

Mountain Snow Conditions and Water Supply Forecasts for Alberta

May 2001



Alberta
ENVIRONMENT

Notes

Alberta Environment publishes the "**Mountain Snow Conditions and Water Supply Forecasts for Alberta**" monthly, usually from February to August. These reports are prepared by the Water Sciences Branch, Hydrology/Forecasting Section of the Department's Water Management Division.

Alberta Environment is grateful for the assistance of Environment Canada's Climatological Services Unit and Water Resources Branch in providing weather, precipitation and streamflow data. Snow survey data are also provided by the United States, Soil Conservation Service of Montana and the British Columbia Ministry of Environment, Lands and Parks. The assistance of a number of private citizens

who diligently report observations of precipitation and other data is also appreciated.

Alberta Environment and the National Resources Conservation Service (NRCS) from Portland, Oregon are collaborating on the Water Supply Forecasts for the Milk and St. Mary Rivers. Water Supply forecasts for the Western United States are available through the NRCS web page: http://www.wcc.nrcs.usda.gov/water/w_qnty.html

All data summarized in this publication are preliminary and subject to revision.

Data used in this report are available on request from: Alberta Environment, Water Sciences Branch, Hydrology/Forecasting Section, 10th Fl, Oxbridge Place, 9820 -106 Street, Edmonton, Alberta, T5K 2J6, Fax: (780) 422-8606

This report is also available through Alberta Environment's automated streamflow information/fax-on-demand service. To access this service toll-free, please call the Alberta Government RITE Operator at 310-0000, available 24 hours a day from anywhere in the province. At the prompt, enter the phone number **207-2718** for our streamflow information/fax on demand service.

Historical Streamflow Information: Environment Canada, Calgary, (403) 292-5317

Equivalents of Measure

Parameter	Metric Unit	Conversion to Imperial Units
Snow depth	centimetres	2.54 cm = 1 inch
Water Equivalent	millimetres	25.4 mm = 1 inch
Elevation	metres	1 m = 3.2808 feet
Streamflow	cubic metres per second	1 cms = 35.3 cfs
Volume	cubic decametre (dam ³)	1 dam ³ = 1000 m ³ = 0.8107 acre-feet

Explanation of Descriptions

Much-above-average	In the upper 15% of recorded values
Above-average	Between the upper 15% and 35% of recorded values
Below-average	Between the lower 15% and 35% of recorded values
Much-below-average	In the lower 15% of recorded values

Overview

Above-normal to much-above normal precipitation were recorded in the mountain and foothill areas and much-below-normal in the Plains of the province during April. Precipitation remains much-below-normal for the winter season (November 2000 to April 2001) for most areas of the province. Current predictions from Environment Canada are for above-normal precipitation for the March to May period in southern Alberta.

The May 1 Mountain snowpack remains much-below-average in most areas along the eastern slopes despite much-above-normal snowfall during the month of April. The area that showed the most improvement in snowpack conditions was the southwestern corner of the province. The only area along the mountains and foothills which has above-normal accumulations is the Sundre-Rocky Mountain House area.

Fall precipitation (September to October 2000) was near normal in the south and below-normal in central regions and along the foothills of western Alberta. The lack of precipitation since April 2000 in southern Alberta resulted in much-below-average soil moisture conditions.

Water storage as of May 1, 2001 in the major irrigation and hydroelectric reservoirs in the Bow, Red Deer and North Saskatchewan River basins is normal for this time of the season. The exceptions are: Lake Abraham, Lower Kananaskis Lake and Lake McGregor, which are above-normal and Spray Lake which is below-normal. In the Oldman River basin, reservoirs are below-normal except for Keho Lake, which is normal.

As of May 1, 2001, May to September natural streamflow volume is forecast to be much-below-average for the Milk, Oldman, Bow, Red Deer, and North Saskatchewan River headwaters.

April Climatic Conditions

Above-normal to much-above normal precipitation were recorded in the mountain and foothill areas of the province during April (Figures 1 and 2). Precipitation ranged up to 286% of normal in the southwestern corner of the province during April. Most of the precipitation occurred during a heavy snowstorm at the beginning of the month. Precipitation in the Plains area was much-below-normal in April. Temperatures ranged from normal to above-normal in the province during April.

Precipitation remains much-below-normal for the winter season (November 2000 to April 2001) for most areas of the province (Figures 3 and 4).

Long-Lead Precipitation Outlook

Environment Canada is forecasting above-normal precipitation in the March to May period for southern Alberta and below-normal precipitation in the Peace Country. The National Oceanic and Atmospheric Administration (NOAA) is forecasting normal precipitation for May. Preliminary forecasts by Environment Canada for the 2001 summer (June to August) are for above-normal precipitation in the southern two-thirds of Alberta, while NOAA is predicting normal precipitation across the province. La Niña conditions have weakened and returned to near normal conditions over the past month.

Summer Water Supply Volume Forecast

Fall Precipitation

Fall precipitation (September to October) was near normal in southern areas of the province (Figures 5 and 6). Central regions recorded below-normal fall precipitation and the foothills of western Alberta received below-normal to much-below-normal fall precipitation in 2000. The lack of precipitation since April 2000 in southern Alberta has resulted in soil moisture conditions being much-below-average heading into the winter season.

Mountain Snowpack

The May 1 Mountain snowpack remains much-below-average in most areas along the eastern slopes despite much-above-normal snowfall during the month of April. Of the 38 mountain snow courses measured in Alberta during the last week of April, 9 recorded new historical minimums (compared to 21 last month), with the majority of these sites located in the Bow River basin. The area that showed the most improvement was the southwestern corner of the province, as the Oldman, Waterton and St. Mary River basins recorded much-above-normal snowfall in April.

