

# GENERAL OUTLOOK

March 1, 2004

## SUMMARY

March came in like a lamb to most basins of Oregon. However, February was generally a good month from a water supply standpoint. The snowpack is above average in all basins of the state, ranging from 153 percent of average in Harney Basin and 109 percent in the Northeast corner of the state. Precipitation was average or above in all basins for the month of February, except the Hood, Lower Columbia and the Willamette. Precipitation amounts ranged from 129 percent of average in the Rogue and Umpqua Basins and 63 percent in the Hood River basin. Since the start of the water year on October 1, the total precipitation in Oregon has been between 107 percent of average in the Upper John Day Basin and 93 percent of average in the Klamath Basin. At the end of February there were 1,322,100 acre-feet of water stored in 27 major irrigation reservoirs, representing 62 percent of average and 41 percent of the capacity, an improvement from last month, but still very low. February streamflows were generally average or above in most basins. The streamflow forecasts for the coming spring and summer months are between 158 percent of average on the North Fork of the Crooked River and 80 percent of average on the Sprague River. Generally most water users should have adequate water supplies, though some areas may still experience shortages this season.

## SNOWPACK

The snowpack in the mountains of Oregon generally improved from last month. The exceptions are Northeastern Oregon, the Basins draining from Mt. Hood and the Willamette Basin where declines in the snowpack percentages were noted. As of March 1 the snowpack was between 153 percent of average in Harney County and 109 percent of average in the Northeastern corner of the state. Storms of late February added considerable snow to the southern basins. This is the first year since 1999 where all basins of Oregon had a snowpack above 100 percent on March 1.

## PRECIPITATION

February precipitation was generally above average across Oregon, with the exception of basins surrounding Mt. Hood and the Willamette Valley. The precipitation amounts were between 129 percent of average in the Rogue and Umpqua basins and 63 percent in the Hood River area. Since the start of the water year the total precipitation in Oregon ranges from 107 percent of average in the Upper John Day and 93 percent in the Klamath Basin. These continued amounts of precipitation are needed after the dry years previous to this one.

## RESERVOIRS

Despite the improved snowpack from last year, and the near normal amounts of precipitation for the water year, the amount of water stored in the irrigation reservoirs remains generally below average. As of the end of February, there were 1322,100 acre-feet of water stored in 27 major irrigation reservoirs in the state. This represents 62 percent of average and 41 percent of the capacity. Last year at this time there were 1,446,900 acre-feet of water stored in the same reservoirs.

## STREAMFLOW

Streamflows were generally increased from last month throughout the state. The streamflow forecast for the coming spring and summer months range between 158 percent of average on the North Fork of the Crooked River and 80 percent of average on the Sprague River. The following table is a summary of the water supply forecasts at selected locations in the state.

STREAM	PERIOD	PERCENT OF
AVERAGE		
Owyhee Net Inflow	Mar-Jul	119
Grande Ronde at La Grande	Apr-Sep	104
Umatilla at Pendleton	Apr-Sep	121
Deschutes at Benham Falls	Apr-Sep	100
Willamette MF nr Oakridge	Apr-Sep	112
Rogue at Raygold	Apr-Sep	110
Upper Klamath L. Net Inflow	Apr-Sep	97
Silvies nr Burns	Apr-Sep	101

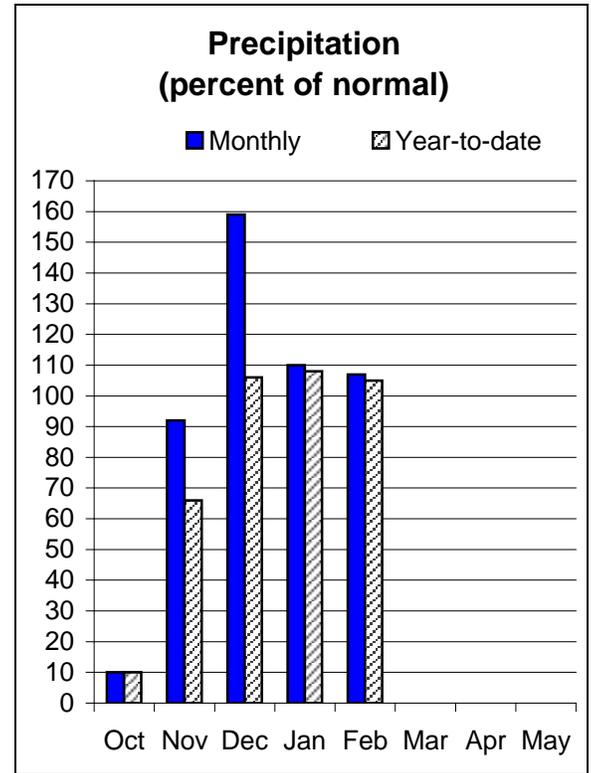
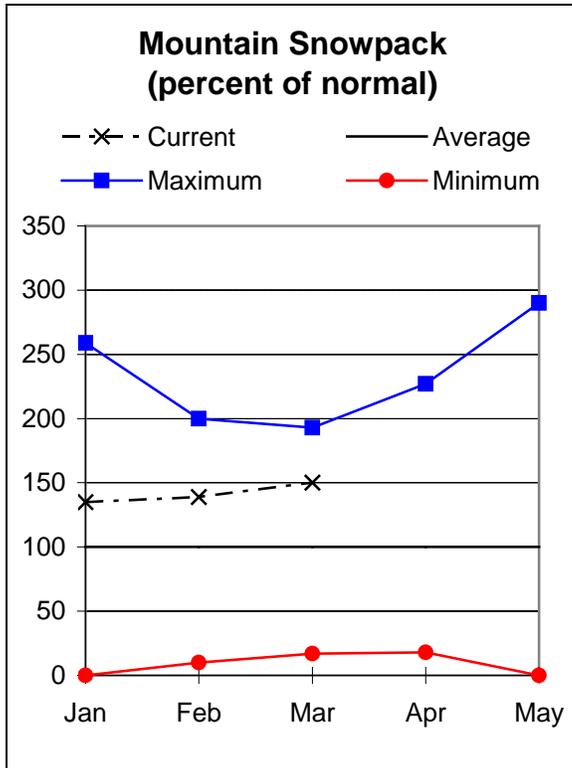
Some of these forecasts assume normal weather conditions will occur from now to the end of the forecast period.

The forecasts in this bulletin are a result of coordinated activity between the Natural Resources Conservation Service and the National Weather Service as an effort to provide the best possible service to water users.

This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators.

# OWYHEE AND MALHEUR BASINS

March 1, 2004



## Water Supply Outlook

The snowpack at the start of March was 150 percent of average, an improvement of 11 percent since last month. February precipitation was 107 percent of average, bringing the total precipitation since the start of the water year to 105 percent of average. Despite a modest gain from last month, reservoir storage remains low at 27 percent of average. The streamflow forecasts for the coming spring and summer months are between 128 percent of average on the North Fork of the Malheur and 119 percent of average for the inflow into Owyhee Reservoir. Most water users should have adequate supplies this season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Ontario - (541) 889-7637

OWYHEE AND MALHEUR BASINS  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
MALHEUR near Drewsey	MAR-JUL	100	123	140	127	158	187	110
	APR-SEP	67	84	97	128	111	132	76
NF MALHEUR at Beulah	MAR-JUL	79	91	100	124	109	124	81
OWYHEE RESV INFLOW (2)	MAR-JUL	557	657	730	119	807	927	615
	APR-SEP	372	474	550	128	632	763	430
OWYHEE near Rome	MAR-JUL	542	642	715	123	792	912	580
SUCCOR CK nr Jordan Valley	MAR-JUL	11.2	17.0	21	124	25	31	16.9

