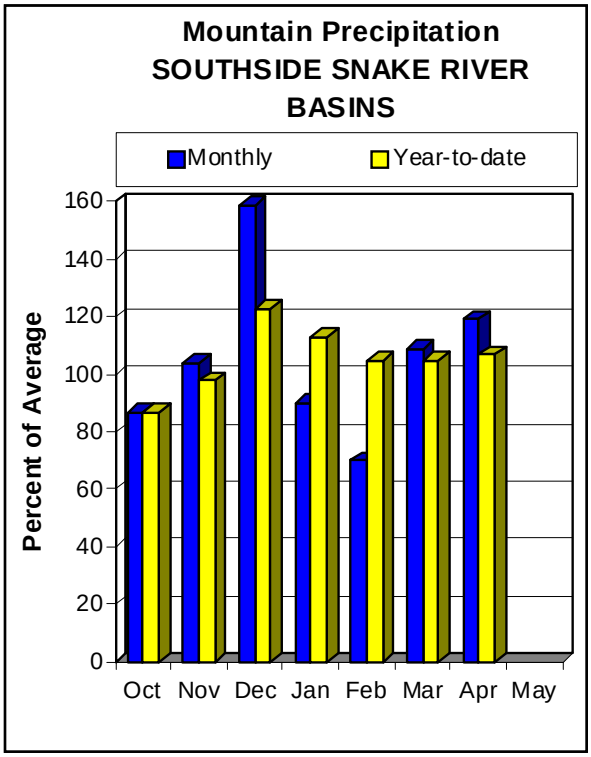
SOUTHSIDE SNAKE RIVER BASINS
MAY 1, 2009







WATER SUPPLY OUTLOOK

April brought another month of above average precipitation to the Southside Snake River basins with the Owyhee basin receiving 114% of normal and the Oakley, Salmon Falls and Bruneau basins seeing more than 120%. Water-year precipitation since October is also above average, ranging from 101% of average for the Owyhee basin to about 115% for the Oakley, Salmon Falls and Bruneau basins. The snowpack continued to accumulate through mid-April exceeding normal seasonal peak amounts in the Oakley, Salmon Falls and Bruneau basins. Currently, the Bruneau basin is 107% of average, while Salmon Falls is 113% and Oakley is 110%. The Owyhee sites didn't see enough new accumulation in April to boost their peak amounts past 90% of normal, which was measured in mid-March. Currently, the Owyhee basin is 63% of average. Reservoirs have begun to fill, but, with the exception of Brownlee, all are still storing below average amounts. In terms of percent of capacity, Salmon Falls is the lowest at 31% full, followed by Oakley at 39%, Wildhorse and Owyhee contain 58% and Brownlee is the highest at 77% full. Last month we warned that due to the lingering effects of drought, the above average snowpack may not be enough to rule out the possibility of a disappointing water supply in the Salmon Falls and Oakley basins. Our concern was that last year's near average snowpack and spring precipitation of 83% of average only produced 66% of average runoff for the Salmon Falls Tract. Furthermore, in the Oakley basin, last year's April 1 snowpack of 106% of average only produced 57% runoff. After taking a closer look at the streamflow that these basins have already produced this spring, it appears that the system is primed better than last year and that a more efficient delivery of melt to the reservoirs is being experienced. April streamflow in Salmon Falls Creek was nearly three times last April's amount, while the snow remaining at Magic Mountain SNOTEL on May 1 is very similar to last year. Similar conditions exist in the Oakley basin where inflow to the reservoir in April was greater than last year. The Surface Water Supply Index (SWSI) which combines forecasted streamflow and current reservoir storage indicates that water supply concerns in the Salmon Falls and Oakley basins have eased somewhat. The SWSI's are showing that the 50% chance of exceedance forecasts will produce adequate supplies. If May and June turn out to be drier than normal, shortages could still be experienced. Water supplies in the Owyhee basin are expected to be adequate.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Oakley Reservoir Inflow	MAY-JUL	11.9	16.4	20	95	24	30	21
	MAY-SEP	13.2	18.2	22	92	26	33	24
Salmon Falls Ck nr San Jacinto	MAY-JUL	32	44	53	93	63	80	57
	MAY-SEP	35	48	57	92	67	84	62
Bruneau R nr Hot Springs	MAY-JUL	92	126	152	94	180	227	162
	MAY-SEP	98	133	160	93	190	238	173
Owyhee R nr Gold Creek (2)	MAY-JUL	0.6	3.9	9.0	75	17.2	36	12.0
	MAY-SEP	0.2	2.8	7.8	73	16.6	39	10.7
Owyhee R nr Rome	MAY-JUL	52	97	135	64	179	256	210
	MAY-SEP	57	102	140	61	184	259	230
Owyhee R blw Owyhee Dam (2)	MAY-JUL	16.0	83	140	62	220	346	225
	MAY-SEP	18.0	94	150	59	232	365	255
Reynolds Ck at Tollgate	MAY-JUL	2.9	3.8	4.5	79	5.2	6.4	5.7