The only area along the mountains and foothills which has above-normal accumulations is the Sundre-Rocky Mountain House area, where an isolated December snowfall combined with the above-normal snowfall in April has accounted for most of the precipitation. The mountain snowpack conditions are shown in Figure 7 and are summarized in Table 1.

Snow pillow stations are used to monitor real-time snowpack conditions in the province. The snow pillow plots are located on the department website at: (www.gov.ab.ca/env/water/WSWaterReports/Index.html).

Table 1 Mountain Snowpack Conditions as of May 1, 2001

Area	Snowpack Conditions (percent of Average)
Waterton/St. Mary River Headwaters	65 to 90%
Oldman River Headwaters	65 to 80%
Highwood/Kananaskis River headwaters	50 to 70%
Bow River Headwaters	55 to 65%
Red Deer River Headwaters	55 to 140%
North Saskatchewan River Headwaters	55 to 65%
Athabasca River Headwaters	50 to 60%
Smoky River Headwaters	65 to 75%

Average = 100%

Water Supply Volume Forecasts

As of May 1, 2001, much-below-average May to September natural streamflow volume is forecast for the Milk, Oldman, Bow, Red Deer, and North Saskatchewan River headwaters. These forecasts assume that precipitation over the summer period will be normal. The natural streamflow volume forecasts for 2001 and the actual March to April 2001 volumes are presented in Table 2.

Table 2 Water Supply Volume Forecasts as of May 1, 2001

Location	May to September 2001 Natural Streamflow Volume Forecasts as a percent of Average	March to April 2001 Actual Natural Streamflow Volumes as a percent of Average
Milk River at Milk River*	36*	34*
Oldman River at Lethbridge	59	40
Bow River at Calgary	73	92
Red Deer River at Red Deer	57	65
North Saskatchewan River at Edmonton	76	71

* The value for Milk River is compared to the median

Precipitation will have a major impact on the summer water supply forecast between now and the end of September. Streamflow volume forecasts will be updated monthly until mid-summer. Check our Forecaster's Comments web page throughout the month for updated information regarding runoff conditions.

Milk River Basin

The higher elevations of the Milk River basin recorded above-normal precipitation and the lower elevations near normal precipitation during April. (Figures 1 and 2). Precipitation remains much-below-normal during the winter season (November to April) (Figures 3 and 4).

Much-below-average natural runoff volumes are forecast for the May to September 2001 period (Table 3). Forecasted values in May are three to nine percent higher than the April forecast due to the above-normal precipitation in April. Current forecasted values for the May to September period for the Milk River at Milk River would rank eleventh lowest in 84-years of record (1912-95). Figure 8 shows the May to September forecast combined with natural runoff to date (March and April).

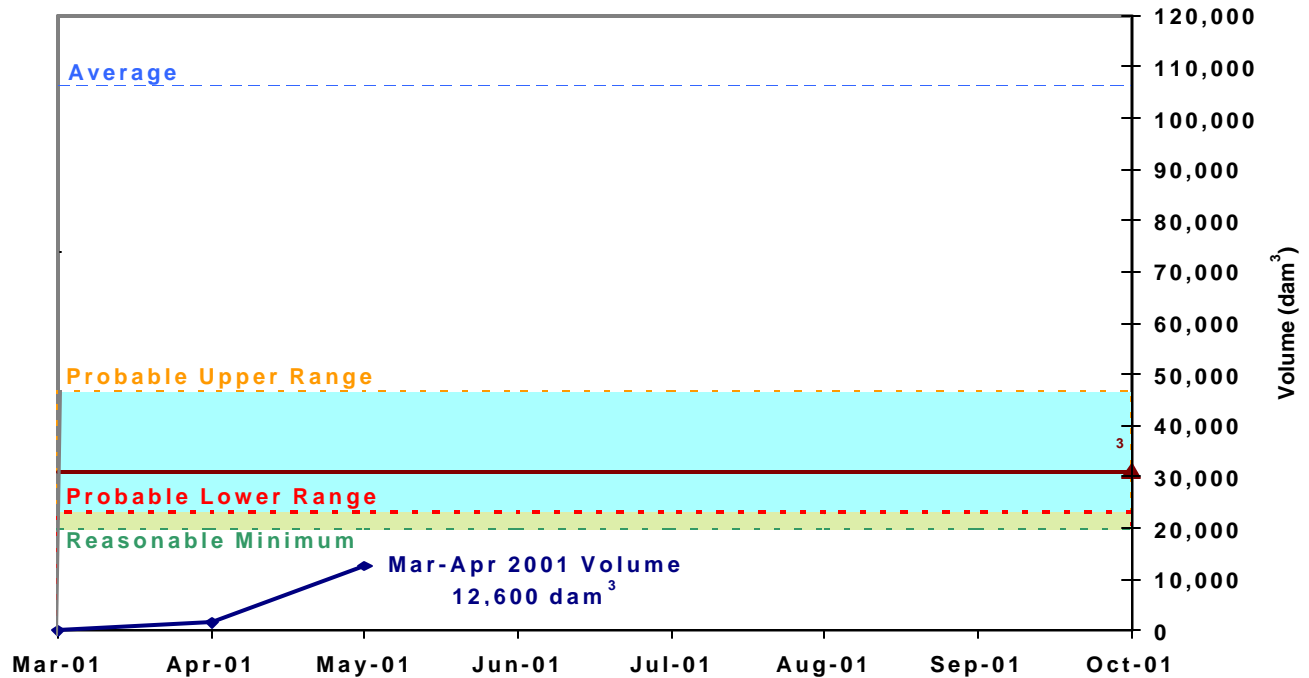
Table 3 Water Supply Forecast as of May 1, 2001 - Milk River Basin (Natural Flows)