OWYHEE AND MALHEUR BASINS  
Reservoir Storage (1000 AF) - End of February

OWYHEE AND MALHEUR BASINS  
Watershed Snowpack Analysis - March 1, 2004

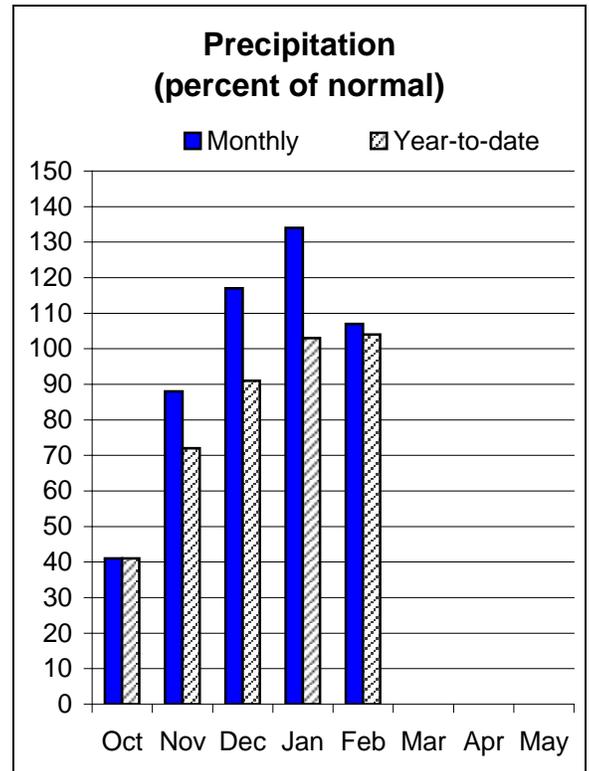
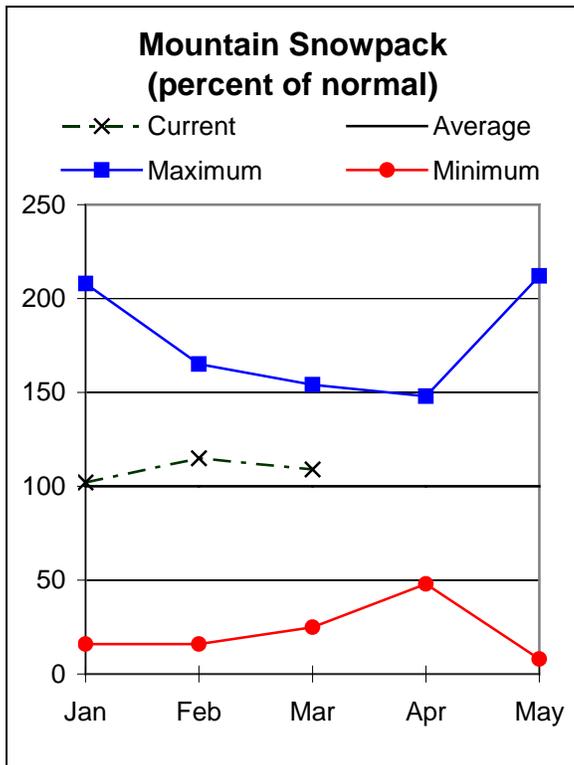
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
BEULAH RES	60.0	15.6	18.1	35.4	Owyhee River	18	303	155
BULLY CREEK	30.0	12.8	14.2	17.5	Malheur	6	445	161
OWYHEE	715.0	121.8	176.3	489.1	Jordan Creek	2	284	137
WARMSPRINGS	191.0	25.6	29.0	102.7	Bully Creek	0	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.

# BURNT, POWDER, GRAND RONDE, AND IMNAHA BASINS

March 1, 2004



## Water Supply Outlook

The March 1 snowpack in these Basins was 109 percent of average, the lowest percentage in the state and a decline of 6 percent since last month. February precipitation was 107 percent of average, bringing the seasonal total since October 1 to 104 percent of average. Reservoir storage at the end of February improved by 10 percent and is currently 41 percent of average. The streamflow forecasts for the coming spring and summer months in these basins range from 134 percent of average on Anthony Creek and 97 percent of average on Bear Creek near Wallowa. Water users should have adequate water supplies this season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Enterprise- (541) 426-4588; Baker City - (541) 523-7121; LaGrande - (541) 963-4178

BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
ANTHONY CK bl NF nr North Powder	MAR-JUL	17.3	21	23	134	25	29	17.2
BEAR CREEK near Wallowa	APR-SEP	43	55	63	97	71	83	65
BIG CK bl Burn Ck nr Medical Spgs	MAR-JUL	10.9	13.0	14.4	101	15.8	17.9	14.2
BURNT near Hereford (2)	MAR-JUL	50	60	66	129	72	82	51
	APR-SEP	37	45	51	131	57	65	39
CATHERINE CREEK near Union	APR-SEP	63	71	77	117	83	91	66
DEER CK nr Sumpter	MAR-JUL	17.4	21	24	132	27	31	18.2
EAGLE CREEK abv Skull Creek	APR-JUL	140	160	173	108	186	207	161
	APR-SEP	154	175	189	107	202	222	176
GRANDE RONDE at La Grande	MAR-JUL	188	228	255	103	280	320	247
	APR-SEP	136	172	196	104	220	254	188
GRANDE RONDE at Troy (1)	MAR-JUL	1340	1643	1780	113	1917	2220	1580
	APR-SEP	1181	1455	1580	115	1705	1980	1370
HURRICANE CREEK near Joseph	APR-SEP	43	45	47	112	49	51	42
IMNAHA at Imnaha	APR-SEP	250	290	315	107	340	380	295
LOSTINE near Lostine	APR-SEP	112	120	126	104	132	140	121
PINE CREEK near Oxbow	MAR-JUL	145	171	188	100	203	233	188
	APR-JUL	111	134	150	101	166	189	148
POWDER near Sumpter (2)	APR-JUL	51	61	67	116	73	83	58
	APR-SEP	52	61	68	115	75	84	59
EF WALLOWA near Joseph	MAR-SEP	10.4	11.4	12.0	102	12.6	13.6	11.8
WALLOWA at Joseph (2)	APR-JUL	61	66	69	108	72	77	64
WOLF CK RESERVOIR inflow	MAR-JUN	15.2	18.1	20	124	22	25	16.2

BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS  
Reservoir Storage (1000 AF) - End of February

BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS  
Watershed Snowpack Analysis - March 1, 2004

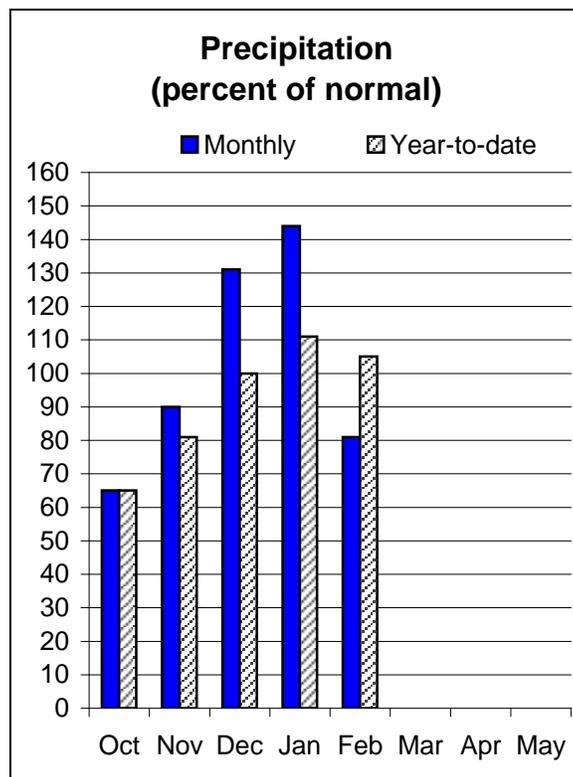
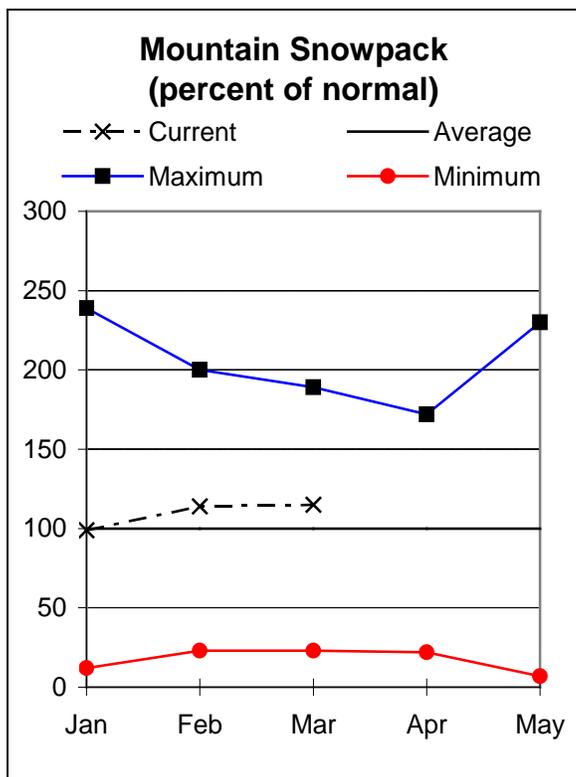
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
PHILLIPS LAKE	73.5	8.5	10.1	43.8	Grande Ronde ab LaGrande	6	212	128
THIEF VALLEY	17.4	13.7	13.5	17.3	Powder River	10	192	120
UNITY	25.2	9.4	11.4	15.8	Wallowa, Imnaha, Catherine	11	131	100
WALLOWA LAKE	37.5	2.8	12.7	18.8	Burnt River	5	246	133
WOLF CREEK		NO REPORT						

\* 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.

