United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report
June 1, 2008

The waiting game is over! After a long cool spring and late start of the snowmelt season, rivers throughout the state jumped to life in mid May and quickly reached peak flows around May 19. In north Idaho where snowpacks were well above average all season, major rivers like the St. Joe, Coeur d'Alene, Kootenai, Pend Oreille and Clearwater were all near and even above flood stage for a few days. Residents and water managers had been expecting and anticipating the high water and were well prepared, and fortunately, the near record high air temperatures only lasted three or four days before drastic cooling set in which quickly reduced snowmelt rates and rivers receded to a more manageable but still high level. In central Idaho where snowpacks and forecast inflows were just near average, high peak flows came and went quickly, but some reservoir systems like the Boise, pictured above, were almost full and had to increase outflows for a few days to compensate for the sudden rush of inflow. The upper Snake area and northern Idaho still have a considerable amount of snow in the high country due to continued cool weather, so the 2008 runoff season in those areas should extend well into July. The rest of central and southern Idaho snowpacks are nearly melted and streams have peaked for the season; and with the exception of the Boise basin where irrigation supplies are adequate, irrigation supplies will be marginally adequate due to significant lack of precipitation over the last few months.

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

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How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated 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

June 1, 2008

SUMMARY

Too much or too little sums up Idaho's water supply picture for this year. There is still more runoff to come in northern Idaho and the upper Snake basins, while streams in southern Idaho and central Idaho are on the downhill side. Record high runoff volumes in May on the Coeur d'Alene River and near record low February-May precipitation in the Big Lost illustrates the variable climate and precipitation patterns in Idaho this year. June 1 snowpacks range from 100-200% of average in the Panhandle, Clearwater, Salmon and upper Snake basin in eastern Idaho and western Wyoming. These are the places where the streams will rise one more time; but only the streams in the Upper Snake have enough snow remaining to exceed the previous peaks. Residual streamflow forecasts range from a low of 40% of average in the Bear River to 130% in the Panhandle and Snake River headwaters.

Scattered showers in May produced monthly precipitation that ranged from 60-90% of average across most of the state and did little to significantly change the water supply picture. Instead, steady streamflow increases occurred from air temperatures that gradually melt the snowpack versus a rapid rain runoff event. However, the cool temperatures are the major driving force this year affecting everything from planting crops; plant growth, range conditions, to the slowly melting snowpack. These cool spring temperatures are unlike anything we have seen in recent memory years. Even this past winter's colder than normal temperatures kept the snow light, dry and fluffy and only resulted in near normal snow water content amounts across the southern half of the state. The northern half of the state capitalized on its spring runoff from the lack of a winter runoff event; it all came off in one event resulting in very high flows.

Future temperatures are still the key in how the remaining snow melts. A return to hot weather, as observed in mid-May and as we have seen in recent years, would boost streamflows from the remaining snow in all the basins except Boise, Wood, Lost, and basins south of the Snake River including the Bear. Continued moderate or normal temperatures will allow the remaining snow to gradually melt and sustain streamflows as observed in the Owyhee and Bruneau rivers. Based on the Big Wood River snowmelt runoff model, back to back frontal systems with rainfall amounts that exceed three quarters of an inch the first day followed by amounts greater than one-third of an inch the second day would start producing runoff while there is still a depleting snowpack in the basin. Below normal temperatures will maintain Idaho's higher elevation snowpack into the summer months like the good old days. Weather forecasts for the first half of June call for below normal temperatures and normal showers with the possibility of snow showers into the second week in June. See current weather links: http://www.id.nrcs.usda.gov/snow/links/#Weather%20and%20Climate.

SNOWPACK

Much of the abundant lower elevation snowpack across the western half of Idaho melted without causing high flows. Below normal temperatures in May kept water users wondering when the runoff was going to start. By mid-May cool temperatures gave way to near record highs and put water managers on their toes. Luckily, the real hot spell only lasted a few days and snow melt rates started to subside thus allowing streams to level off or decrease. Prior to the hot spell, SNOTEL sites were loosing about half an inch of snow water a day, and then increased to 1.5 inches day with some sites even melting at 2.0 inches a day. This snow melt rate would be the same as receiving two inches of precipitation in 24 hours. Luckily, temperatures cooled again, deceasing snow melt rates to more reasonable levels while giving water managers room to breathe. In the second half of May, cool weather allowed the highest elevation SNOTEL sites to pick-up more snow. As streams were rising rapidly, reservoir gates were open to maintain room for future flows.

Basins that are nearly snow free are the Little Wood, Big Lost, Willow, Blackfoot, Portneuf, Raft, Goose, Owyhee and Malad. Elsewhere, snowpacks range from below normal in the Boise basin to twice normal in the Coeur d'Alene basin.

PRECIPITATION

May brought isolated and scattered precipitation events rather than frontal systems moving across the state. As a result, precipitation percentages varied across the state ranging from 47% of average in the Big Lost basin to 118% of average in the Snake basin above Palisades Reservoir. This is good news for the Snake River water users but bad news for the water users in the Wood and Lost basins. February through May precipitation was the second lowest in the Big Lost basin and third lowest in the Little Wood basin since NRCS precipitation records began in 1982. It is interesting to note that 22 inches of precipitation fell in January at the four SNOTEL sites in the Little Wood basin; this is an average of 5.5 inches at each site for January. Then, it took four more months, February-May, to receive another 22 inches of moisture at the same four SNOTEL sites; this is an average of 1.4 inches for each site month for four consecutive months. These amounts are more typical of summer precipitation amounts.

Precipitation since the water year started on October 1 ranges from 95-112% of average across the state. A handful of sites scattered across the state just exceeded their average annual precipitation amounts with four months still to go this water year. From north to south these sites include: Quartz Peak on Mt Spokane; Cool Creek, Crater Meadows and Hemlock Butte in the Clearwater basin, West Branch along the Weiser and Little Salmon divide; Base Camp in Snake River headwaters; and Howell Canyon near Oakley basin. The lowest precipitation amounts this water year are in the Wood and Lost basins at 65-70% of the average annual precipitation. For example, Lost-Wood Divide SNOTEL site just east of Sun Valley has received 22 inches of precipitation since October 1, average is 27 inches. This October-May period amount is the 8th lowest since 1982; the greatest amount was 43 inches in 1982 and 1997. If you thought there was a lot of snow this year, just wait for a good year.

Type of precipitation, timing and other weather conditions play a big role in determining the efficiency in producing runoff. A cold winter kept the snow light and dry. A dry spring compounded with windy weather across Idaho's southern basins allowed for more evaporation and sublimation from the snowpack and resulted in less efficient runoff. A cool wet spring and summer will reduce irrigation demand and stretch the limited water supply in Idaho's water-short basins.

RESERVOIRS

Current reservoir storage varies across the state like precipitation did this past winter. Coeur d'Alene Lake is currently holding twice its normal summer amount until inflows subside and allow the Lake to naturally drain. On the other end of the scale, Blackfoot, Salmon Falls and Bear Lake are only a third full, and will not fill. Dworshak Reservoir is 80% full and maintaining room for future flows that are still to come. The Payette and Boise reservoir systems are about 87% full, 105% of average. Magic Reservoir is 54% full, while Little Wood and Mackay reservoirs are near 77% full, but there is not much more streamflow to come in these central basins. Jackson Lake is 71% full and Palisades Reservoir is 62% full and another streamflow peak is still to come. Drafting was occurring in American Falls Reservoir after it reached its first peak in mid-April, but with the Henrys Fork at Rexburg near or above flood stage from May 19 to June 3, the additional runoff provided an added boost for the Snake River water users. With reduced inflows and irrigation demand, Owyhee Reservoir storage remained consistent during May and is still near its peak for the year at 64% full. Brownlee Reservoir is 96% of capacity, 107% of average and passing runoff from the upstream rivers.