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	29.3	32.9	41.0
SALMON FALLS	182.6	55.8	45.9	87.9
WILDHORSE RESERVOIR	71.5	41.7	39.9	55.8
OWYHEE	715.0	412.3	452.4	613.6
BROWNLEE	1420.0	1091.7	844.4	1069.2

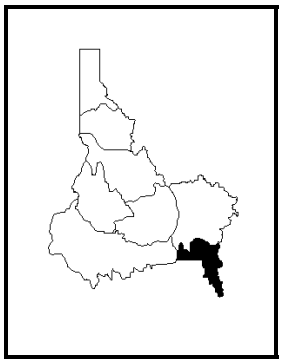
SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - May 1, 2009

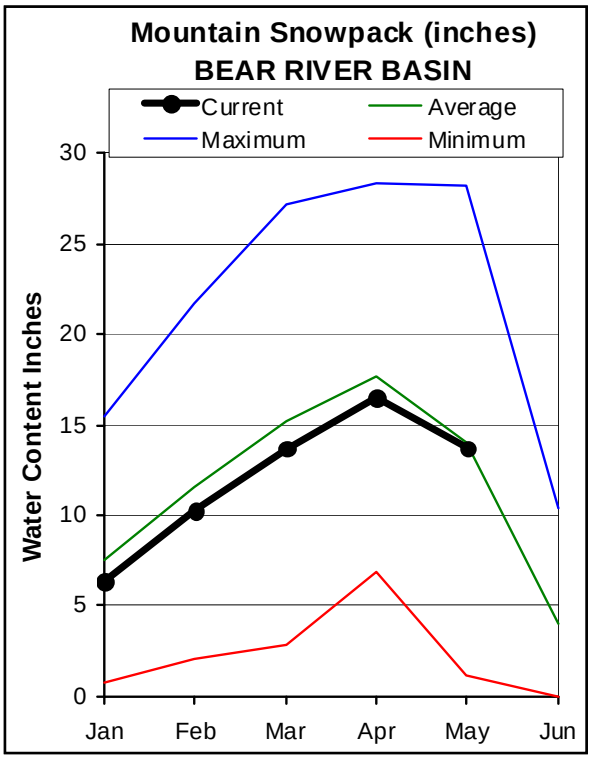
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	83	120
Goose-Trapper Creeks	4	79	110
Salmon Falls Creek	7	94	113
Bruneau River	5	83	107
Reynolds Creek	6	70	89
Owyhee Basin Total	7	53	63

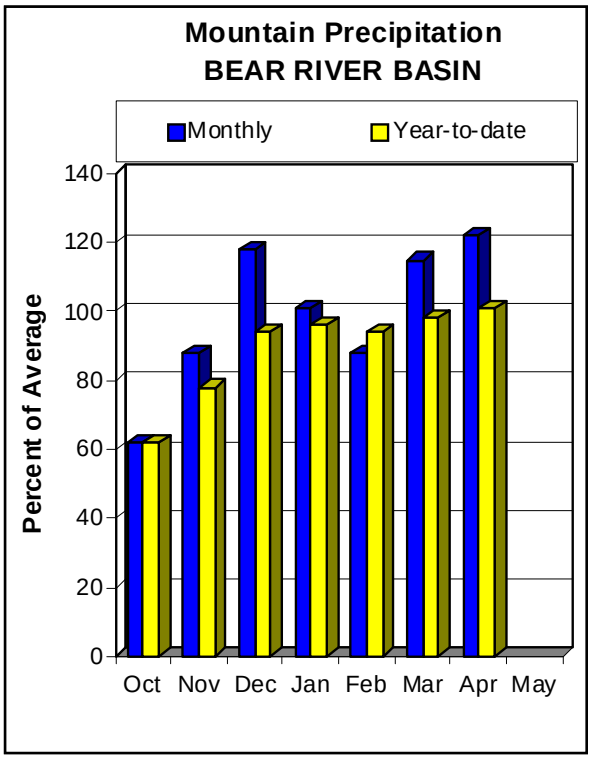
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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

BEAR RIVER BASIN
MAY 1, 2009







WATER SUPPLY OUTLOOK

The snowpack in the Bear River basin is slightly less than last year but is still 101% of average as of May 1. Two good consecutive snow years is a blessing for the water users that have been dealing with low streamflows for a decade. April brought 126% of average precipitation following the above average precipitation in March. The Bear River headwater streams are forecast at near average volumes for the May-July period, while the Bear River at Stewart Dam is forecast at 89% of average. Bear Lake is currently 32% full, which is about 50% of average. Storage in Bear Lake has not been greater than 70% of average for any month since July 2001. The dry trends are becoming more of the norm for the Bear River water users. It will be interesting to compare the current and new 30-year averages when the 1981-2010 averages are implemented in a few years. If the new averages decrease, the percentages may sound better but will not necessarily mean a greater volume is present. This year, like many of the recent years, water supplies should be just about adequate for water users to squeeze by based on the Surface Water Supply Index (SWSI), which combines the current reservoir storage, streamflow forecasts and ranks them compared to history. Expect water supplies to be better than last year and similar to 2002.