# UMATILLA, WALLA WALLA, WILLOW ROCK, AND LOWER JOHN DAY BASINS

March 1, 2004



## Water Supply Outlook

The snowpack as of March 1 was 115 percent of average in the drainages from the western slope of the Blue Mountains. February precipitation was 81 percent of average, bringing the total since the start of the water year to 105 percent of average. The irrigation reservoirs of the basin continue to store more water. At the end of February, the reservoir storage was 95 percent of average, an increase of 20 percent from last month. The streamflow forecasts for the April through September period are between 130 percent of average on McKay Creek and 100 percent of average on the South Fork of the Walla Walla River near Milton-Freewater. Water users should have adequate water supplies this season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Pendleton - (541) 278-8049; Heppner - (541) 676-5021; Condon - (541) 384-2671

UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	<<----- Drier ----- Future Conditions ----- Wetter ----->>						30-Yr Avg. (1000AF)				
		90% (1000AF)		70% (1000AF)		Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)			30% (1000AF)		10% (1000AF)	
BUTTER CK nr Pine City	MAR-JUL	9.8	13.6	16.1	107	18.6	22	15.0				
COUSE CREEK near Milton-Freewater	MAR-JUL	5.30	6.00	6.40	105	6.80	7.50	6.10				
	APR-JUL	3.30	3.90	4.30	108	4.70	5.30	4.00				
MCKAY near Pilot Rock	APR-SEP	19.3	29	35	130	41	51	27				
PINE CREEK near Weston	MAR-JUL	4.00	4.60	5.00	100	5.40	6.00	5.00				
	APR-JUL	2.50	2.80	3.10	103	3.40	3.70	3.00				
RHEA CREEK near Heppner	MAR-JUL	9.8	11.3	12.3	114	13.3	14.8	10.8				
ROCK CREEK above Whyte	MAR-JUL	11.4	22	29	121	36	47	24				
UMATILLA near Gibbon	MAR-SEP	89	103	113	107	123	137	106				
	APR-JUL	59	73	82	112	91	105	73				
	APR-SEP	65	79	88	111	97	111	79				
UMATILLA at Pendleton	MAR-SEP	185	220	245	107	270	305	230				
	APR-JUL	125	158	180	121	202	237	149				
	APR-SEP	133	166	188	121	209	244	155				
SF WALLA WALLA near Milton-Freewater	MAR-SEP	70	78	83	103	88	96	81				
	APR-SEP	56	62	67	100	72	78	67				
WILLOW CREEK LAKE INFLOW	MAR-JUL	6.5	9.4	11.4	110	13.4	16.3	10.4				
	APR-JUL	4.10	6.40	7.90	113	9.40	11.70	7.00				

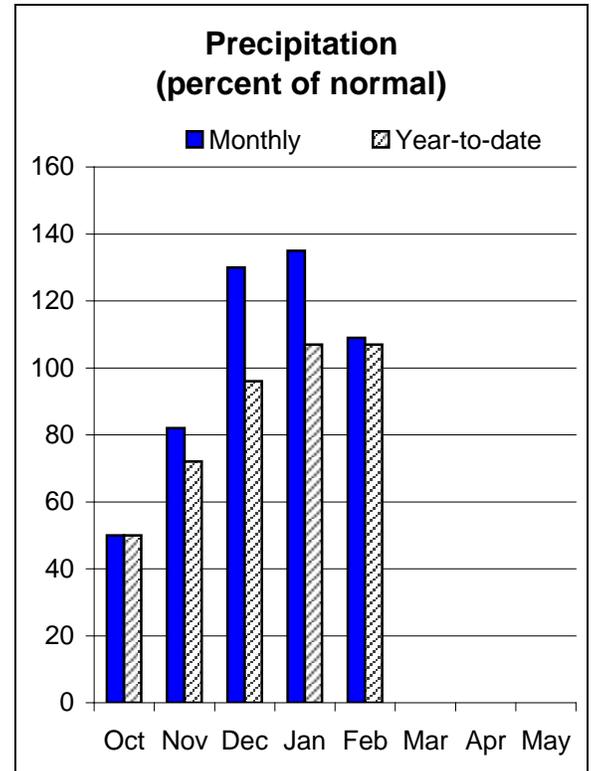
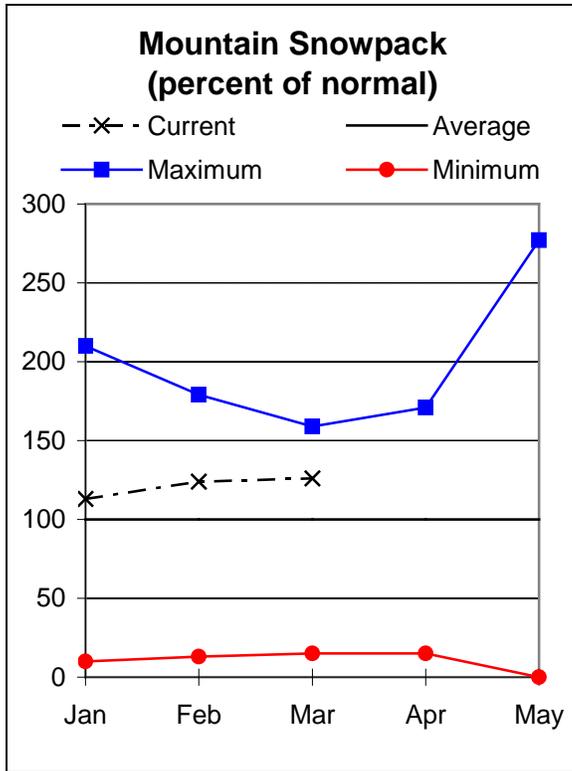
UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS					UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS			
Reservoir Storage (1000 AF) - End of February					Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** This Year	Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
COLD SPRINGS	50.0	21.7	16.9	29.5	Walla Walla River	3	187	113
MCKAY	73.8	49.0	35.6	44.6	Umatilla River	6	230	127
WILLOW CREEK	1.8	0.0	0.0	---	McKay Creek	4	308	133

\* 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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# UPPER JOHN DAY BASIN

March 1, 2004



## Water Supply Outlook

The March 1 snowpack was 126 percent of average, a 2 percent gain from last month. February precipitation was 109 percent of average, bringing the total since the start of the water year to 107 percent of average, the highest percentage in the state. Observed streamflows were improved over last month. The streamflow forecasts for the coming spring and summer months are between 134 percent of average on Mountain Creek and 110 percent of average on Camas Creek. Water users should have adequate water supplies this season.

For more information contact your local  
Natural Resources Conservation Service Office  
John Day - (541) 575-0135

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UPPER JOHN DAY BASIN  
Streamflow Forecasts - March 1, 2004

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
CAMAS CREEK nr Ukiah	MAR-JUL	44	52	57	110	62	70	52
MF JOHN DAY at Ritter	MAR-JUL	134	163	183	115	205	230	159
	APR-SEP	109	134	151	118	168	193	128
NF JOHN DAY at Monument	MAR-JUL	650	790	890	113	990	1130	790
	APR-SEP	520	640	720	117	800	920	615
MOUNTAIN CREEK near Mitchell	MAR-JUL	5.90	7.30	8.20	134	9.10	10.50	6.10
STRAWBERRY CREEK nr Prairie City	MAR-JUL	6.90	8.10	8.90	120	9.70	10.90	7.40
	APR-SEP	7.60	8.90	9.70	124	10.50	11.80	7.80

UPPER JOHN DAY BASIN Reservoir Storage (1000 AF) - End of February					UPPER JOHN DAY BASIN Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					John Day, North Fork	7	205	116
					John Day above Dayville	3	221	126

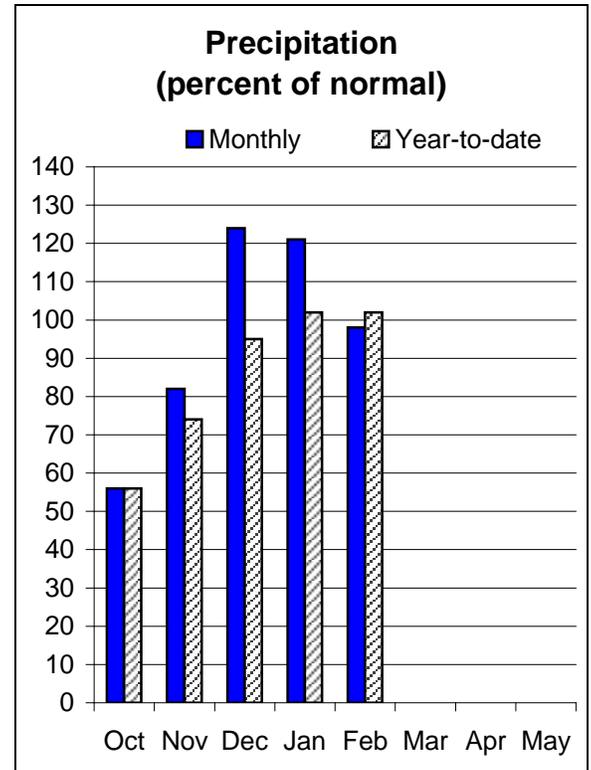
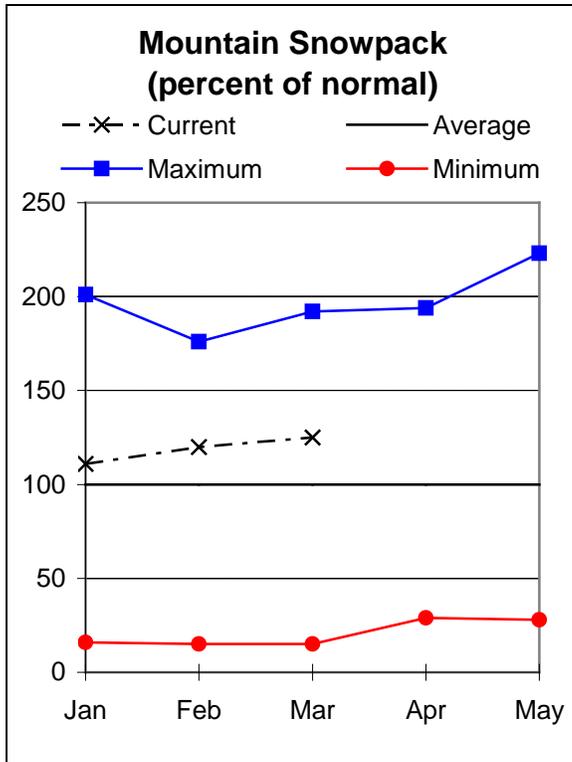
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# UPPER DESCHUTES AND CROOKED BASINS