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

May streamflow varied from 50% of average in the Portneuf River to 266% of average in the Coeur d'Alene River. May streamflow in the North Fork Coeur d'Alene River at Enaville was record high at 747,000 acre-feet; previous high was 637,600 acre-feet in 1997. May basically delivered its spring and summer water supply in one month on the Coeur d'Alene River. The 30-year April-September average for the North Fork Coeur d'Alene River at Enaville is 780,000 acre-feet! Farther south, the Clearwater River almost reached 80,000 cfs for three days in mid-May. The Salmon River at White Bird reached 90,000 cfs, flood stage, leveled off at 50,000 cfs and is slowly receding. Northern Idaho streams are forecast at 100-135% of average for the June-July period. The Salmon River at Whitebird is forecast at 95% of average, upper Snake forecasts range from 102% in the Greys River to 142% at Pacific Creek near Moran. The Snake River at Heise is forecast at 110%. On the dry side, streamflow forecasts took a plunge in the Big Lost basin and are now forecast at 66% for the June-September period. The Bear River forecasts decreased last month and now call for only 39% of average for the Bear River at Stewart Dam.

Surface water irrigation supplies will be tight in for the Bear, Big Wood, Little Wood, Big Lost, Little Lost, and Salmon Falls water users due mostly to lack of precipitation in recent months, windy conditions and inefficiency of the snow to produce streamflow. Users should consider using the smaller runoff volumes for their decision making purposes in these basins if they haven't already.

Note: Forecasts published in this report are NRCS guidance forecasts. NRCS is using SNOTEL data in a timely manner to provide timely streamflow forecast for users. Official jointly coordinated and published forecasts by the USDA Natural Resources Conservation Service and the US Department of Commerce, NOAA, National Weather Service are available at the joint west-wide Water Supply Outlook for the Western US at http://www.wcc.nrcs.usda.gov/wsf/westwide.html.

RECREATION

Idaho's whitewater rafting season is off to a great start. The flows were big on the big rivers for the experienced river runners. The flows will be dropping to safer floating levels as the snow runs out and provide an extended river running season. Idaho's high desert streams are still floatable, so enjoy them while there is water still water. The good inflows should keep reservoirs higher for a longer season this year and hopefully provide better reservoir carryover for next year. There is still plenty of snow to enjoy in the mountains, and it will delay access into Idaho's remote higher elevations.

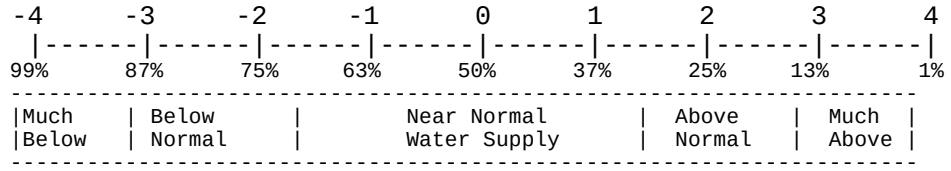
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of June 1, 2008

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*
CLEARWATER	1.4	1999	NA
SALMON	0.5	1998	NA
WEISER	1.2	1986	NA
PAYETTE	-0.1	2005	NA
BOISE	0.1	1993	-2.2
BIG WOOD	-1.0	1989	-1.0
LITTLE WOOD	-1.4	2000	-2.1
BIG LOST	-1.4	2000	-0.2
LITTLE LOST	-1.4	2006	0.6
HENRYS FORK	1.4	1999	-3.3
SNAKE (HEISE)	0.5	1993	-1.4
OAKLEY	-0.8	2007	-1.1
SALMON FALLS	-2.0	2000	-1.5
BRUNEAU	0.5	1996	NA
BEAR RIVER	-3.2	2005	-3.7

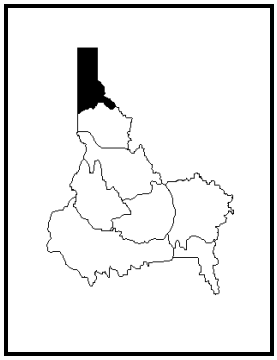
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

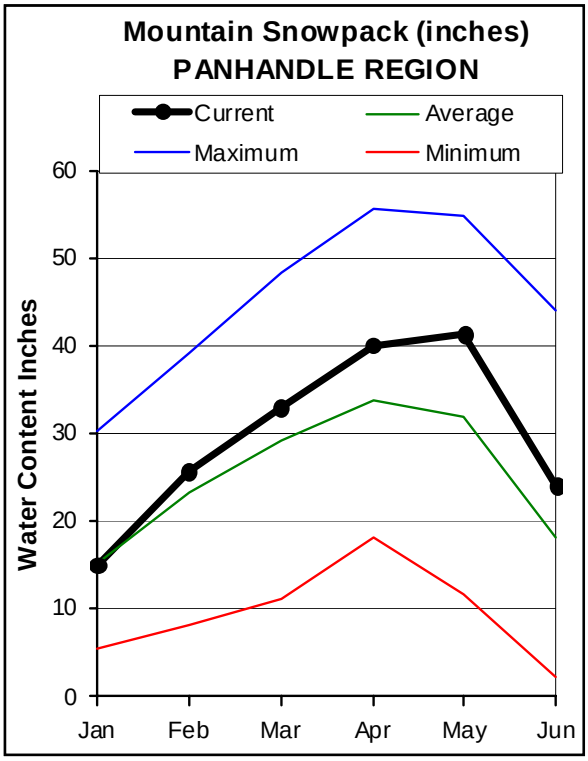


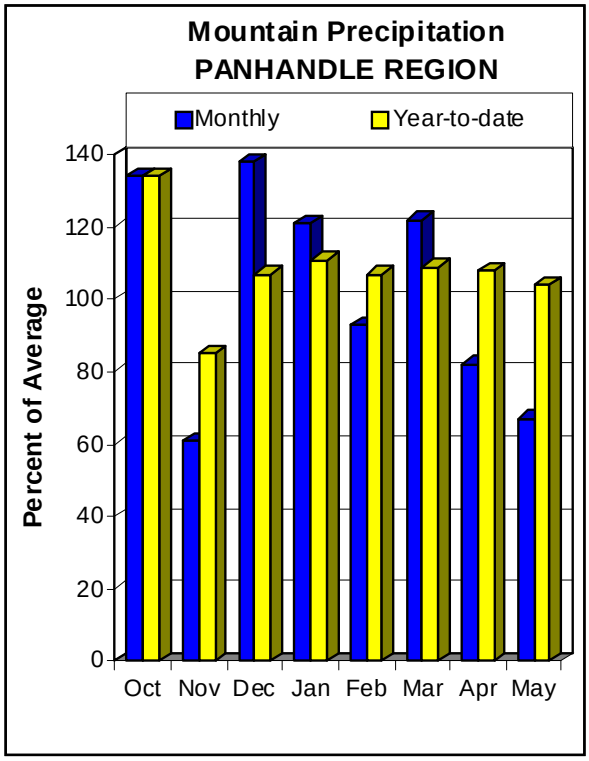
NA = Not Applicable

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
JUNE 1, 2008







WATER SUPPLY OUTLOOK

Mild weather in May finally kicked off the spring snowmelt season with gusto in North Idaho after the seemingly endless cold winter. Snowpacks were well above normal this year, and even though the monthly precipitation in May was just two-thirds normal, streams and rivers rose quickly by mid-month with most exceeding the flood stage by the third week in May. It was fortunate the hot weather lasted only a few days without much rain, causing the flows to subside below flood stage fairly quickly, but the streams continue to run very high and there is still considerable snow in both mid and higher elevations. NRCS SNOTEL sites above 4200 feet elevation still contain between 5 and 49 inches of water content, so the outlook for abundant runoff throughout the remainder of the summer looks assured but perhaps not as welcome in some areas. The potential for a new round of peak flows still exists for the next two weeks if a return of hot weather or persistent rain occurs; readers are cautioned to be aware if they work, live or travel in those flood prone areas. Snowpacks range from 100 to 200% of the average for June, somewhat misleading as many sites' long term averages are near zero. But overall, the sites with remaining snow still have greater than half the total amount on May 1, so plenty of water yet to come! Water year to date precipitation totals are at 104% of average and it was a blessing in disguise that May precipitation was just 67% of normal and did not add to the high water. The streamflow forecasts for the remaining June through September period reflect the abundant snow and range from 100 and 103%, respectively, for the Moyie and Kootenai up to around 130% for the St. Joe, Spokane and Coeur d'Alene rivers.