Locations	Volume Forecast for May 1 to September 30						Actual March-April 2001 Volume as a % of Median
	Volume in dam ³	Volume in acre-feet	Volume as a % of Median	Probable Range as a % of Median	Reasonable Minimum as % of Median	Forecast Ranking (lowest to highest)	
Milk River at Western Crossing	10,300	8,300	31	14-62	12	13	36
Milk River at Milk River	18,400	14,900	36	16-66	14	11	34
Milk River at Eastern Crossing	19,700	16,000	33	12-63	8	12	N/A

Median is calculated for the May 1 to September 30 period from 1912 to 1995

NOTE: There is: a 50% chance that the actual natural flow will fall within the probable range given; a 25% chance that the actual flow will be less than the lower end of the probable range given; and a 10% chance that the actual natural flow will be less than the reasonable minimum. Actual day to day streamflow conditions may vary throughout the season as a result of the effects of streamflow diversion and reservoir storage.

Figure 8 Water Supply Forecast as of May 1, 2001 for the Milk River at Milk River



The Probable Range, Reasonable Minimum and Average shown on the graph are for the March to September forecast period. The current month's forecast is terminated by taking the difference between the March to September forecast and the volume that has occurred this year.

Oldman River Basin

Mountain snowpack conditions have improved as a result of the much-above-normal precipitation in the Oldman River basin during April (Figures 1 and 2). Precipitation during April was not uniform in the basin during April, as the Waterton, St. Mary and Belly River basins received more precipitation than the Oldman River basin. The snow course measurements completed during the last week of April show that lowest values still remain in the Oldman River area, where snowpack remains near record minimum values and the improved conditions in other areas (Table 4).

Table 4 May 2001 Snow course measurements in the Oldman River Basin

Station Name	May 1/01 SWE(mm)	% of Avg.	Max SWE(mm)	Min SWE(mm)	Avg. SWE(mm)	Years of Data	May 1/01 Ranking (lowest to highest)
Akamina	441	90	942	262	489	21	12
Allison Pass	339	71	838	237	478	20	3
Gardiner HW	584	76	1288	372	771	15	4
Iceberg Lake	570	78	1336	226	733	50	13
Josephine Lower	267	71	833	13	377	46	15
Mt. Allen	697	62	1852	544	1130	50	4
Peigan Pass	626	65	1671	419	965	50	9
Ptarmigan Lake	626	68	1618	414	922	50	8
South Racehorse	270	73	544	127	368	9	2
West Castle	268	114	533	8	236	19	13
Wilkinson Bush	174	91	373	23	192	14	8
Wilkinson Open	112	111	274	0	101	14	9

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001

Much-below-average natural runoff volumes are forecast for the May to September 2001 period. These forecasts assume normal precipitation over the summer period. Forecasted values have increased six to nine percent from last month's forecast in the Waterton and St. Mary River systems due to the much-above-normal snowfall in April. The Oldman and Belly River forecasts did not change significantly from last month (one to three percent). Current forecasted values for the Oldman River near Lethbridge during the May to September period would rank twelfth lowest in the recorded values over an 84-year period (1912-95). Natural volume forecasts for the May to September volumes are located in Table 5. Figure 9 shows the May to September forecast combined with natural runoff to date.

Table 5 Water Supply Forecast as of May 1, 2001 - Oldman River Basin (Natural Flows)

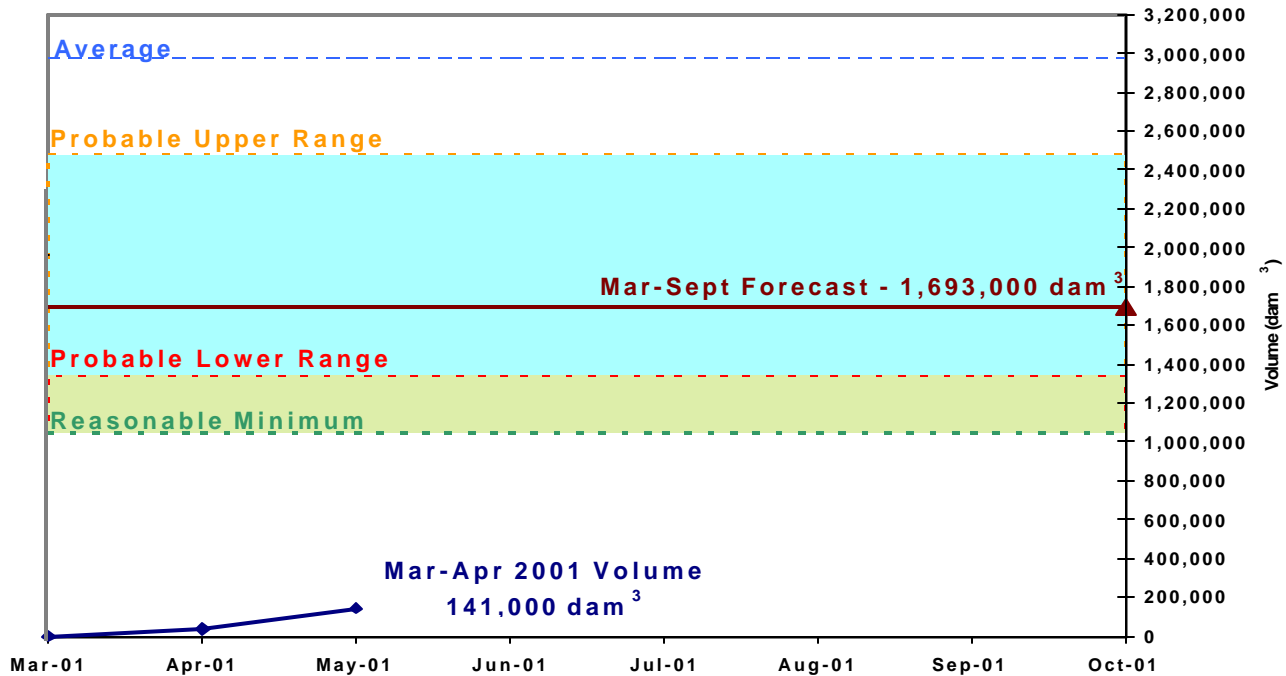
Locations	Volume Forecast for May 1 to September 30						Actual March-April 2001 Volume as a % of Average
	Volume in dam ³	Volume in acre-feet	Volume as a % of Average	Probable Range as a % of Average	Reasonable Minimum as a % of Average	Forecast Ranking (lowest to highest)	
St. Mary River	433,000	351,000	64	47-92	36	10	32
Belly River	170,000	138,000	76	65-97	53	16	64
Waterton River	436,000	353,000	73	60-98	43	12	40
Oldman River near Brocket	476,000	386,000	49	41-86	32	6	42
Oldman River near Lethbridge	1,551,000	1,257,000	59	46-86	35	12	40