March 1, 2004



## Water Supply Outlook

The snowpack was 125 percent of average as of March 1, an improvement of 5 percent from last month. February precipitation was 98 percent of average, bringing the total since the start of the water year to 102 percent of average. At the end of February, the reservoir storage was 91 percent of average, an increase of 5 percent from last month. The streamflow forecasts for the coming spring and summer months are between 158 percent of average on the North Fork of the Crooked River and 91 percent of average on the inflow into Wickiup Reservoir. Most water users should have adequate water supplies this season.

For more information contact your local  
Natural Resources Conservation Service Office  
Redmond (541) 923-4358

UPPER DESCHUTES AND CROOKED BASINS  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>					30-Yr Avg. (1000AF)	
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)		10% (1000AF)
BEAVER CREEK near Paulina	APR-SEP	19.8	25	29	107	33	38	27
	MAR-JUL	58	65	70	132	75	82	53
CRANE PRAIRIE RESERVOIR INFLOW	APR-JUL	49	55	59	100	63	69	59
	APR-SEP	82	91	98	105	105	114	93
	MAR-JUL	57	64	69	102	74	81	68
	MAR-SEP	90	101	108	106	115	126	102
CRESCENT CREEK near Crescent	APR-JUL	13.5	16.5	18.5	108	21	23	17.2
	APR-SEP	15.5	19.4	22	105	25	29	21
	MAR-JUL	13.4	16.8	19.2	96	22	26	20
	MAR-SEP	15.9	20	23	96	26	30	24
DESCHUTES below Bend (2)	AUG-SEP	84	110	127	76	144	170	168
DESCHUTES at Benham Falls	APR-JUL	310	330	340	97	350	370	350
	APR-SEP	490	515	530	100	545	570	530
	MAR-JUL	375	400	415	97	430	455	430
	MAR-SEP	555	585	605	100	625	655	605
DESCHUTES below Snow Creek	APR-JUL	26	30	33	100	36	40	33
	APR-SEP	47	55	61	103	67	75	59
	MAR-JUL	31	36	39	100	42	47	39
	MAR-SEP	52	61	67	103	73	82	65
LITTLE DESCHUTES near La Pine	APR-JUL	64	76	84	118	92	104	71
	APR-SEP	73	86	95	119	104	117	80
	MAR-JUL	69	82	91	105	100	113	87
	MAR-SEP	77	92	102	106	112	127	96
NF CROOKED blw Lookout Ck	MAR-JUL	15.0	18.4	21	158	24	28	13.3
OCHOCO RESERVOIR INFLOW	APR-JUL	21	28	33	150	38	45	22
	APR-SEP	21	28	33	150	38	45	22
	MAR-JUL	40	47	52	149	57	64	35
	MAR-SEP	40	47	52	149	57	64	35
PRINEVILLE RESERVOIR INFLOW	APR-JUL	87	122	150	139	182	238	108
	APR-SEP	96	132	156	143	180	215	109
	MAR-JUL	185	230	265	144	303	366	184
	MAR-SEP	191	240	275	149	310	360	185
SQUAW CREEK near Sisters	APR-JUL	32	36	38	106	40	44	36
	APR-SEP	45	49	52	106	55	59	49
TUMALO CREEK near Bend	APR-JUL	32	37	40	108	43	48	37
	APR-SEP	38	45	49	109	53	60	45
WICKIUP RESERVOIR INFLOW	APR-JUL	147	152	156	91	160	165	171
	APR-SEP	255	265	270	95	275	285	285
	MAR-JUL	175	182	187	91	192	199	205
	MAR-SEP	285	295	300	94	305	315	320

UPPER DESCHUTES AND CROOKED BASINS  
Reservoir Storage (1000 AF) - End of February

UPPER DESCHUTES AND CROOKED BASINS  
Watershed Snowpack Analysis - March 1, 2004

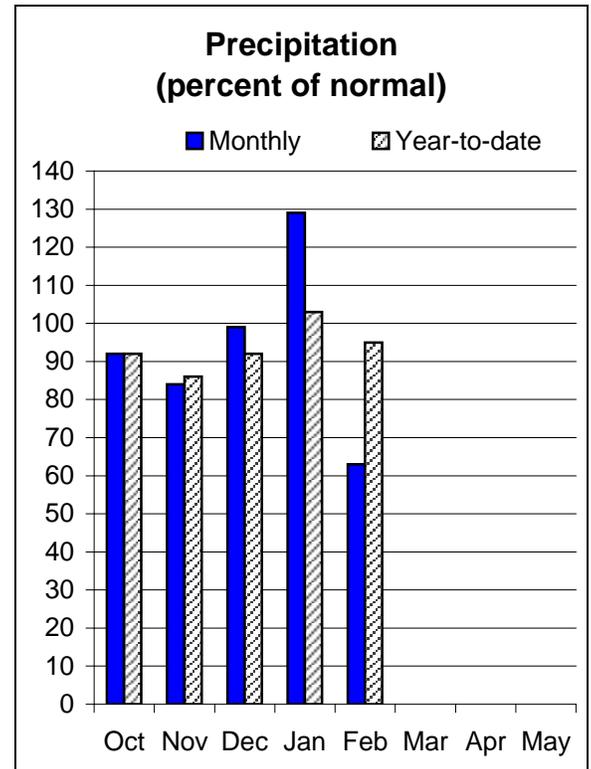
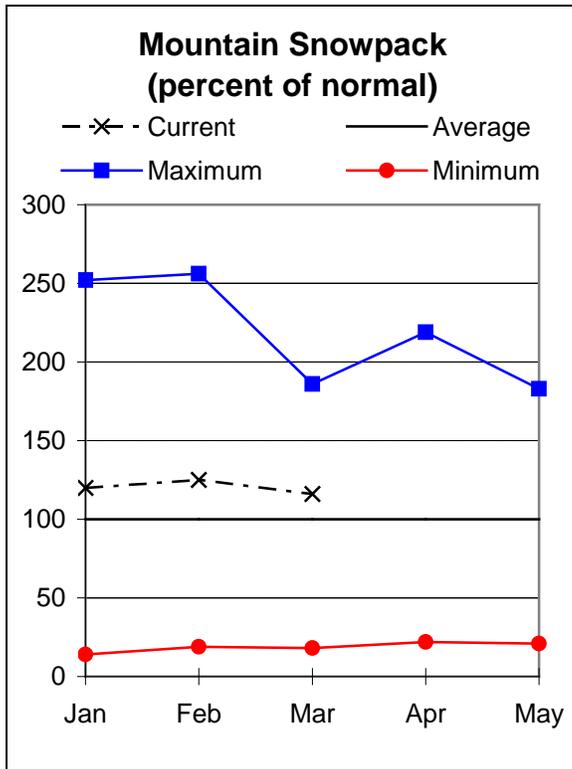
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CRANE PRAIRIE	55.3	35.5	38.7	41.9	Crooked, Ochoco	3	212	139
CRESCENT LAKE	86.9	34.4	44.3	52.3	Deschutes above Wickiup	3	270	137
OCHOCO	47.5	28.2	19.5	25.8	Little Deschutes	4	248	136
PRINEVILLE	153.0	108.6	97.0	102.7	Tumalo and Squaw Creeks	3	204	115
WICKIUP	200.0	156.0	161.9	176.0				

\* 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.

# HOOD, MILE CREEKS, AND LOWER DESCHUTES BASINS

March 1, 2004



## Water Supply Outlook

The snowpack as of March 1 was 116 percent of average, a decline of 9 percent from last month. February precipitation was 63 percent of average, the lowest percentage in the state. That amount of precipitation brings the total precipitation since the start of the water year to 95 percent of average. The streamflow forecasts for the streams in the area are between 108 and 100 percent of average. Water users should have adequate supplies this year.