PANHANDLE REGION
Streamflow Forecasts - June 1, 2008

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)	JUN-JUL	3247	3792	4040	103	4288	4833	3920
	JUN-SEP	4144	4850	5170	103	5490	6196	5000
MOYIE RIVER at Eastport	JUN-JUL	96	125	145	100	165	194	145
	JUN-SEP	108	139	160	100	181	210	160
SMITH CREEK	JUN-JUL	31	42	50	100	58	69	50
	JUN-SEP	34	47	56	100	65	78	56
BOUNDARY CREEK	JUN-JUL	28	38	45	98	52	62	46
	JUN-SEP	34	44	51	98	58	68	52
CLARK FK at Whitehorse Rpds (1,2)	JUN-JUL	6130	6320	6410	114	6500	6690	5620
	JUN-SEP	7250	7540	7670	114	7800	8090	6750
PEND OREILLE Lake Inflow (2)	JUN-JUL	6570	6810	6970	114	7130	7370	6120
	JUN-SEP	7840	8100	8270	114	8440	8700	7280
PRIEST near Priest River (1,2)	JUN-JUL	275	355	390	135	425	505	290
	JUN-SEP	335	420	460	133	500	585	345
NF COEUR D'ALENE RIVER at Enaville	JUN-JUL	158	186	205	129	225	250	159
	JUN-SEP	205	235	255	129	275	305	198
ST. JOE at Calder	JUN-JUL	440	475	500	132	525	560	380
	JUN-SEP	515	555	585	130	615	655	450
SPOKANE near Post Falls (2)	JUN-JUL	801	863	905	134	947	1009	675
	JUN-SEP	907	980	1030	133	1080	1153	775
SPOKANE at Long Lake (2)	JUN-JUL	855	990	1080	129	1170	1300	840
	JUN-SEP	1120	1260	1360	128	1460	1600	1060

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	2833.0	3229.0	2588.0
FLATHEAD LAKE	1791.0	1506.0	1620.0	1499.2
NOXON RAPIDS	335.0	330.1	330.1	313.6
PEND OREILLE	1561.3	518.6	1299.2	1333.1
COEUR D'ALENE	238.5	488.4	213.7	270.4
PRIEST LAKE	119.3	156.9	124.0	138.5

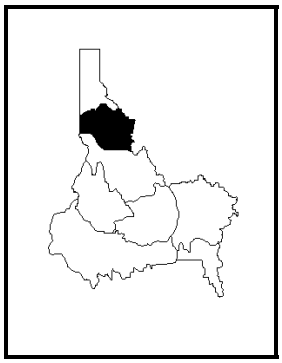
PANHANDLE REGION
Watershed Snowpack Analysis - June 1, 2008

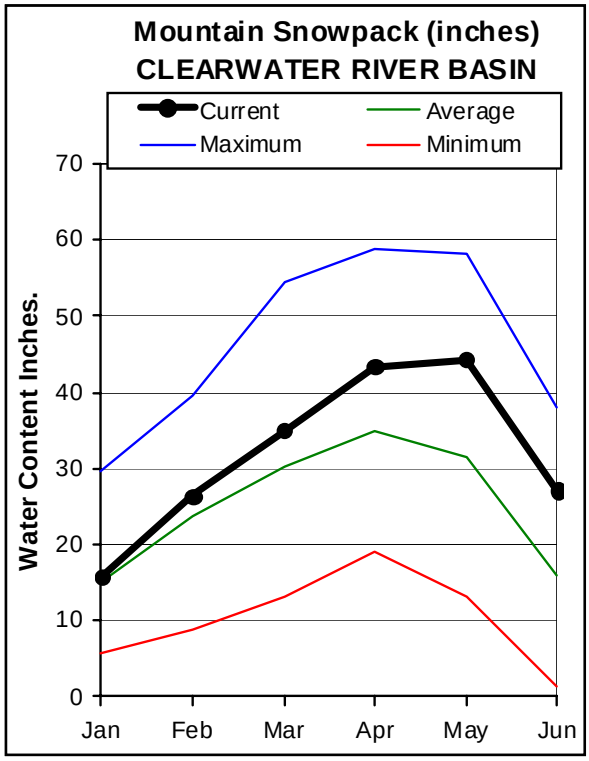
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	11	164	119
Moyie River	4	120	105
Priest River	2	270	124
Pend Oreille River	44	264	144
Rathdrum Creek	1	0	0
Hayden Lake	0	0	0
Coeur d'Alene River	4	0	200
St. Joe River	4	267	150
Spokane River	7	533	158
Palouse River	1	0	0

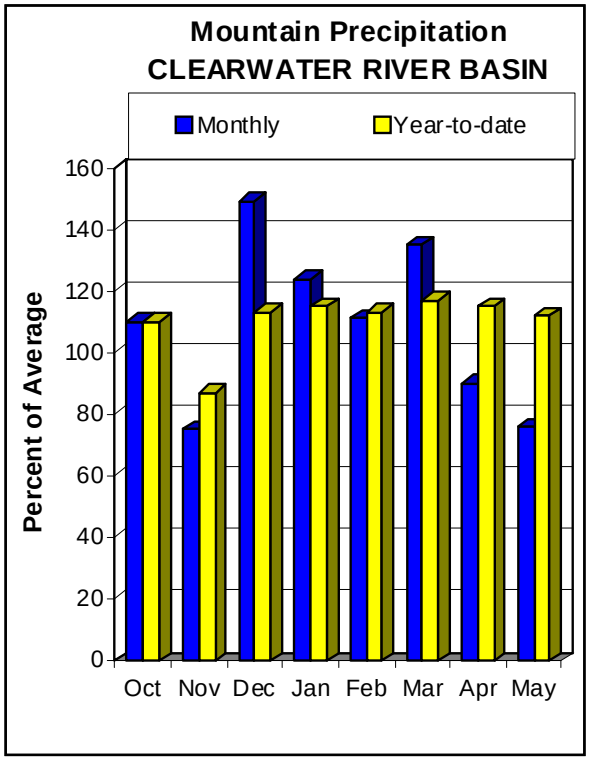
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(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
JUNE 1, 2008







WATER SUPPLY OUTLOOK

Snowpacks above 5,000 feet in the Clearwater drainage are still plentiful at 169% of average for June 1. Summing the snow water content from 14 SNOTEL sites in the headwaters of the Clearwater River basin puts the snowpack at twice as much as 2006 and the most since 1999. Since daily SNOTEL records began in the early 1980's, the Selway's June 1 snowpack is the 3rd highest. The dry runoff year of 2007 combined with the cold temperatures this winter, caused the Lochsa River to drop to near record low flows until the sudden warm spell in mid-May. The Lochsa peaked once at 24,200 cfs mean daily flow on May 20; in 2006 the River peaked at 21,100 cfs on the same date! The Selway River behaved similarly and reached 33,100 cfs May 19 this year. The Clearwater River at Orofino reached a mean daily flow of 70,700 cfs May 20. Considering the amount of snow that is in the mountains at this time of year, how much water has moved through the river channels and the cool weather that has dominated the region, it is hard to believe that April and May precipitation amounts were below normal. April was 91% of normal and May was only 76% of normal. However, the rest of the water year made up for April and May putting the water year to date amounts at 112% of normal; the highest in the state. The summer streamflow volumes will be ample owing to the winter precipitation and snowpack. The forecast for the Lochsa, Selway and Clearwater calls for near 115% of average streamflows through September and will provide an extended river recreation season. Another peak or extended high flows will occur but depend on weather conditions the next few weeks. If hiking or mountain biking is more your speed, you may have to wait a few weeks longer than normal to access snow-free backcountry or just continue to play in the snow!