Average is calculated for the period 1912 to 1995

NOTE: There is: a 50% chance that the actual natural flow will fall within the probable range given; a 25% chance that the actual flow will be less than the lower end of the probable range given; and a 10% chance that the actual natural flow will be less than the reasonable minimum. Actual day to day streamflow conditions may vary throughout the season as a result of the effects of streamflow diversion and reservoir storage.

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001

Figure 9 Water Supply Forecast as of May 1, 2001 for the Oldman River at Lethbridge



The Probable Range, Reasonable Minimum and Average shown on the graph are for the March to September forecast period. The current month's forecast is terminated by taking the difference between the March to September forecast and the volume that has occurred this year.

Water storage in the major irrigation reservoirs of the Oldman River basin is below-normal for this time of the season, except for Keho Lake which is normal (Table 6).

Table 6 Status of Major Water Storage Reservoirs as of May 1, 2001 - Oldman River Basin

Reservoirs	Current Live Storage			Remarks	May 1, 2000 Live Storage	
	Volume in dam ³	Volume in acre-feet	Volume as % of Capacity		dam ³	acre-feet
Keho Lake	84,700	68,700	89	normal	80,200	65,000
Waterton Reservoir	72,100	58,500	43	below-normal	100,000	81,000
St. Mary Reservoir	58,400	47,300	15	below-normal	203,000	165,000
Ridge Reservoir	28,800	23,300	23	below-normal	104,000	84,700
Total	159,000	129,000	23	below-normal	408,000	331,000
Chin Reservoir	89,100	72,200	47	below-normal	163,000	132,000
Forty Mile Reservoir	42,800	34,700	50	below-normal	82,200	66,600
Total	132,000	107,000	48	below-normal	245,000	198,000
Oldman Reservoir	254,000	206,000	51	below-normal	428,000	347,000

Bow River Basin

Precipitation was much-above-normal in the foothills and mountain areas of the Bow River basin during April (Figures 1 and 2) as precipitation values ranged from 140 to 290% of normal. Plains areas of the Bow River basin recorded below to much-below-normal precipitation during April. Precipitation since November 1 ranged between much-below-normal to normal in the basin (Figures 3 and 4). Despite the much-above-normal snowfall in April, seven of the fourteen snow course measurements completed at the end of April in the Bow River basin (Table 7) set new historical minimum values. Three other values were the second lowest value recorded.

Table 7 May 2001 Snow course measurements in the Bow River Basin

Station Name	May 1/01 SWE(mm)	% of Avg.	Max SWE(mm)	Min SWE(mm)	Avg. SWE(mm)	Years of Data	May 1/01 Ranking (lowest to highest)
Bow Summit	213	55	597	201	387	21	2
Cuthead Lake	168	36	818	290	464	22	1
Highwood Summit	330	72	726	221	461	37	5
Katherine Lake	274	56	744	284	490	18	1
Larch Valley	300	61	696	340	494	22	1
Little Elbow	277	71	742	206	388	22	4
Lost Creek	362	61	876	417	593	17	1
Mt. Odlum	310	62	787	297	502	16	2
Mist Creek	124	75	523	0	165	34	14
Mud Lake	165	47	588	188	350	28	1
Ptarmigan Hut	251	62	658	196	407	34	3
Sunshine Village	345	54	1092	338	644	34	2
Tent Ridge	201	51	663	251	393	20	1
Three Isle Lake	409	61	947	488	669	20	1

Much-below-average natural runoff volumes are forecast for the May to September 2001 period (Table 8). These forecasts assume normal precipitation over the summer period. The only significant change in the volume forecast from last month are for the Elbow River basin (six percent increase) and the Bow River at Banff (a six percent decrease). The precipitation that occurred in April was at the beginning of the month and it was included in the April runoff forecast. As a result, the forecast at Banff dropped this month because the precipitation for the rest of the month was below-normal. Current forecasted values for the Bow River at Calgary during the May to September period would rank tenth lowest on record (1912-95 period). Figure 10 shows the May to September forecast combined with natural runoff to date.