For more information contact your local  
Natural Resources Conservation Service Office  
The Dalles - (541) 296-6178

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<----- Drier ----->>		50% (Most Probable)		----- Wetter ----->>		
		90% (1000AF)	70% (1000AF)	50% (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
HOOD at Tucker Bridge	APR-JUL	182	209	228	100	247	274	228
	APR-SEP	221	250	270	100	290	319	271
WF HOOD near Dee	APR-JUL	94	110	121	100	132	148	121
	APR-SEP	113	130	141	100	152	169	141
WHITE below Tygh Valley	APR-JUL	93	109	119	108	129	145	110
	APR-SEP	108	123	134	108	145	160	124

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS  
Reservoir Storage (1000 AF) - End of February

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS  
Watershed Snowpack Analysis - March 1, 2004

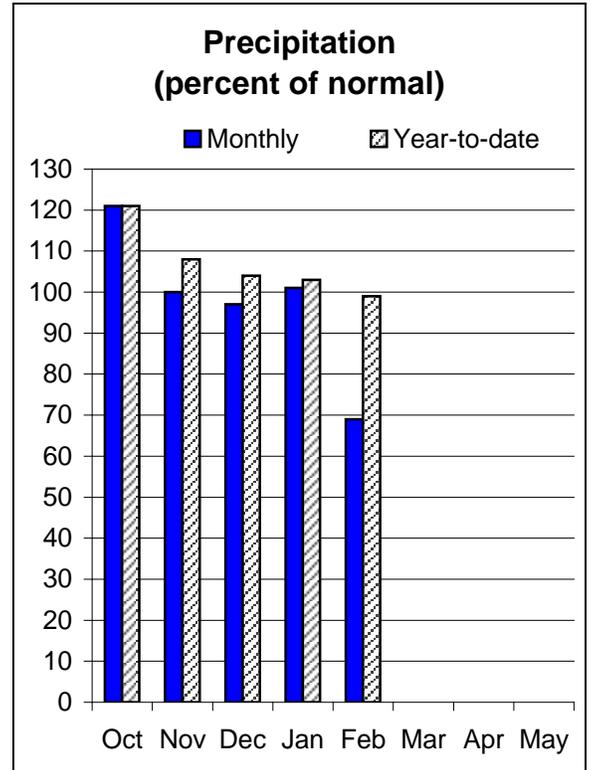
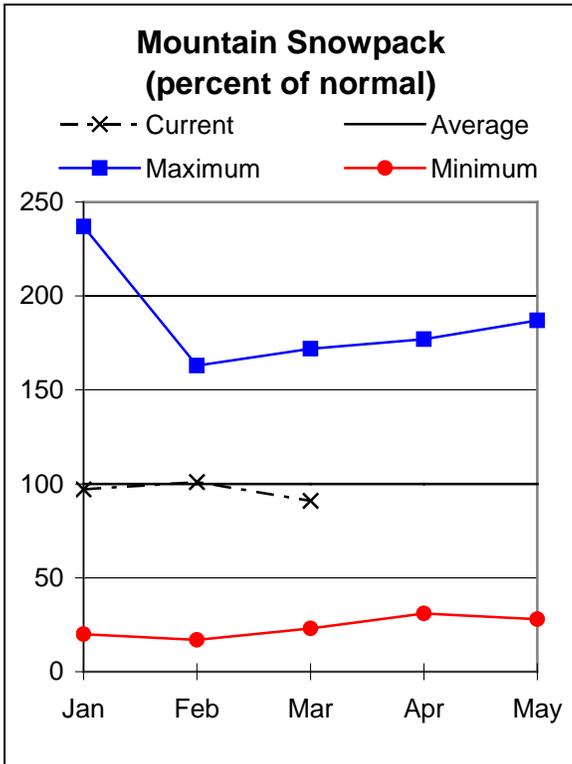
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CLEAR LAKE (WASCO)	11.9	0.5	1.8	4.3	Hood River	7	304	114
					Mile Creeks	1	395	164
					White River	3	294	114

\* 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.

# LOWER COLUMBIA BASIN

March 1, 2004



## Water Supply Outlook

The snowpack in the Sandy River Basin was 119 percent of average, an 11 percent decline from last month. February precipitation was 64 percent of average, bringing the total precipitation since the start of the water year to 97 percent of average. Flows on the Sandy River are expected to be near 104 percent of average for the period between April 1 and July 31. In the entire Columbia River Basin above The Dalles, the snowpack as of March 1 was 91 percent of average. February precipitation in the entire basin was 69 percent of average, bringing the total since the start of the water year to 99 percent of average. The streamflow for the April through July period for the Columbia River at The Dalles is forecast to be 89 percent of average.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Oregon City - (503) 656-3499

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LOWER COLUMBIA BASIN  
Streamflow Forecasts - March 1, 2004

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Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====>>		===== Wetter =====>>				
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	Chance Of Exceeding * (% AVG.)	30% (1000AF)	10% (1000AF)	
COLUMBIA R. at The Dalles (2)	APR-JUL	59641	68905	75200	89	81490	90760	84600
	APR-SEP	73788	81893	87400	89	92910	101010	98600
SANDY near Marmot	APR-JUL	253	296	325	104	354	397	313
	APR-SEP	299	344	375	103	406	451	363

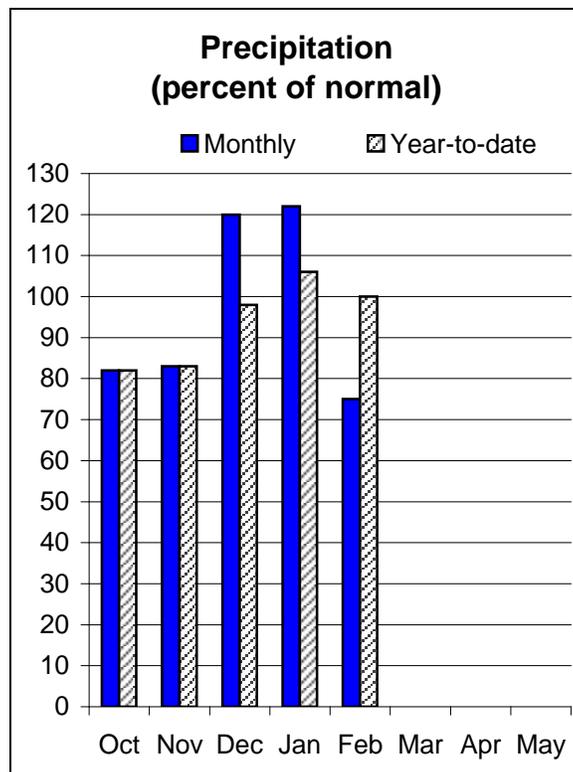
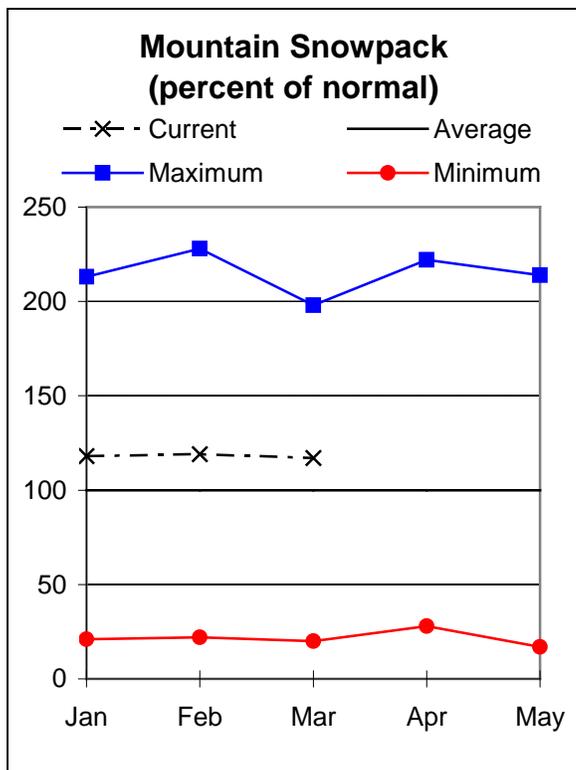
LOWER COLUMBIA BASIN Reservoir Storage (1000 AF) - End of February					LOWER COLUMBIA BASIN Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Sandy River	5	360	123

\* 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.