CLEARWATER RIVER BASIN
Streamflow Forecasts - June 1, 2008

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	JUN-JUL	885	1010	1090	115	1170	1300	945
	JUN-SEP	985	1120	1210	115	1300	1440	1050
Lochsa R nr Lowell	JUN-JUL	610	695	755	115	815	900	655
	JUN-SEP	685	780	845	115	910	1000	735
Dworshak Reservoir Inflow	JUN-JUL	830	1010	1100	115	1190	1370	960
	JUN-SEP	980	1190	1290	115	1390	1600	1120
Clearwater R at Orofino	JUN-JUL	1610	2050	2250	114	2450	2890	1970
	JUN-SEP	1800	2300	2530	114	2760	3260	2220
Clearwater R at Spalding	JUN-JUL	2400	3070	3370	114	3670	4340	2960
	JUN-SEP	2740	3500	3840	114	4180	4940	3370

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2761.9	3308.2	3040.7

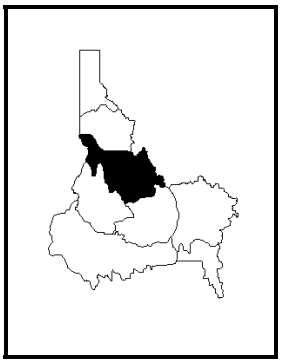
CLEARWATER RIVER BASIN
Watershed Snowpack Analysis - June 1, 2008

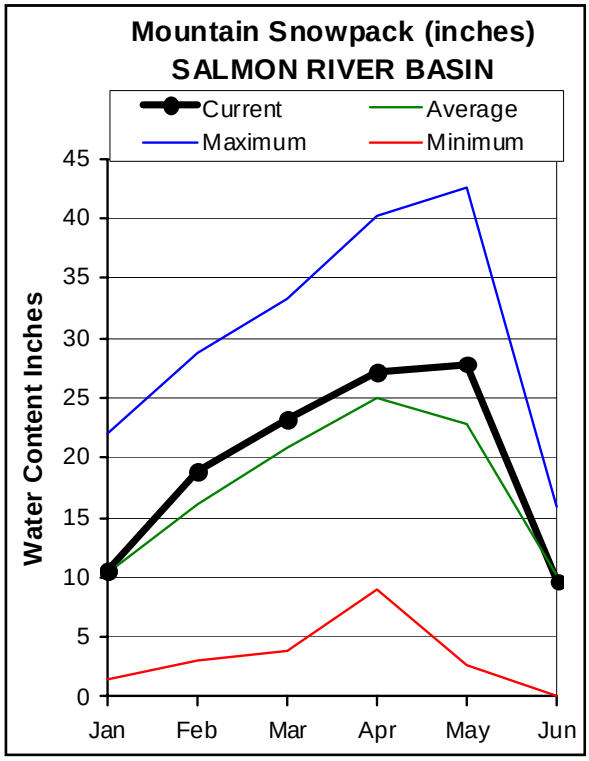
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	8	347	169
Lochsa River	2	0	229
Selway River	4	3067	173
Clearwater Basin Total	14	426	170

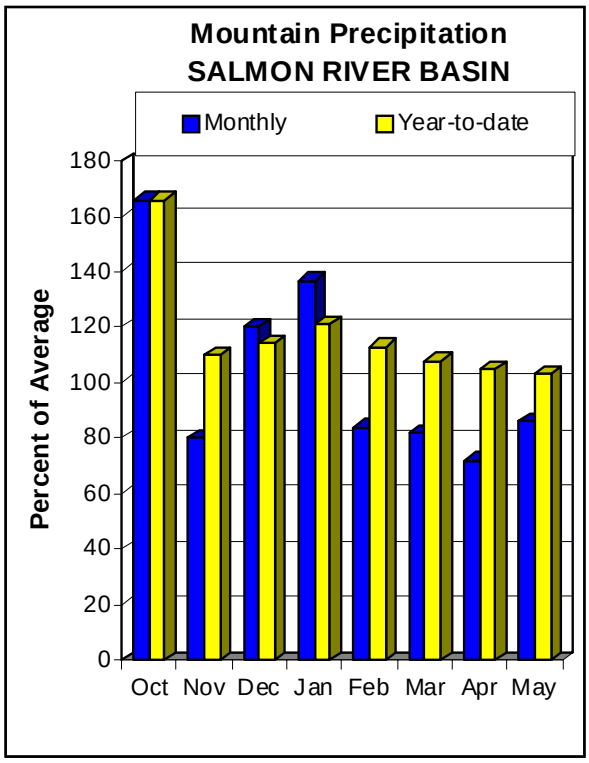
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(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
JUNE 1, 2008







WATER SUPPLY OUTLOOK

The snowpacks in the Salmon River basin are 109% of average for the first of June. The mountains contributing to the Little Salmon have the most snow for this time of year since June 1999. The cold temperatures helped the snow linger in the mountains and delayed the arrival of spring. It is hard to believe that May precipitation was only 86% of normal and precipitation for the basin is only 103% of normal for the water year. In fact, every month since January has received below normal precipitation in the mountains surrounding the River of No Return. The brief warm spell that occurred in May drove the rivers to impressive peaks. The Salmon River at White Bird reached 90,300 cfs May 21. Oddly enough, the Salmon reached the same peak on the same date in 2006! The Little Salmon River at Riggins reached 5080 cfs May 19. The Middle Fork Salmon River reached 14,500 cfs May 21; in 2006 it reached 16,800 cfs May 20. Streams are forecast to flow near average volumes throughout summer. Recreationalists will also see an extended floating season; much better than last year and similar to 2006.

SALMON RIVER BASIN
Streamflow Forecasts - June 1, 2008

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 R at Salmon	JUN-JUL	365	435	465	88	495	565	530
	JUN-SEP	465	555	595	89	635	725	670
Lemhi R nr Lemhi	JUN-JUL	34	40	44	85	48	55	52
	JUN-SEP	47	54	60	85	66	75	71
MF Salmon R at MF Lodge	JUN-JUL	345	405	445	100	485	545	445
	JUN-SEP	405	480	530	100	580	655	530
Salmon R at White Bird	JUN-JUL	2240	2800	3060	95	3320	3880	3220
	JUN-SEP	2690	3360	3660	95	3960	4630	3850

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

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

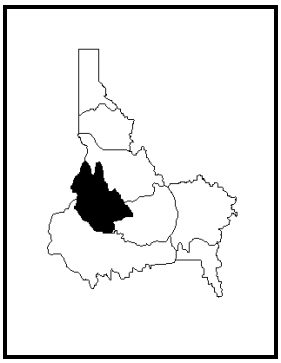
SALMON RIVER BASIN
Watershed Snowpack Analysis - June 1, 2008

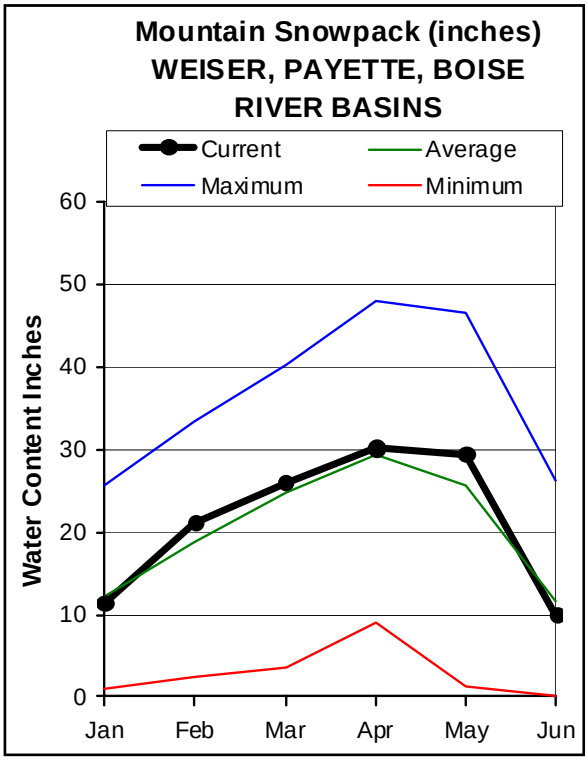
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	8	6637	83
Lemhi River	6	292	126
Middle Fork Salmon River	3	6400	71
South Fork Salmon River	3	0	84
Little Salmon River	4	0	235
Salmon Basin Total	23	947	109

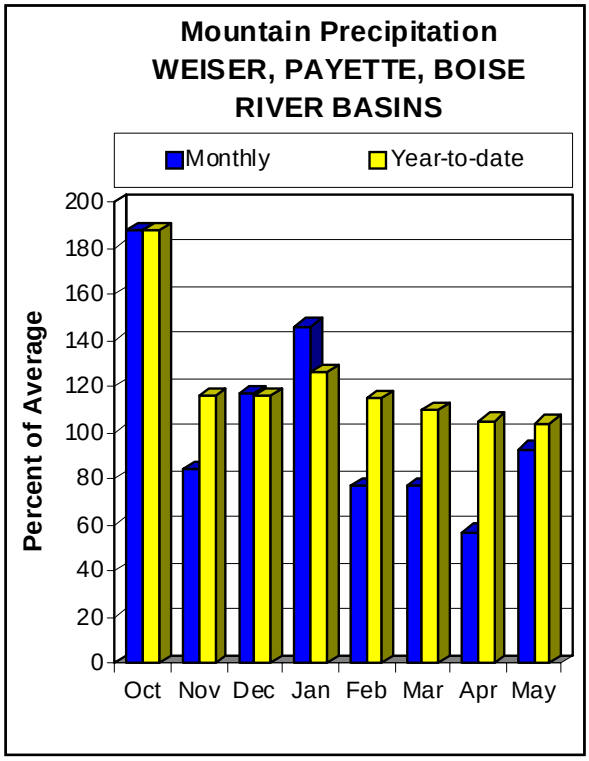
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(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
JUNE 1, 2008