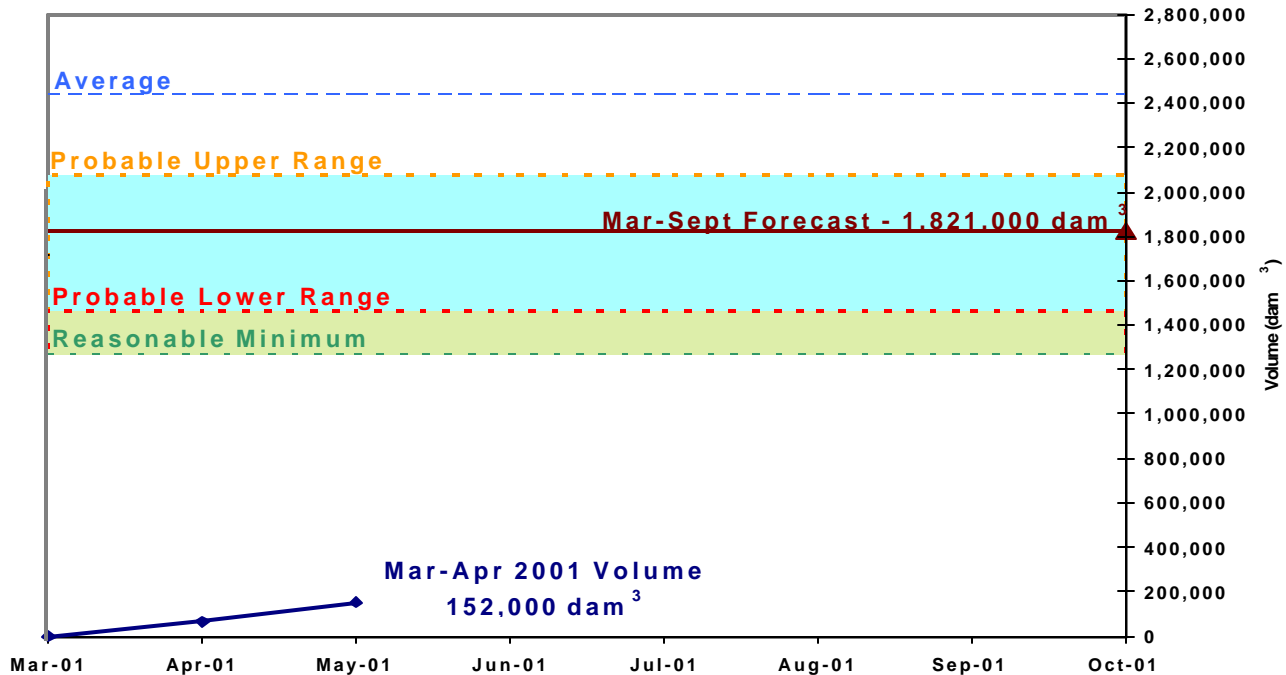
Table 8 Water Supply Forecast as of May 1, 2001 - Bow River Basin (Natural Flows)

Locations	Volume Forecast for May 1 to September 30						Actual March-April 2001 Volume as a % of Average
	Volume in dam ³	Volume in acre-feet	Volume as a % of Average	Probable Range as a % of Average	Reasonable Minimum as a % of Average	Forecast Ranking (lowest to highest)	
Bow River at Banff	805,000	653,000	78	66-87	56	7	80
Lake Minnewanka Inflow	122,000	98,900	71	52-89	43	12	68
Spray Lake near Banff	247,000	200,000	72	58-86	53	6	55
Kananaskis River	299,000	243,000	77	64-90	54	11	66
Bow River at Calgary	1,669,000	1,353,000	73	58-85	49	10	92
Elbow River	113,000	91,600	57	46-81	27	8	87
Highwood River	245,000	198,000	43	30-75	20	8	70

average is calculated for the period 1912 to 1995

NOTE: There is a 50% chance that the actual natural flow will fall within the probable range given; a 25% chance that the actual flow will be less than the lower end of the probable range given; and a 10% chance that the actual natural flow will be less than the reasonable minimum. Actual day to day streamflow conditions may vary throughout the season as a result of the effects of streamflow diversion and reservoir storage.

Figure 10 Water Supply Forecast as of May 1, 2001 for the Bow River at Calgary



The Probable Range, Reasonable Minimum and Average shown on the graph are for the March to September forecast period. The current month's forecast is terminated by taking the difference between the March to September forecast and the volume that has occurred this year.

Water storage in most of the major hydroelectric and irrigation reservoirs is normal for the season with the exception of Spray Lake which is below-normal and Lower Kananaskis Lake and Lake McGregor, which are above-normal (Table 9).

Table 9 Status of Major Water Storage Reservoirs as of May 1, 2001 - Bow River Basin

Reservoirs	Current Live Storage			Remarks	May 1, 2000 Live Storage	
	Volume in dam ³	Volume in acre-feet	Volume as a % of Capacity		dam ³	Acre-feet
Lake Minnewanka	82,200	66,600	37	normal	73,400	59,500
Spray Lake	15,000	12,200	8	below-normal	13,100	10,600
Upper Kananaskis Lake	8,280	6,700	8	normal	7,940	6,430
Lower Kananaskis Lake	12,600	10,200	20	above-normal	11,700	9,520
Total	118,000	95,600	21	normal	106,000	86,000
Lake McGregor	281,000	228,000	77	above-normal	286,000	232,000
Travers Reservoir	96,200	78,000	92	normal	93,200	75,600
Total	377,000	306,000	80	above-normal	380,000	308,000
Lake Newell	175,000	142,000	99	normal	168,000	136,000
Crawling Valley Reservoir	106,000	85,900	94	normal	110,000	88,800
Total	281,000	228,000	97	normal	278,000	225,000

Red Deer River Basin

The Red Deer River basin recorded much-below-normal to normal precipitation in April (Figures 1 and 2). Precipitation values ranged from 10% to 88% of normal in the basin during April. Most of the precipitation that fell in the basin during April occurred in the foothills and mountains. Total precipitation remains much-below-normal for the winter period (November to April) with the exception of the Sundre area, which has recorded normal precipitation (Figures 3 and 4). Snow course sites in this area also reflect the higher precipitation total. Limestone snow course (Table 10) indicated a new historical maximum while Skoki Lodge had the second lowest value on record. The other two snow course measurements completed in the basin indicate below-average snowpack.