# WILLAMETTE BASIN

March 1, 2004



## Water Supply Outlook

The snowpack as of March 1 was 117 percent of average, a 2 percent decline since last month. February precipitation was 75 percent of average, bringing the total precipitation since the start of the water year to 100 percent of average. Water stored at the end of February was 98 percent of average in Timothy and Scoggins Lakes. The streamflow forecasts for the April through September period are between 114 percent of average for the inflow into Hills Creek Reservoir and 100 percent of average on the Clackamas River above Three Lynx. Water users in the basin should have adequate water supplies this season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Eugene - (541) 465-6436; Portland - (503) 231-2270; Tangent - (541) 967-5925  
 Oregon City - (503) 656-3499; Hillsboro - (503) 648-3174; McMinnville - (503) 472-1474  
 Salem - (503) 399-5746; Dallas - (503) 623-5534

WILLAMETTE BASIN  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	Future Conditions					30-Yr Avg. (1000AF)	
		<<===== Drier =====>>		===== Wetter =====>>				
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
BLUE RIVER LAKE INFLOW (1,2)	MAR-MAY	77	110	125	111	140	173	113
	APR-SEP	54	80	92	107	104	130	86
CLACKAMAS at Estacada (2)	APR-JUL	511	600	660	103	720	809	640
	APR-SEP	618	711	775	104	839	932	748
CLACKAMAS above Three Lynx (2)	APR-JUL	379	439	480	101	521	581	474
	APR-SEP	452	516	560	100	604	668	562
COTTAGE GROVE LAKE INFLOW (1,2)	MAR-MAY	37	56	65	108	74	93	60
	APR-SEP	17.2	37	46	107	55	75	43
COUGAR LAKE INFLOW (1,2)	MAR-MAY	151	205	230	109	255	309	212
	APR-SEP	176	223	245	107	267	314	230
DETROIT LAKE INFLOW (1,2)	MAR-MAY	375	495	550	102	605	725	540
	APR-JUL	371	487	540	102	593	709	528
	APR-SEP	452	575	630	102	685	808	616
DORENA LAKE INFLOW (1,2)	MAR-MAY	116	177	205	113	233	294	182
	APR-SEP	54	110	135	111	160	216	122
FALL CREEK LAKE INFLOW (1,2)	MAR-MAY	95	135	154	110	173	213	140
FERN RIDGE LAKE INFLOW (1,2)	MAR-MAY	56	95	112	105	129	168	107
	APR-SEP	3.5	14.2	28	104	42	72	27
FOSTER LAKE INFLOW (1,2)	MAR-MAY	352	540	625	102	710	898	613
	APR-JUL	267	431	505	103	579	743	490
	APR-SEP	305	470	545	103	620	785	527
GREEN PETER LAKE INFLOW (1,2)	MAR-MAY	250	370	425	102	480	600	417
	APR-JUL	183	287	335	102	383	487	327
	APR-SEP	208	313	360	102	407	512	354
HILLS CREEK LAKE INFLOW (1,2)	MAR-MAY	203	284	320	111	356	437	288
	APR-JUL	211	283	315	114	347	419	277
	JUN-OCT	135	166	180	110	194	225	164
	APR-SEP	269	335	365	114	395	461	320
LITTLE NORTH SANTIAM (1)	APR-JUL	78	121	140	105	159	202	133
	APR-SEP	85	130	150	105	170	215	143
LOOKOUT POINT LAKE INFLOW (1,2)	MAR-MAY	563	747	830	109	913	1097	759
	APR-JUL	525	711	795	110	879	1065	726
	JUN-OCT	316	401	440	110	479	564	402
	APR-SEP	643	827	910	110	993	1177	828
McKENZIE below Trail Bridge (2)	APR-JUL	232	255	270	102	285	308	266
	APR-SEP	364	391	410	102	429	456	404
McKENZIE near Vida (1,2)	APR-JUL	746	935	1020	104	1105	1294	977
	APR-SEP	970	1170	1260	105	1350	1550	1201
MOHAWK near Springfield	MAR-JUL	78	112	135	101	158	192	134
OAK GROVE FORK above Power Intake	APR-JUL	110	125	135	104	145	160	130
	APR-SEP	146	163	175	105	187	204	167
NORTH SANTIAM at Mehama (1,2)	APR-JUL	514	690	770	105	850	1026	732
	APR-SEP	602	786	870	104	954	1138	834
SOUTH SANTIAM at Waterloo (2)	APR-JUL	357	481	565	103	649	773	549
	APR-SEP	407	531	615	105	699	823	587
SCOGGINS CREEK near Gaston (2)	MAR-JUL	18.0	23	26	100	29	34	26
THOMAS CREEK near Scio	MAR-JUL	74	102	120	99	138	166	121
MF WILLAMETTE below NF (1,2)	JUN-OCT	326	401	435	111	469	544	391
	APR-JUL	535	703	780	112	857	1025	698
	MAR-MAY	549	728	810	112	892	1071	725
	APR-SEP	658	818	890	112	962	1122	798
WILLAMETTE at Salem (1,2)	MAR-MAY	3747	5021	5600	104	6179	7453	5401
	APR-JUL	2807	3971	4500	104	5029	6193	4347
	APR-SEP	3386	4530	5050	105	5570	6714	4804

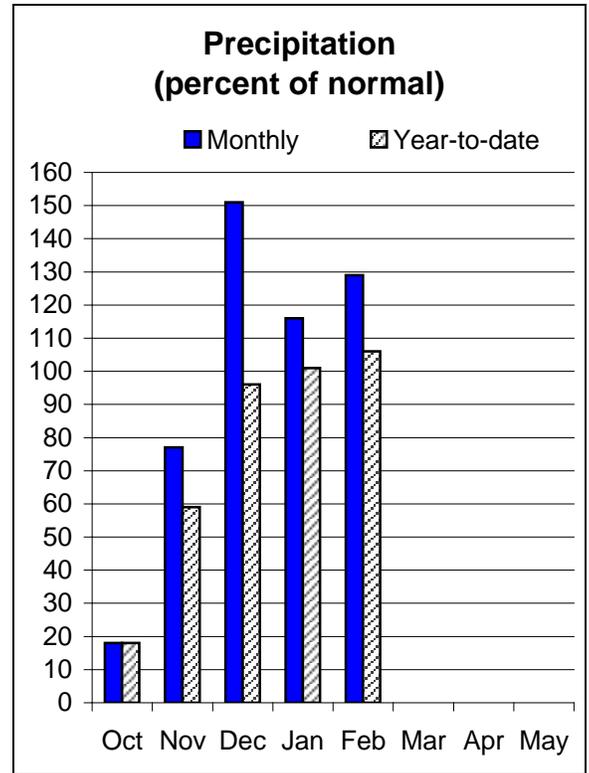
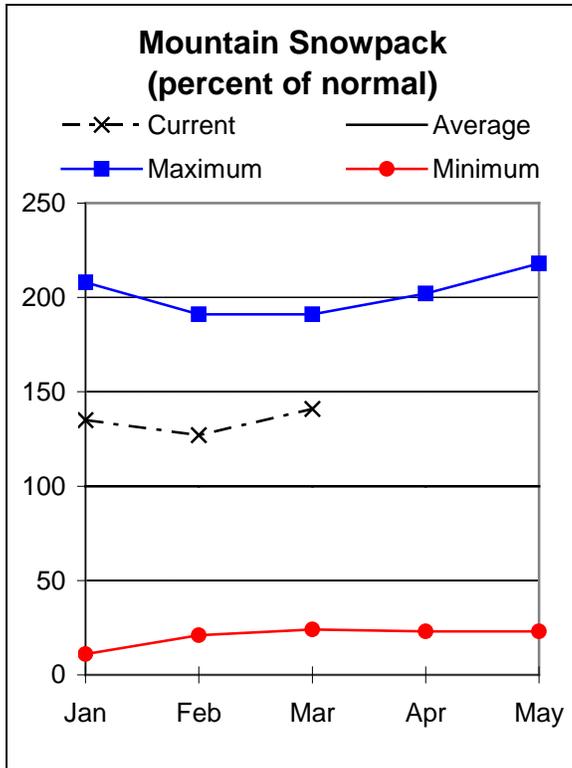
WILLAMETTE BASIN Reservoir Storage (1000 AF) - End of February					WILLAMETTE BASIN Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage This Year	*** Usable Storage Last Year	*** Avg	Watershed	Number of Data Sites	This Year as % of Last Yr	% of Average
BLUE RIVER **	85.5	35.3	34.4	31.9	Clackamas River	5	540	121
COTTAGE GROVE **	29.8	8.8	10.8	10.2	McKenzie River	5	305	118
COUGAR **	155.2	0.0	0.0	114.3	Row River	1	1120	133
DETROIT **	300.7	142.6	135.0	141.8	Santiam River	6	433	118
DORENA **	70.5	22.5	22.9	26.7	Willamette, Middle Fork	6	321	132
FALL CREEK **	115.5	48.6	0.0	40.5				
FERN RIDGE **	109.6	39.2	37.3	45.5				
FOSTER **	29.7	7.8	9.0	9.6				
GREEN PETER **	268.2	134.6	128.6	173.2				
HILLS CREEK **	200.2	86.7	67.5	119.0				
LOOKOUT POINT **	337.0	158.7	116.1	116.8				
TIMOTHY LAKE	61.7	48.4	60.0	51.5				
HENRY HAGG LAKE	53.0	47.0	48.0	45.4				

\* 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.