WATER SUPPLY OUTLOOK

The snow in the Boise, Weiser and Payette basins are 87% of average overall as of June 1. There has been an inconsistent geographic pattern of snowpack all winter. Brundage Reservoir SNOTEL site in the Payette basin had a snowpack that reached 135% of average (36.8 inches of snow water); Mores Creek Summit, located in the Boise basin, only reached 97% of average (34.0 inches of snow water), and Bear Saddle, in the Weiser basin was 115% of average(27.2 inches of snow water). Warm air temperatures during mid-May rapidly flushed the snowpacks down the hills and into the streams. Some of the rivers and streams went from near record low flows during the late winter to near record high mean daily flows in a short time frame. The Boise River near Twin Springs peaked at 8980 cfs; the Weiser River near Cambridge peaked at 4110 cfs and the South Fork Payette River near Lowman peaked at 5310 cfs May 19-20th. May's streamflow in the Weiser River was 147% of average and was only 33% of average in February! The temperatures moderated soon after May 20 and decreased snow melt to more normal levels which allowed streams to also decrease. Even though the weather seemed gloomy, precipitation for May was 93% of normal in these basins. Scattered and isolated storms caused some SNOTEL sites to receive above normal precipitation in the Payette basin, while the Boise and Weiser mountains struggled to receive 80% of the normal allotment. The Boise reservoir system is currently 86% full; Cascade and Deadwood are 89% of capacity. For June through July, the Boise River is forecast to flow at 87% of average; 95% for the Payette River and 116% for the Weiser River. There will be plenty of water for irrigation and recreation for the rest of summer.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - June 1, 2008

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	JUN-JUL	76	110	128	116	147	193	110
	JUN-SEP	96	131	149	107	168	215	139
SF Payette R at Lowman	JUN-JUL	188	205	220	90	235	255	245
	JUN-SEP	235	260	275	92	290	315	300
Deadwood Reservoir Inflow	JUN-JUL	45	55	59	89	63	73	66
	JUN-SEP	51	63	68	92	73	85	74
Lake Fork Payette R nr McCall	JUN-JUL	39	45	49	109	53	60	45
	JUN-SEP	41	48	52	108	57	64	48
NF Payette R at Cascade	JUN-JUL	151	195	215	100	235	280	215
	JUN-SEP	152	199	220	94	240	290	235
NF Payette R nr Banks	JUN-JUL	164	220	260	98	300	355	265
	JUN-SEP	168	230	270	93	310	370	290
Payette R nr Horseshoe Bend	JUN-JUL	490	620	675	95	730	860	710
	JUN-SEP	590	720	780	94	840	970	830
Boise R nr Twin Springs	JUN-JUL	195	230	245	88	260	295	280
	JUN-SEP	240	280	300	90	320	360	335
SF Boise R at Anderson Ranch Dam	JUN-JUL	135	168	183	81	198	230	225
	JUN-SEP	159	197	215	83	235	270	260
Mores Ck nr Arrowrock Dam	JUN-JUL	19.2	25	29	91	34	41	32
	JUN-SEP	23	29	34	92	39	47	37
Boise R nr Boise	JUN-JUL	390	460	490	87	520	590	565
	JUN-SEP	560	640	675	99	710	790	680

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	11.0	8.6	10.5
CASCADE	693.2	618.6	679.0	588.6
DEADWOOD	161.9	139.6	164.3	139.0
ANDERSON RANCH	450.2	339.9	431.2	388.7
ARROWROCK	272.2	251.3	213.3	191.9
LUCKY PEAK	293.2	282.5	292.7	242.3
LAKE LOWELL (DEER FLAT)	165.2	82.7	97.0	133.5

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - June 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	0	0
Weiser River	3	0	640
North Fork Payette	7	0	126
South Fork Payette	4	9175	76
Payette Basin Total	12	0	98
Middle & North Fork Boise	5	1476	74
South Fork Boise River	6	1802	85
Mores Creek	2	0	28
Boise Basin Total	10	2145	80
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.

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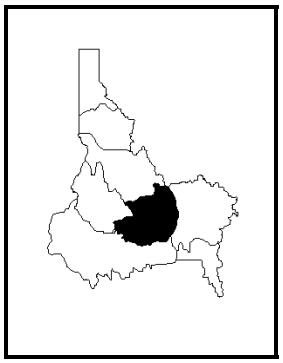
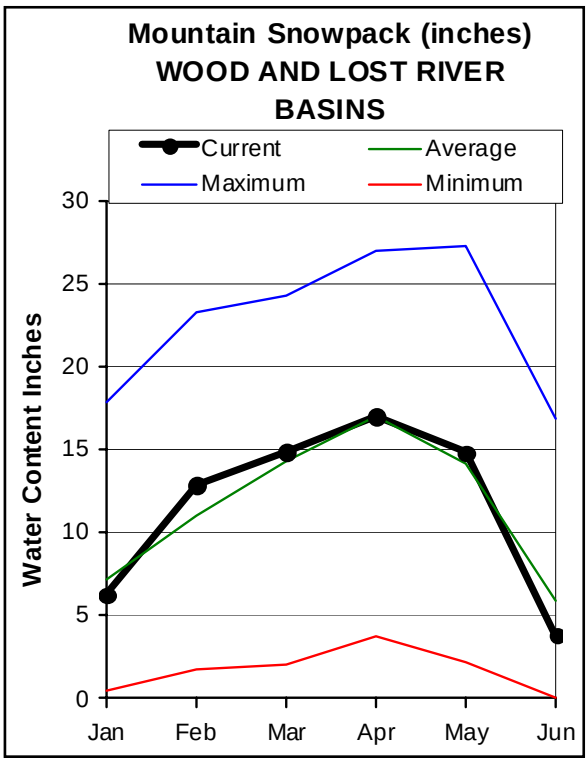
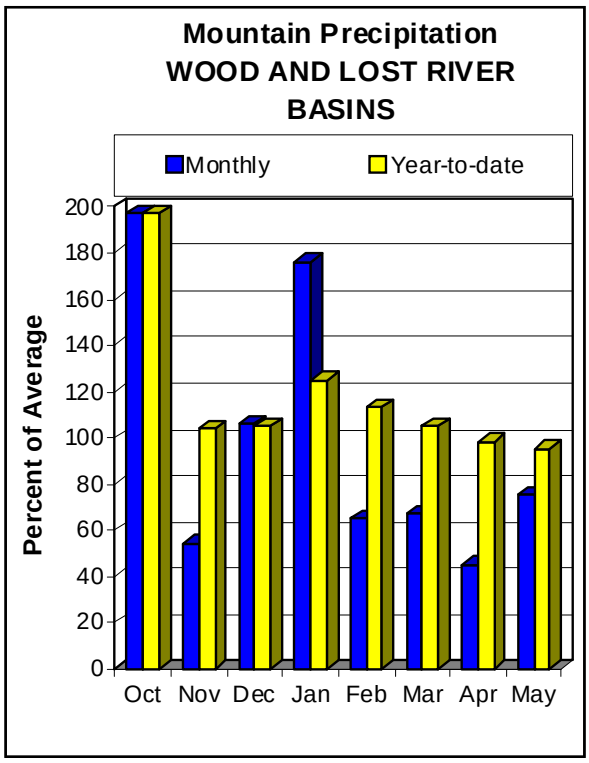
(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS
JUNE 1, 2008