BEAR RIVER BASIN
Streamflow Forecasts - May 1, 2009

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear R nr UT-WY State Line	APR-JUL	92	106	115	102	124	138	113
	MAY-JUL	86	99	107	100	115	128	107
	APR-SEP	103	118	128	102	138	153	125
	MAY-SEP	97	111	120	101	129	143	119
Bear River ab Reservoir nr Woodruff	APR-JUL	101	119	132	97	145	163	136
	MAY-JUL	87	104	116	100	128	145	116
	APR-SEP	111	129	142	100	155	173	142
	MAY-SEP	97	114	126	103	138	155	122
Big Creek nr Randolph	APR-JUL	4.0	4.5	4.8	98	5.1	5.6	4.9
	MAY-JUL	1.9	3.2	4.3	100	5.5	7.6	4.3
Smiths Fork nr Border	APR-JUL	98	103	106	103	109	114	103
	APR-SEP	112	118	122	101	126	132	121
	MAY-JUL	90	95	98	103	101	106	95
	MAY-SEP	104	110	114	102	118	124	112
Bear River at Stewart Dam	APR-JUL	135	163	183	78	204	238	234
	APR-SEP	144	175	198	76	222	260	262
	MAY-JUL	111	143	165	89	187	219	186
	MAY-SEP	110	146	170	79	194	230	214
Little Bear at Paradise, UT	APR-JUL	37	47	53	115	59	69	46
	MAY-JUL	19.4	28	34	106	40	49	32
Logan nr Logan, UT	APR-JUL	100	114	123	98	132	146	126
	MAY-JUL	85	99	108	100	117	131	108
Blacksmith Fk nr Hyrum, UT	APR-JUL	31	44	53	110	62	75	48
	MAY-JUL	21	33	41	103	49	61	40

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	456.5	431.0	971.0
MONTPELIER CREEK	4.0	3.4	1.9	2.5

BEAR RIVER BASIN
Watershed Snowpack Analysis - May 1, 2009

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	4	112	111
Bear River ab WY-ID line	12	94	99
Montpelier Creek	2	87	92
Mink Creek	1	91	90
Cub River	1	103	117
Bear River ab ID-UT line	20	93	101
Malad River	1	0	0

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

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow 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 Nov. 2007).**

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)

Boundary Ck nr Porthill, ID – No Corrections

Moyie R at Eastport, ID – No Corrections

Smith Creek nr Porthill, ID – No Corrections

Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)

Pend Oreille Lake Inflow, ID
+ 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, ID
+ Priest Lake (Storage Change)

NF Coeur d'Alene R at Enaville, ID - No Corrections

St. Joe R at Calder, ID - No Corrections

Spokane R nr Post Falls, ID
+ 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 Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)

Clearwater R at Orofino, ID - No Corrections

Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections

Lemhi R nr Lemhi, ID – No Corrections

MF Salmon R at MF Lodge, ID – No Corrections

Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections

SF Payette R at Lowman, ID - No Corrections

Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)

Lake Fork Payette R nr Mccall, ID – No Corrections

NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections

SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections

Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck

Camas Ck nr Blaine – No Corrections

Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)

Little Wood R abv High Five Ck, ID – No Corrections

Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)

Big Lost R at Howell Ranch, ID - No Corrections

Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY
+ Jackson Lake (Storage Change)

Pacific Ck at Moran, WY – No Corrections

Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot Resvervoir Inflow, ID
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake River at Neeley, ID
+ Snake River at Neeley (observed)
+ All Corrections made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee R blw Owyhee Dam, OR
+ Owyhee R blw Owyhee Dam, OR (observed)
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin

Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

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 volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. **(Revised Dec. 2005)**

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	---	13.50	225.00	---	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	---	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	---	1452.00	2016.00	---	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	---	11.1	Active
Cascade	---	46.70	646.50	---	693.2	Inactive+Active
Deadwood	---	---	161.90	---	161.9	Active
Anderson Ranch	24.90	37.00	413.10	---	450.1	Inactive+Active
Arrowrock	---	---	272.20	---	272.2	Active
Lucky Peak	---	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	---	---	30.00	---	30.0	Active
Mackay	0.13	---	44.37	---	44.4	Active
Upper Snake Basin						
Henrys Lake	---	---	90.40	---	90.4	Active
Island Park	0.40	---	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	---	---	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	---	---	348.73	---	348.7	Active
American Falls	---	---	1672.60	---	1672.6	Active
Southside Snake Basins						
Oakley	---	---	75.60	---	75.6	Active
Salmon Falls	48.00	5.00	182.65	---	182.6	Active+Inactive
Wildhorse	---	---	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	5.0 MAF	119.00	1302.00	---	1421.0	Active+Inactive: includes 119 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 1971-2000. 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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