# ROGUE AND UMPQUA BASINS

March 1, 2004



## Water Supply Outlook

The March 1 snowpack was 141 percent of average, a 14 percent increase since last month. February precipitation was 129 percent of average, the highest percentage in the state. Since the start of the water year the total precipitation has been 106 percent of average. Water stored in the irrigation reservoirs at the end of February was 80 percent of average. The streamflow forecasts are between 135 percent of average for the inflow into Applegate Reservoir and the Clearwater above Trap Creek.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Roseburg - (541) 673-8316; Medford - (541) 776-4267

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ROGUE AND UMPQUA BASINS  
Streamflow Forecasts - March 1, 2004

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Forecast Point	Forecast Period	Future Conditions				30-Yr Avg. (1000AF)
		<<==== Drier =====		===== Wetter =====>>		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		
APPLEGATE LAKE Net Inflow (2)	APR-JUL	116	136	150	134	112
	APR-SEP	125	146	160	135	119
SF BIG BUTTE CK nr Butte Falls	APR-JUL	27	33	37	109	34
CLEARWATER above Trap Creek (2)	APR-SEP	51	59	65	97	67
COW CREEK near Azalea	MAR-JUL	17.6	25	30	103	29
	APR-JUL	9.4	13.9	17.0	103	16.5
	APR-SEP	10.4	14.9	18.0	102	17.7
FOURMILE LAKE net Inflow (2)	APR-JUL	4.06	5.22	6.00	103	5.80
	APR-SEP	4.96	6.12	6.90	97	7.10
GRAVE CREEK at Pease Bridge	MAR-JUL	7.7	12.0	15.0	110	13.7
HYATT PRAIRIE RES net Inflow (2)	APR-JUL	2.47	3.86	4.80	100	4.80
ILLINOIS R near Kerby	APR-JUL	115	159	190	106	179
	APR-SEP	121	165	195	105	186
NF LITTLE BUTTE CK nr Lakecreek (2)	APR-SEP	11.1	13.6	15.2	113	13.4
SF LITTLE BUTTE CK nr Lakecreek (2)	APR-SEP	14.3	27	36	113	32
LOST CREEK LAKE INFLOW (2)	APR-JUL	498	559	600	113	530
	APR-SEP	642	709	755	114	665
	MAR-JUL	672	748	800	116	690
	MAR-SEP	821	904	960	116	825
RED BLANKET CK nr Prospect	APR-JUL	23	30	35	103	34
ROGUE above Prospect	APR-JUL	218	249	270	110	245
	APR-SEP	271	306	330	110	300
SF ROGUE near Prospect (2)	APR-JUL	48	56	61	105	58
	APR-SEP	57	66	72	103	70
ROGUE R at Raygold (2)	APR-JUL	645	743	810	111	730
	APR-SEP	799	904	975	110	890
ROGUE R at Grants Pass (2)	APR-JUL	668	762	825	112	740
	APR-SEP	823	922	990	112	885
SUCKER CK blw Little Grayback	APR-JUL	36	48	56	108	52
	APR-SEP	39	52	60	107	56
NORTH UMPQUA nr Toketee Falls (2)	APR-SEP	129	146	158	105	151
NORTH UMPQUA at Winchester	APR-JUL	584	725	820	103	795
SOUTH UMPQUA near Brockway	APR-JUL	214	337	420	105	400
SOUTH UMPQUA at Tiller	APR-JUL	144	189	220	114	193
	APR-SEP	155	199	230	112	205

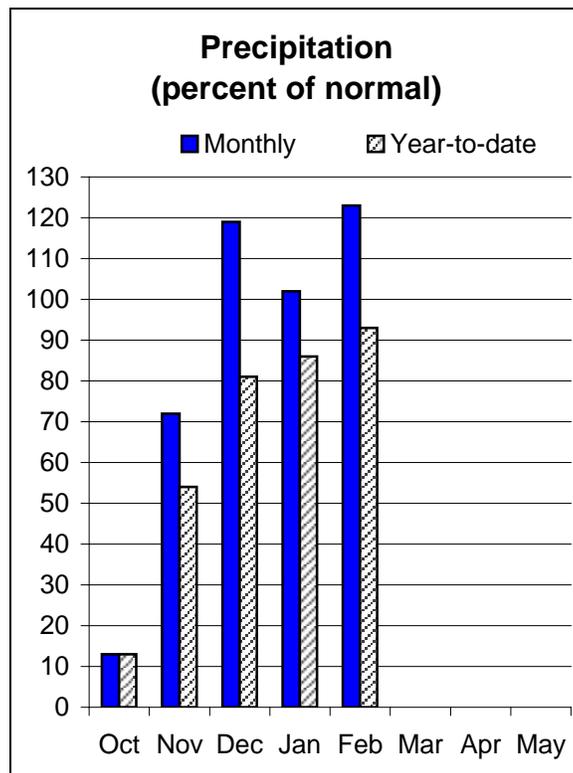
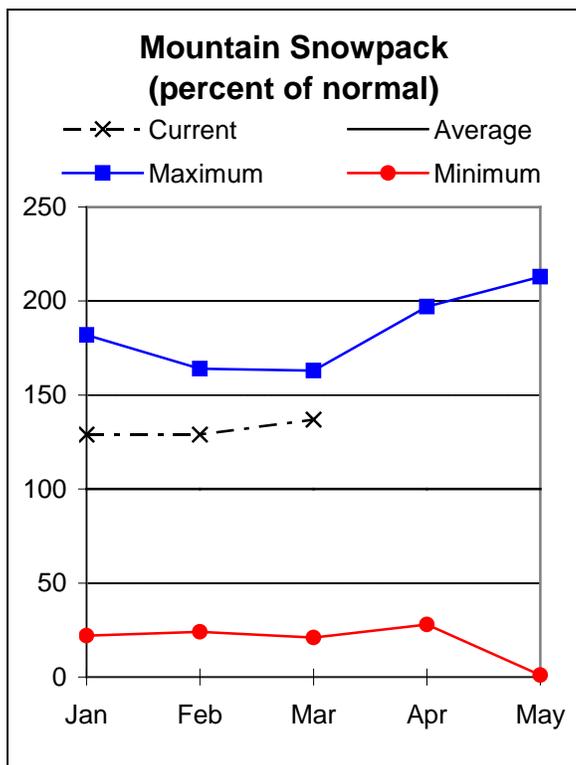
ROGUE AND UMPQUA BASINS Reservoir Storage (1000 AF) - End of February					ROGUE AND UMPQUA BASINS Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
APPLEGATE	75.2	21.6	36.8	27.3	Applegate River	6	167	150
EMIGRANT LAKE	39.0	31.8	32.2	28.0	Bear Creek	5	157	140
FISH LAKE	8.0	3.6	3.6	5.6	Butte Creek	6	321	141
FOURMILE LAKE	16.1	2.2	2.7	9.4	Illinois River	4	285	189
HOWARD PRAIRIE	60.0	27.2	23.1	41.2	North Umpqua River	8	386	124
HYATT PRAIRIE	16.1	11.6	8.1	11.0	Rogue River	22	214	141
LOST CREEK **	315.0	96.4	100.0	218.2				

\* 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.

# KLAMATH BASIN

March 1, 2004



## Water Supply Outlook

The snowpack in the Klamath Basin was 137 percent of average as of March 1. This is a 10 percent increase since last month. February precipitation was 123 percent of average, bringing the total since the start of the water year to 93 percent of average, the lowest percentage in the state. Water stored in the irrigation reservoirs at the end of February was 71 percent of average, an increase of 12 percent since last month. The streamflow forecasts for the coming spring and summer months are between 97 percent of average for the inflow into Upper Klamath Lake and 80 percent of average on the Sprague River. For some water users, careful water management will be necessary to make the expected below average water supplies last the season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Klamath Falls - (541) 883-6932

KLAMATH BASIN  
Streamflow Forecasts - March 1, 2004

Forecast Point	Forecast Period	<<===== Drier =====>>		Future Conditions		===== Wetter =====>>		30-Yr Avg. (1000AF)
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF) (% AVG.)		30% (1000AF)	10% (1000AF)	
CLEAR LK Net Inflow (2)	MAR-JUL	39	59	72	90	85	105	80
GERBER RESERVOIR net Inflow (2)	MAR-JUL	18.1	26	32	87	38	46	37
SPRAGUE R nr Chiloquin	MAR-JUL	142	189	220	80	251	298	275
	APR-SEP	121	159	185	80	211	249	230
UPPER KLAMATH LK net Inflow (1)	MAR-JUL	392	538	605	97	672	818	625
	APR-SEP	314	442	500	97	558	686	515
WILLIAMSON R nr Chiloquin	MAR-JUL	304	376	425	97	474	546	440
	APR-SEP	258	325	370	96	415	482	385