WATER SUPPLY OUTLOOK

The water year started with 200% of average precipitation in October and nearly 180% of average precipitation fell in January, then the Snowbirds went south. Five months of below normal precipitation amounts has taken its toll on the water supply in these central mountains. The only snow that remains is located in the highest elevations and rivers have peaked from snow melt. The Big Lost River may rise one more time in early June as it typically peaks about four days after Lost-Wood Divide melts out. A cold, windy winter brought five snow days in the Arco valley; mainly due to wind blowing the light dry snow. Cold temperatures kept the snow light and dry looking like there was a lot of water in the snowpack, but it wasn't there. The snowpack in the Big Wood, Little Wood and Big Lost barely reached 95% of average at its peak and reached 107% in the Little Lost basin. The lack of precipitation in the second half of winter is to blame. Twenty-two inches of precipitation fell in January at the four SNOTEL sites in the Little Wood basin, and then it took another four months, February-May, to receive another 22 inches of moisture at the same four SNOTEL sites. The February-May precipitation index is the third lowest since daily records start in 1982; only 1992 and 2001 had less precipitation. The Big Lost basin is similar with the February-May precipitation index at 15.5 inches, second lowest since 1982; normal is 31 inches for the February-May time period. The maximum amount of precipitation was 54 inches in 1986. As result, streamflow forecasts continue to decrease; water users should be using and relying on the smaller volume forecasts. Cool temperatures and rain would help reduce irrigation demand, but won't change the overall water supply picture.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - June 1, 2008

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 River at Hailey	JUN-JUL	72	91	100	69	110	132	144
	JUN-SEP	88	113	125	71	138	168	177
Big Wood R ab Magic Reservoir	JUN-JUL	27	45	58	57	71	89	102
	JUN-SEP	36	57	71	61	85	106	116
Camas Ck nr Blaine	JUN-JUL	4.1	6.8	9.0	68	11.6	15.9	13.2
	JUN-SEP	4.5	7.4	9.7	69	12.4	16.8	14.0
Big Wood R bl Magic Dam	JUN-JUL	43	66	81	71	96	119	114
	JUN-SEP	57	80	96	74	112	135	130
Little Wood R ab High Five Creek	JUN-JUL	11.3	15.4	18.5	56	22	27	33
	JUN-SEP	14.1	19.2	23	59	27	34	39
Little Wood R nr Carey	JUN-JUL	7.1	14.1	18.9	59	24	31	32
	JUN-SEP	9.9	17.7	23	59	28	36	39
Big Lost R at Howell Ranch	JUN-JUL	50	64	74	65	85	102	114
	JUN-SEP	62	79	92	66	106	128	139
Big Lost R bl Mackay Res	JUN-JUL	48	59	66	69	73	84	96
	JUN-SEP	49	63	73	58	83	97	127
Little Lost R nr Howe	JUN-JUL	8.8	10.9	12.5	69	14.2	16.8	18.1
	JUN-SEP	12.0	14.9	17.0	65	19.3	23	26

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	103.0	140.7	154.1
LITTLE WOOD	30.0	22.6	19.6	27.4
MACKAY	44.4	34.9	37.3	34.9

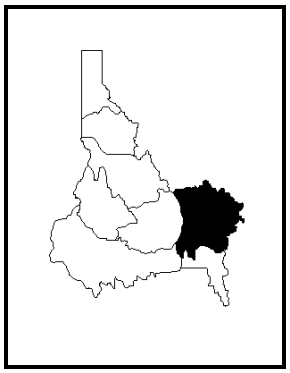
WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - June 1, 2008

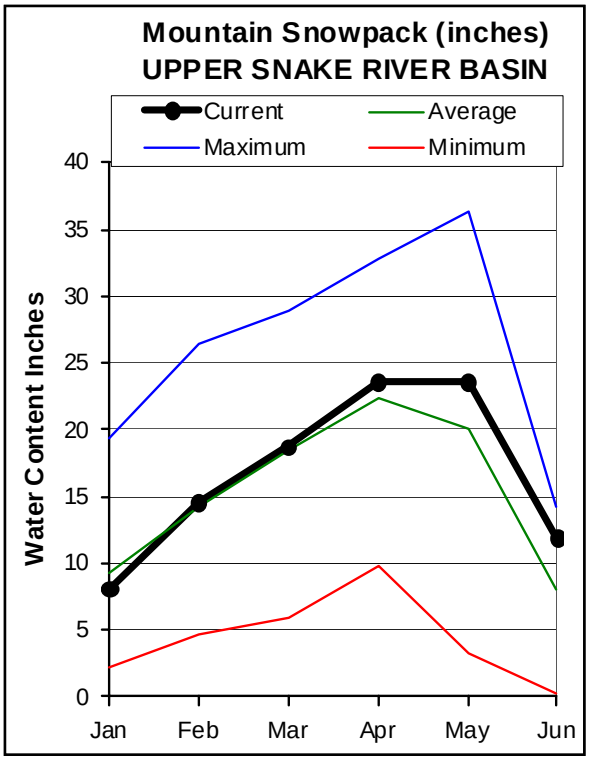
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	7	6200	73
Camas Creek	2	0	0
Big Wood Basin Total	9	6200	73
Fish Creek	0	0	0
Little Wood River	4	0	0
Big Lost River	4	0	6
Little Lost River	3	0	80
Birch-Medicine Lodge Cree	2	0	112
Camas-Beaver Creeks	2	0	35

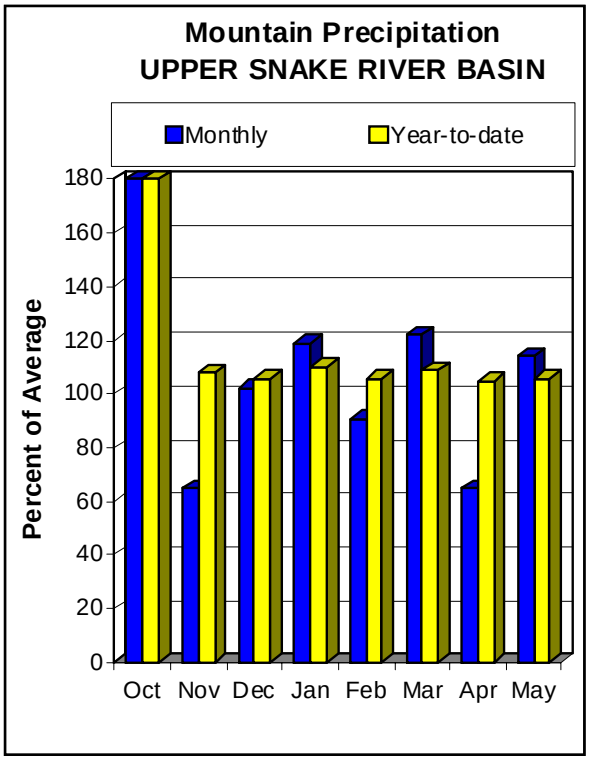
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(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
JUNE 1, 2008







WATER SUPPLY OUTLOOK

Some are wondering if summer will ever come to the upper Snake. Precipitation in the Snake basin above Palisades Reservoir was 118% of average, highest in the state, and was near 110% in the Henrys Fork and Teton basins. Cool May temperatures allowed snow to continue accumulating in the higher elevations. Current snowpacks range from a low of 102% of average in the Hoback drainage to 150-175% in the Henrys Fork, Teton basin and Snake basin above Jackson. Two Ocean Plateau SNOTEL site at 9,240 feet in Yellowstone Nation Park has 42 inches of snow water content, second highest June 1 amount since 1981, only 1996 had slightly more. Last year, Two Ocean Plateau SNOTEL site melted out on June 5. A snow index of five SNOTEL sites above Jackson Lake shows the June 1 snow water content is the second highest since complete records start in 1990. June 1996 had more snow. This year's snowpack is similar to the amount of snow on June 1, 1999. However keep in mind that cool temperatures kept the snow in the mountains longer than normal this year. Other years may have had more snow than this year, but not necessarily this late in the season. Overall the snowpack above Palisades Reservoir is 137% of average, 5th highest since 1990. There is slightly less snow water this year than on June 1, 1999 and 1997, which had higher snow water content amounts earlier in the season. Jackson Lake is 71% full and Palisades Reservoir is 62% full; another round of peak streamflows will occur from the remaining snow. Drafting occurred in American Falls Reservoir after it reached its first peak in mid-April, but with the Henrys Fork at or above flood stage from May 19 to June 3, additional runoff for the Snake River water users occurred. Residual streamflow forecasts call for 110-140% of average in the basins. The reservoir storage will be determined by future weather dictating snow melt rates and irrigation demand.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - June 1, 2008