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001

Table 10 May 2001 Snow course measurements in the Red Deer, North Saskatchewan and Athabasca River Basins

Station Name	May 1/01 SWE(mm)	% of Avg.	Max SWE(mm)	Min SWE(mm)	Avg. SWE(mm)	Years of Data	May 1/01 Ranking (lowest to highest)
Red Deer							
Gable Mountain	168	83	376	119	203	20	7
Limestone	264	170	259	36	155	16	16
McConnell Creek	127	73	328	43	174	20	6
Skoki Lodge	226	58	605	224	390	22	2
North Saskatchewan							
Golden Eagle	345	57	814	396	609	16	1
Job Creek	140	126	211	80	111	8	7
Job Lake	170	101	321	80	169	16	10
Nigel Creek	231	53	752	207	438	31	3
South Esk	236	77	517	189	308	15	4
Watchman Creek	318	64	643	356	500	16	1
Athabasca							
Marmot-Jasper	142	61	401	0	232	31	4
Sunwapta Falls	71	50	340	0	141	31	8

Much-below-average natural runoff volumes are forecast for the May to September 2001 period. These forecasts assume normal precipitation over the summer period. The forecasted values were relatively unchanged from last month. Current forecasted values for the May to September period in the Red Deer River basin would rank fourteenth lowest in the recorded values over an 84-year period (1912-95). Natural volume forecasts for the May to September volumes are located in Table 11. Figure 11 shows the May to September forecast combined with the natural runoff that has occurred this year.

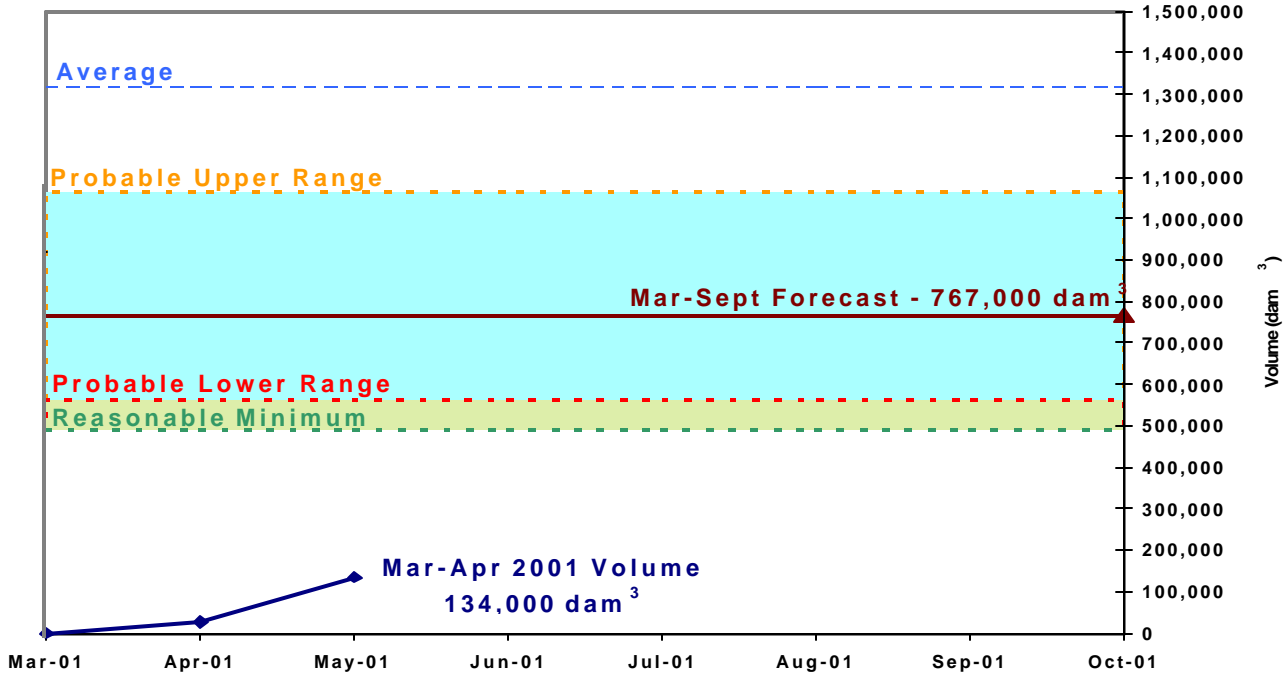
Table 11 Water Supply Forecast as of May 1, 2001 - Red Deer River Basin (Natural Flows)

Locations	Volume Forecast for May 1 to September 30						Actual March-April 2001 Volume as a % of Average
	Volume in dam ³	Volume in acre-feet	Volume as a % of Average	Probable Range as a % of Average	Reasonable Minimum as % of Average	Forecast Ranking (lowest to highest)	
Glennifer Lake	549,000	445,000	66	47-90	38	14	92
Red Deer River at Red Deer	633,000	513,000	57	39-84	32	14	65

Average is calculated for the period 1912 to 1995

NOTE: There is: a 50% chance that the actual natural flow will fall within the probable range given; a 25% chance that the actual flow will be less than the lower bound of the probable range given; and a 10% chance that the actual natural flow will be less than the reasonable minimum. Actual day to day streamflow conditions may vary throughout the season as a result of the effects of streamflow diversion and reservoir storage.