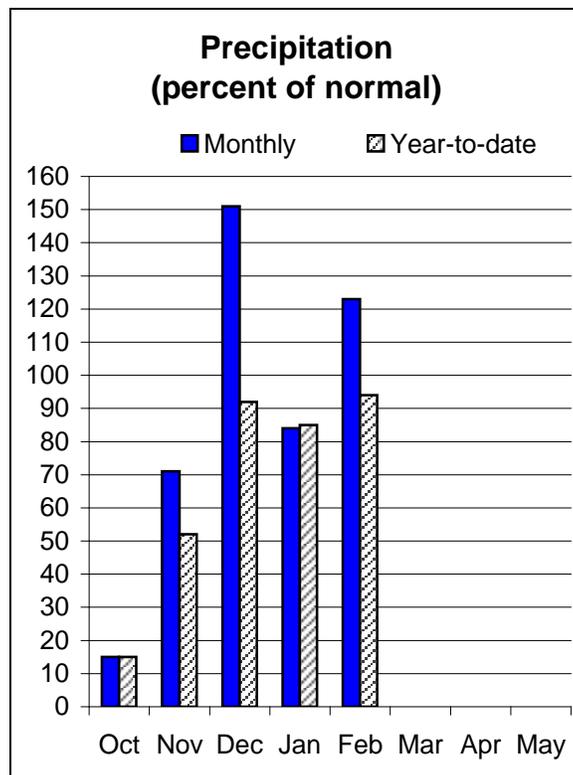
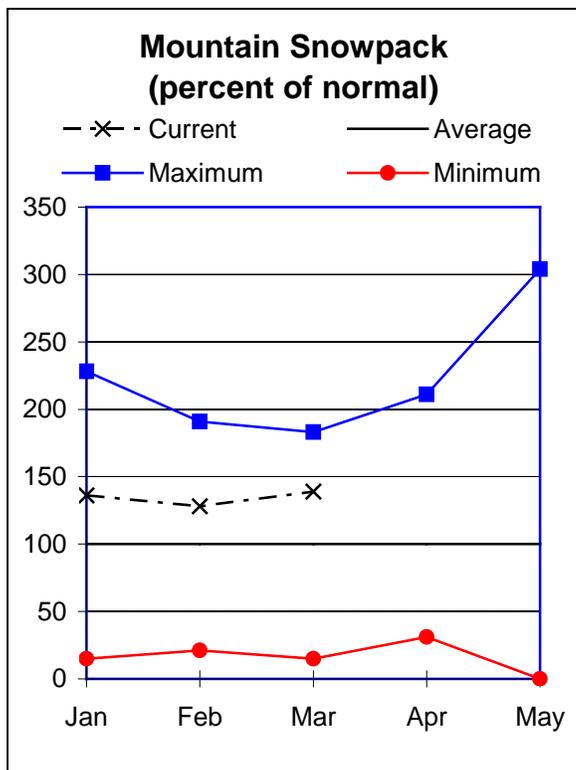
KLAMATH BASIN Reservoir Storage (1000 AF) - End of February					KLAMATH BASIN Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CLEAR LAKE (CALIF)	513.3	100.1	106.6	224.2	Lost River	6	0	148
GERBER	94.3	29.8	26.6	54.5	Sprague River	6	280	138
UPPER KLAMATH LAKE	523.7	350.9	421.0	402.6	Upper Klamath Lake	13	218	135
					Williamson River	5	186	129

\* 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.

# LAKE COUNTY AND GOOSE LAKE

March 1, 2004



## Water Supply Outlook

The snowpack as of March 1 was 139 percent of average, an 11 percent increase from last month. February precipitation was 123 percent of average, bringing the total precipitation since the start of the water year to 94 percent of average. Water stored in the major irrigation reservoirs of the basin was 56 percent of average at the end of February. The streamflow forecasts for the coming spring and summer months are between 103 percent of average on Bridge Creek and 87 percent of average on Honey Creek. Careful water management will be necessary to extend the water supply to the end of the season this year.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Lakeview - (541) 947-2202

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LAKE COUNTY AND GOOSE LAKE BASINS  
Streamflow Forecasts - March 1, 2004

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
BRIDGE CK nr Spahr Ranch	APR-JUL	1.74	2.67	3.30	103	3.93	4.86	3.20
CHEWAUCAN R nr Paisley	MAR-JUL	58	74	85	96	96	112	89
COTTONWOOD CK nr Lakeview (2)	MAR-JUL	7.0	8.8	10.0	94	11.2	13.0	10.6
DEEP CK abv Adel	MAR-JUL	57	72	82	98	92	107	84
DREWS RESERVOIR net Inflow (2)	MAR-JUL	19.5	28	34	94	40	49	36
HONEY CK nr Plush	MAR-JUL	9.3	14.1	17.4	87	21	26	20
SILVER CK nr Silver Lk	MAR-JUL	11.7	16.7	20	102	23	28	19.7
TWENTYMILE CK nr Adel	MAR-JUL	13.2	22	28	100	34	43	28

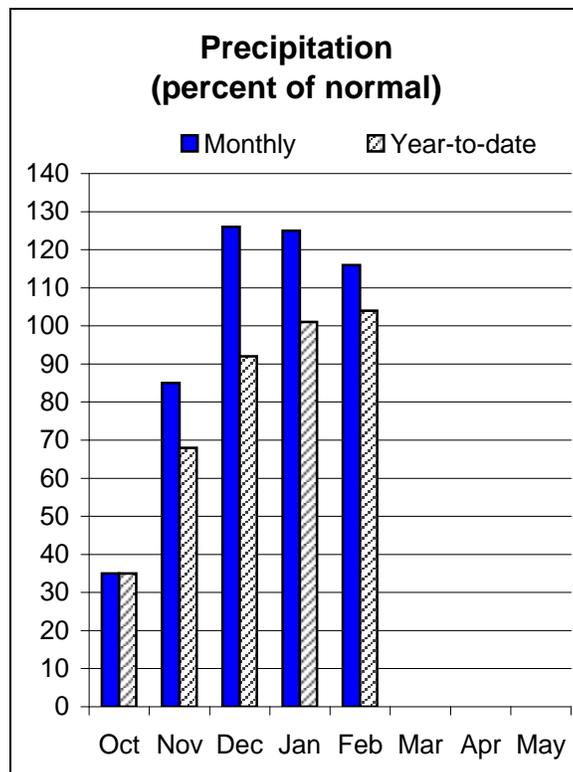
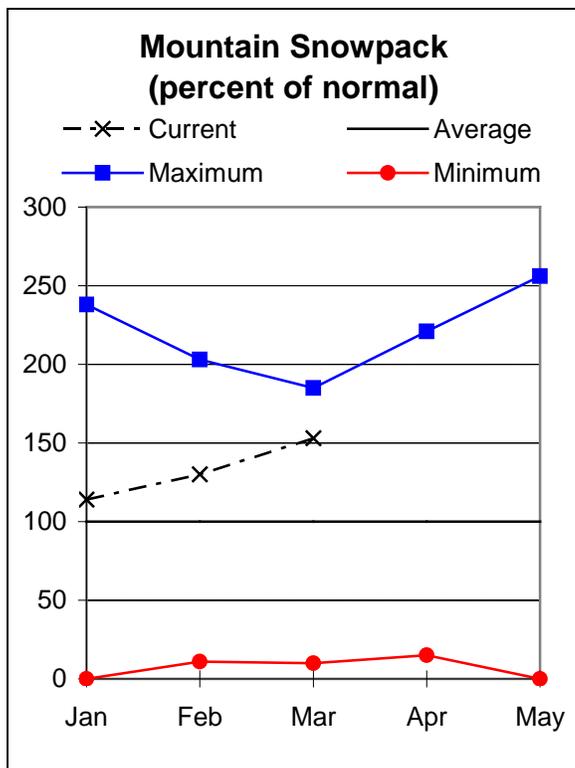
LAKE COUNTY AND GOOSE LAKE BASINS Reservoir Storage (1000 AF) - End of February					LAKE COUNTY AND GOOSE LAKE BASINS Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
COTTONWOOD	8.7	7.5	6.0	3.8	Chewaucan River	5	279	123
DREWS	63.0	19.0	17.6	37.5	Deep Creek	4	271	135
THOMPSON VALLEY	18.4	2.5	4.9	10.8	Drew Creek	5	457	133
					Honey Creek	3	1400	144
					Silver Creek (Lake Co.)	4	283	150
					Twentymile Creek	5	307	140

\* 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.

# HARNEY BASIN

March 1, 2004



## Water Supply Outlook

The snowpack was 153 percent of average as of March 1, the highest percentage in the state, and an increase of 23 percent from last month. February precipitation was 116 percent of average, bringing the total since the start of the water year on October 1, to 104 percent of average. The streamflow forecasts for the coming April through September period are between 107 percent at Trout Creek near Denio and 101 percent of average at the Silvies River near Burns. Careful water use will insure that adequate water supplies last the season.

For more information contact your local  
 Natural Resources Conservation Service Office  
 Hines - (541) 573-6446

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HARNEY BASIN  
Streamflow Forecasts - March 1, 2004

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Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg. (1000AF)
		=====		Chance Of Exceeding *		=====		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
DONNER und BLITZEN R nr Frenchglen	MAR-JUL	58	70	79	105	88	100	75
	APR-SEP	55	66	74	106	82	93	70
SILVER CK nr Riley	MAR-JUL	22	27	30	107	33	38	28
SILVIES R nr Burns	MAR-JUL	72	108	133	103	158	194	129
	APR-SEP	47	79	100	101	122	153	99
TROUT CK nr Denio	MAR-JUL	7.4	9.8	11.5	104	13.2	15.6	11.1
	APR-SEP	6.9	9.3	11.0	107	12.7	15.1	10.3

HARNEY BASIN Reservoir Storage (1000 AF) - End of February					HARNEY BASIN Watershed Snowpack Analysis - March 1, 2004			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
					Donner und Blitzen River	5	302	150
					Silver Creek (Harney Co)	1	404	168
					Silvies River	5	380	149
					Trout Creek	4	399	176

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\* 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.