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)
Henrys Fork nr Ashton	JUN-JUL	220	250	270	110	290	325	245
	JUN-SEP	390	435	465	106	495	545	440
Henrys Fork nr Rexburg	JUN-JUL	840	900	945	114	990	1050	830
	JUN-SEP	1080	1160	1220	95	1280	1360	1280
Falls R nr Ashton	JUN-JUL	185	215	240	121	265	300	199
	JUN-SEP	255	295	325	120	355	400	270
Teton R nr Driggs	JUN-JUL	109	123	134	124	145	162	108
	JUN-SEP	148	168	182	119	197	220	153
Teton R nr St. Anthony	JUN-JUL	255	290	310	129	335	370	240
	JUN-SEP	335	375	400	125	425	470	320
Snake R at Flagg Ranch	JUN-JUL	320	355	375	132	395	430	285
	JUN-SEP	340	375	400	119	425	460	335
Snake R nr Moran	JUN-JUL	510	580	615	126	650	720	490
	JUN-SEP	590	680	720	124	760	850	580
Pacific Ck at Moran	JUN-JUL	110	129	142	142	155	174	100
	JUN-SEP	121	140	154	145	168	187	106
Snake R nr Alpine	JUN-JUL	1450	1630	1710	116	1790	1970	1470
	JUN-SEP	1760	1990	2100	114	2210	2440	1840
Greys R nr Alpine	JUN-JUL	164	178	192	102	196	210	188
	JUN-SEP	215	235	250	102	265	285	245
Salt R nr Etna	JUN-JUL	127	161	184	114	205	240	162
	JUN-SEP	189	235	265	110	295	340	240
Snake R nr Irwin	JUN-JUL	1850	2120	2240	115	2360	2630	1950
	JUN-SEP	2380	2680	2820	113	2960	3260	2500
Snake R nr Heise	JUN-JUL	1930	2120	2250	110	2380	2570	2050
	JUN-SEP	2490	2720	2870	108	3020	3250	2650
Willow Ck nr Ririe	JUN-JUL	10.2	15.6	19.8	99	25	32	20
Portneuf R at Topaz	JUN-JUL	26	30	33	89	36	40	37
	JUN-SEP	40	46	50	91	54	61	55
Snake River at Neeley	JUN-JUL	850	1360	1630	98	1930	2660	1660
	JUN-SEP	1020	1570	1860	90	2170	2950	2070

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	89.3	86.8	89.2
ISLAND PARK	135.2	137.3	131.7	132.8
GRASSY LAKE	15.2	15.4	15.3	14.4
JACKSON LAKE	847.0	598.3	838.3	572.6
PALISADES	1400.0	867.9	1113.9	1033.6
RIRIE	80.5	71.2	64.1	70.3
BLACKFOOT	348.7	134.9	192.5	287.8
AMERICAN FALLS	1672.6	1269.7	1285.6	1476.1

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - June 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	7	0	167
Teton River	2	0	154
Henrys Fork above Rexburg	9	0	165
Snake above Jackson Lake	5	1409	153
Gros Ventre River	2	563	123
Hoback River	5	1112	102
Greys River	4	2474	128
Salt River	3	0	147
Snake above Palisades	17	1444	137
Willow Creek	2	0	0
Blackfoot River	2	0	0
Portneuf River	3	0	0
Snake abv American Falls	28	2037	147

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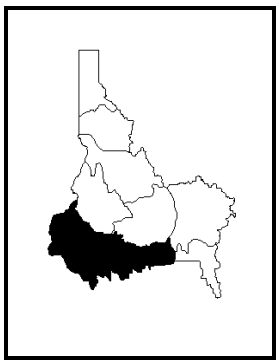
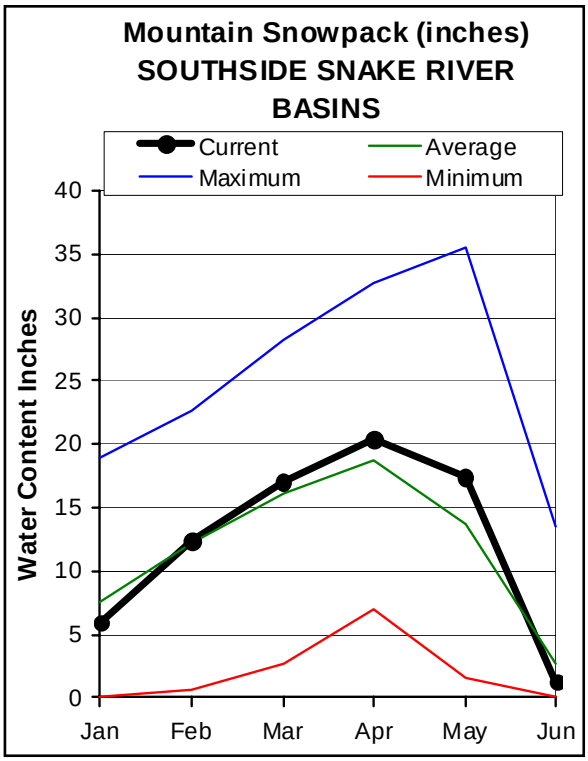
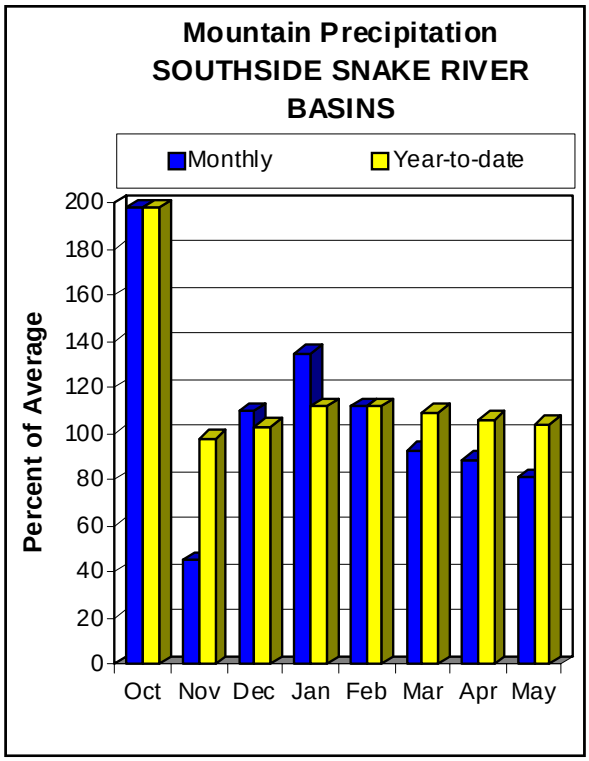
SOUTHSIDE SNAKE RIVER BASINS
JUNE 1, 2008







WATER SUPPLY OUTLOOK

The Owyhee Mountains and South Hills had a good start for building snowpacks in January and February, but have had below normal precipitation every month since then. Runoff was delayed because the air temperatures stayed cold for most of the winter and into early spring preserving the limited snow. Then, warm temperatures occurred in mid-May producing additional snowmelt and rising rivers, but the peaks were nothing to brag about. The Bruneau River near Hot Springs reached a mean daily flow of 1,800 cfs on May 20 and the Owyhee River near Rome peaked much earlier at 7,960 cfs on April 15th. The distressing fact is that the streams have peaked from snowmelt along with reservoir storage. Residual streamflow forecasts range from 55-70% of average. Salmon Falls Reservoir is the least full at only 30% of capacity and 54% of average and water supplies will be lower than expected and marginally adequate. Oakley Reservoir is currently 55% full and 92% of average, and should just be able to provide adequate irrigation supplies. Owyhee Reservoir is 64% full, 74% of average and should also provide adequate irrigation supplies. Brownlee Reservoir is 96% full, and 107% of average and producing as much hydropower as it can. The Bruneau and Owyhee rivers are still flowing at about 1,000 cfs in early June for the river runners to enjoy.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - June 1, 2008