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001
Figure 11 Water Supply Forecast as of May 1, 2001 for the Red Deer River at Red Deer



The Probable Range, Reasonable Minimum and Average shown on the graph are for the March to September forecast period. The current month's forecast is terminated by taking the difference between the March to September forecast and the volume that has occurred this year.

Water storage in Glennifer Lake is normal for this time of the season (Table 12).

Table 12 Status of Major Water Storage Reservoirs as of May 1, 2001 – Red Deer River Basin

Reservoirs	Current Live Storage			Remarks	May 1, 2000 Live Storage	
	Volume in dam ³	Volume in acre-feet	Volume as a % of Capacity		dam ³	acre-feet
Glennifer Lake	108,000	87,600	53	normal	94,300	76,500

North Saskatchewan River Basin

Precipitation during April was below-normal in the North Saskatchewan River basin (Figures 1 and 2). Winter precipitation (November to April) remains below-normal (Figures 3 and 4). Six snow course measurements were completed in the basin during the last week of April (Table 10). Two measurements recorded new historical minimum values while two others were much-below-average. The two measurements completed in the foothills indicated average snowpack as these sites correspond to the pocket of snow observed in the foothills of the Sundre-Rocky Mountain area.

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001

Much-below-average natural runoff volumes are forecast for the May to September 2001 period (Table 13).

Forecasted values did not change significantly from those produced last month. Current forecasted values for the May to September period in the North Saskatchewan River at Edmonton would rank fourteenth lowest in 84-years (1912-95).

Figure 12 shows the May to September forecast combined with the natural runoff that has occurred this year.

Table 13 Water Supply Forecast as of May 1, 2001 - North Saskatchewan River Basin (Natural Flows)

Locations	Volume Forecast for May 1 to September 30						Actual March-April 2001 Volume as a % of Average
	Volume in dam ³	Volume in acre-feet	Volume as a % of Average	Probable Range as a % of Average	Reasonable Minimum as a % of Average	Forecast Ranking (lowest of highest)	
Lake Abraham Inflow	1,811,000	1,468,000	85	79-89	76	5*	153
Brazeau Reservoir Inflow	965,000	782,000	72	62-91	56	7**	76
North Saskatchewan River at Edmonton	4,099,000	3,323,000	76	68-87	61	14	71

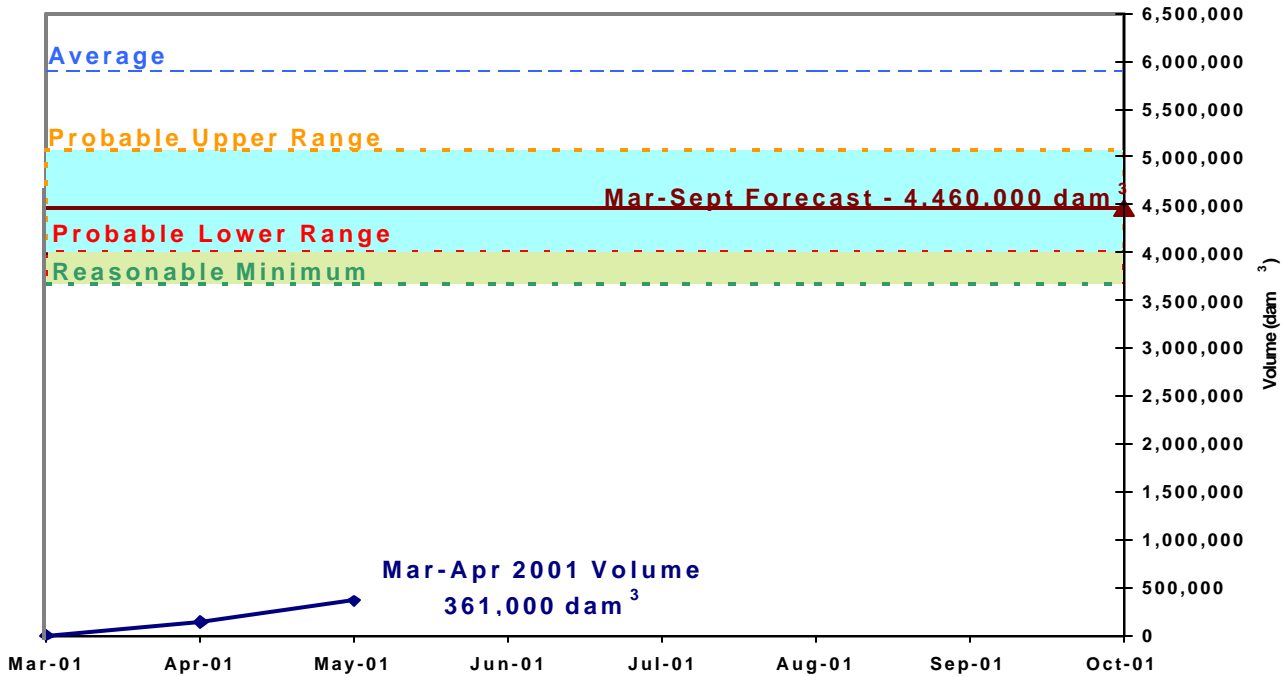
average is calculated for the period from 1912 to 1995

Lake Abraham ranking based on 31 years of record

Brazeau Reservoir ranking based on 32 years of record

NOTE: There is a 50% chance that the actual natural flow will fall within the probable range given; a 25% chance that the actual flow will be less than the lower bound of the probable range given; and a 10% chance that the actual natural flow will be less than the reasonable minimum. Actual day to day streamflow conditions may vary throughout the season as a result of the effects of streamflow diversion and reservoir storage.