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	JUN-JUL	2.4	3.8	4.9	60	6.2	8.4	8.2
	JUN-SEP	3.9	5.7	7.1	63	8.7	11.3	11.3
OAKLEY RESV STORAGE	JULY	25	28	30	98	32	35	31
Salmon Falls Ck nr San Jacinto	JUN-JUL	10.0	13.6	16.4	68	19.4	24	24
	JUN-SEP	12.9	16.9	20	71	23	29	28
Bruneau R nr Hot Springs	JUN-JUL	39	50	58	71	67	80	82
	JUN-SEP	45	57	66	72	76	91	92
Owyhee R nr Gold Creek, NV	JUN-JUL	0.0	0.2	0.8	55	2.6	5.3	1.5
	JUN-SEP	0.0	0.0	0.1	54	2.2	5.2	0.3
Owyhee R nr Rome	JUN-JUL	18.3	29	38	54	48	65	71
	JUN-SEP	29	42	53	58	65	84	91
Owyhee R blw Owyhee Dam	JUN-JUL	1.6	7.4	44	54	81	134	82
	JUN-SEP	2.0	21	66	59	111	176	112
Reynolds Ck at Tollgate	JUN-JUL	0.7	1.1	1.5	79	1.9	2.6	1.9

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	41.5	45.4	45.0
SALMON FALLS	182.6	54.5	89.1	101.2
WILDHORSE RESERVOIR	71.5	48.5	55.6	58.4
OWYHEE	715.0	456.1	482.6	614.6
BROWNLEE	1420.0	1356.2	1405.4	1263.0

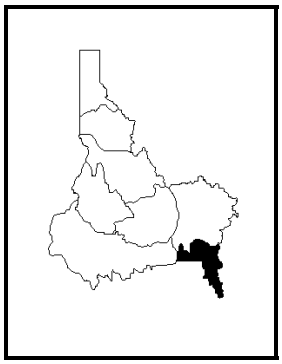
SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - June 1, 2008

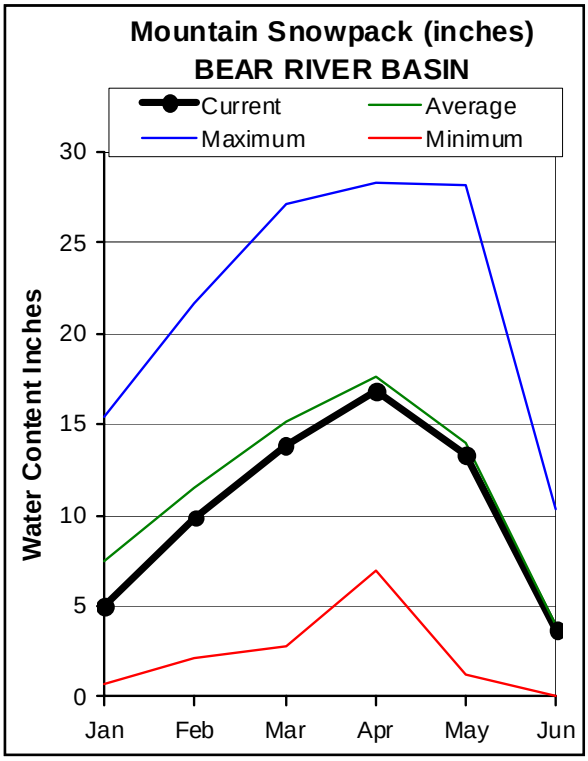
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	0	0
Goose-Trapper Creeks	3	0	0
Salmon Falls Creek	5	0	58
Bruneau River	5	0	58
Reynolds Creek	5	0	63
Owyhee Basin Total	7	0	0

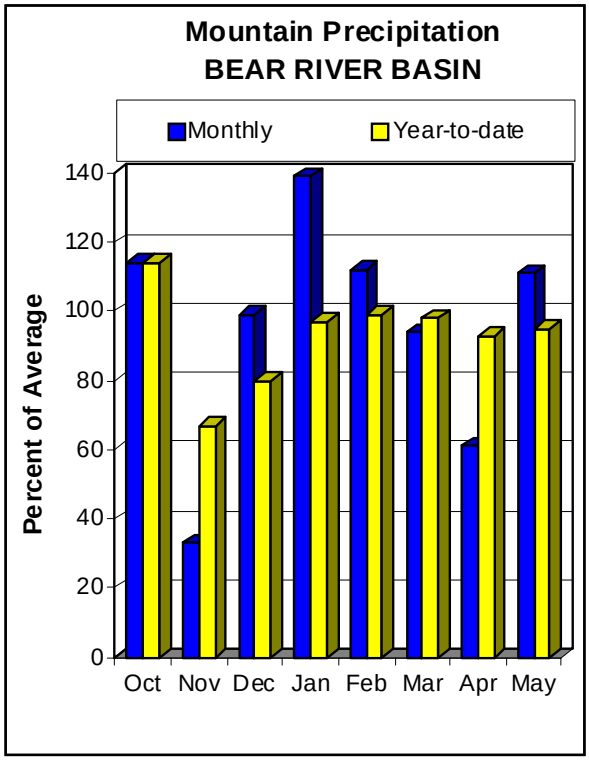
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

(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.

BEAR RIVER BASIN
JUNE 1, 2008







WATER SUPPLY OUTLOOK

The cards have been dealt and the Bear River's remaining snow is only 94% of normal for June 1. The Bear River watershed is one of the few places that received above normal precipitation (111%) for the month of May. The basin received twice as much precipitation in May than last year and it's a blessing considering how dry March and April were. Hopefully the precipitation and cooler weather will continue to help decrease the demand for the much needed water supplies. Bear Lake is only 33% full at 45% of normal. Residual streamflow forecasts decrease from near normal volumes in the Bear River headwaters to only 40% of average for the Bear River at Stewart Dam. The Surface Water Supply Index (SWSI) indicates a marginally adequate season for Bear Lake water users and some irrigators may see some shortages. Let's hope for a return to a series of good, wet snow years to help overcome the long term drought deficits.

BEAR RIVER BASIN
Streamflow Forecasts - June 1, 2008

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 River nr UT-WY State Line	APR-JUL	89	97	103	91	109	117	113
	JUN-JUL	53	61	67	96	73	81	70
	APR-SEP	101	110	117	94	124	133	125
	JUN-SEP	61	70	77	94	84	93	82
Bear River ab Reservoir nr Woodruff	APR-JUL	86	104	117	86	130	148	136
	JUN-JUL	34	47	55	86	63	76	64
	APR-SEP	97	115	128	90	141	159	142
	JUN-SEP	44	57	66	93	75	88	71
Big Creek nr Randolph	APR-JUL	4.1	4.3	4.4	90	4.5	4.7	4.9
	JUN-JUL	0.6	1.1	1.6	72	2.2	3.3	2.3
Smiths Fork nr Border	APR-JUL	71	75	77	75	79	83	103
	APR-SEP	79	84	87	72	90	95	121
	JUN-JUL	46	50	52	85	54	58	61
	JUN-SEP	54	59	62	81	65	70	77
Bear River at Stewart Dam	APR-JUL	52	68	80	34	93	113	234
	APR-SEP	69	88	103	39	119	144	262
	JUN-JUL	3.0	23	43	39	63	93	110
	JUN-SEP	4.0	29	52	38	75	108	138
Little Bear River at Paradise	APR-JUL	36	38	40	87	42	44	46
	JUN-JUL	4.4	6.9	9.0	76	11.4	15.3	11.9
Logan R Abv State Dam Nr Logan	APR-JUL	89	94	97	77	100	106	126
	JUN-JUL	45	56	65	93	74	89	70
Blacksmith Fk Abv Up&L Dam Nr Hyrum	APR-JUL	36	38	40	83	42	44	48
	JUN-JUL	9.2	12.5	15.0	75	17.7	22	20

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

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	474.4	650.7	1052.3
MONTPELIER CREEK	4.0	3.4	3.2	3.3

BEAR RIVER BASIN
Watershed Snowpack Analysis - June 1, 2008

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	3	5433	99
Bear River ab WY-ID line	9	0	90
Montpelier Creek	1	0	0
Mink Creek	1	0	81
Cub River	1	0	136
Bear River ab ID-UT line	15	0	94
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 Reservoir Inflow, ID
+ Blackfoot Reservoir releases
+ Blackfoot Resv (Storage Change
Portneuf R at Topaz, ID - No Corrections
Snake R at Neeley, ID
+ Snake R 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 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 Nov. 2007)**

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	0	--	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	119.0	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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