Figure 12 Water Supply Forecast as of May 1, 2001 for the North Saskatchewan River at Edmonton



The Probable Range, Reasonable Minimum and Average shown on the graph are for the March to September forecast period. The current month's forecast is terminated by taking the difference between the March to September forecast and the volume that has occurred this year.

Mountain Snow Conditions and Water Supply Forecasts for Alberta –May 2001

Water storage in the North Saskatchewan major hydroelectric reservoirs is above-normal at Lake Abraham and normal at Brazeau Reservoir (Table 17).

Table 17 Status of Major Water Storage Reservoirs as of May 1, 2001 – North Saskatchewan River Basin

Reservoirs	Current Live Storage			Remarks	May 1, 2000 Live Storage	
	Volume in dam ³	Volume in acre-feet	Volume as a % of Capacity		dam ³	Acre-feet
Lake Abraham	309,000	251,000	22	above-normal	223,000	181,000
Brazeau Reservoir	34,300	27,800	7	normal	32,400	26,300
Total	343,000	278,000	18	above-normal	255,000	207,000

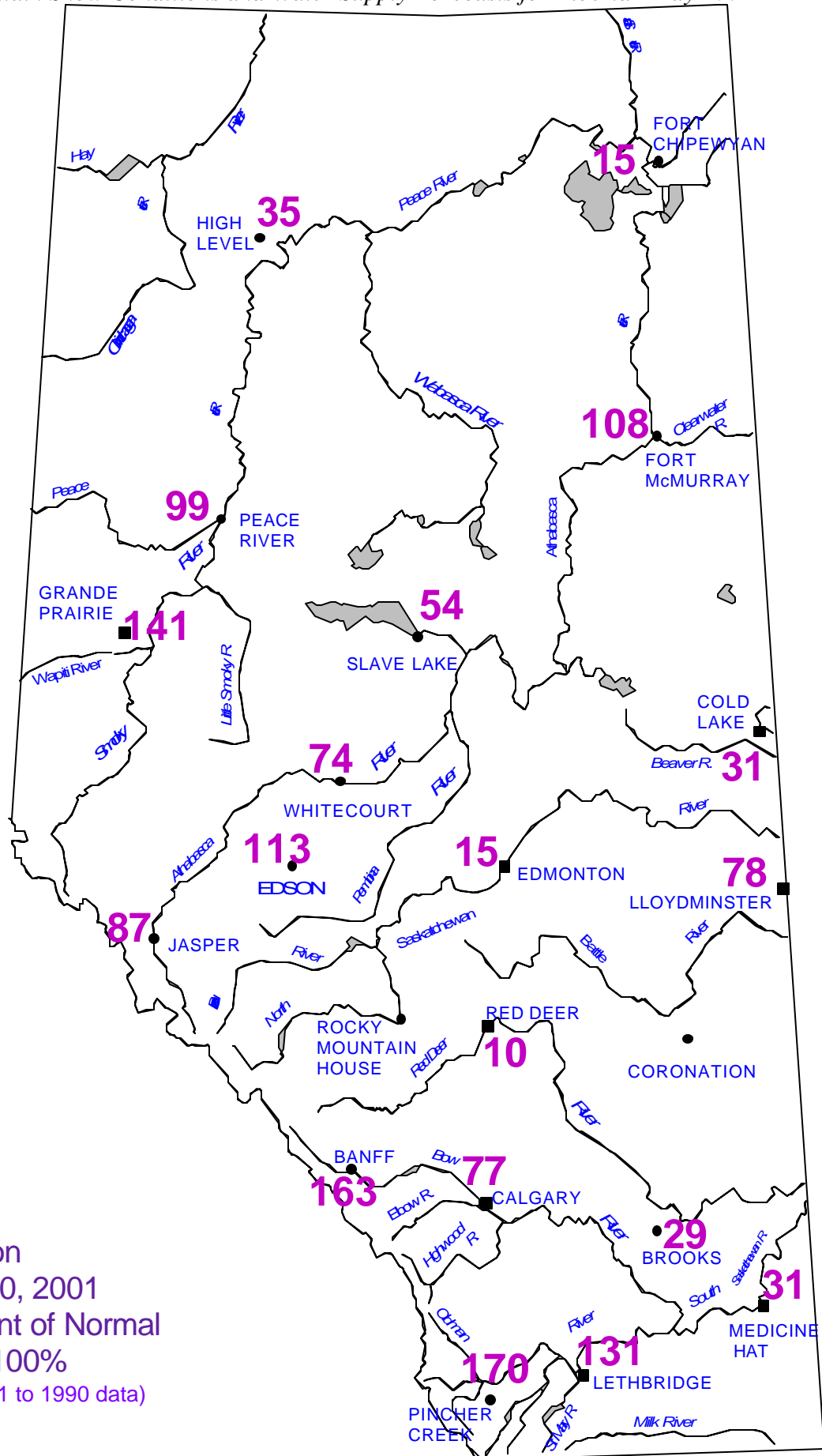


Figure 1
 Precipitation
 April 1 to 30, 2001
 as a percent of Normal
 Normal = 100%
 (based on 1961 to 1990 data)

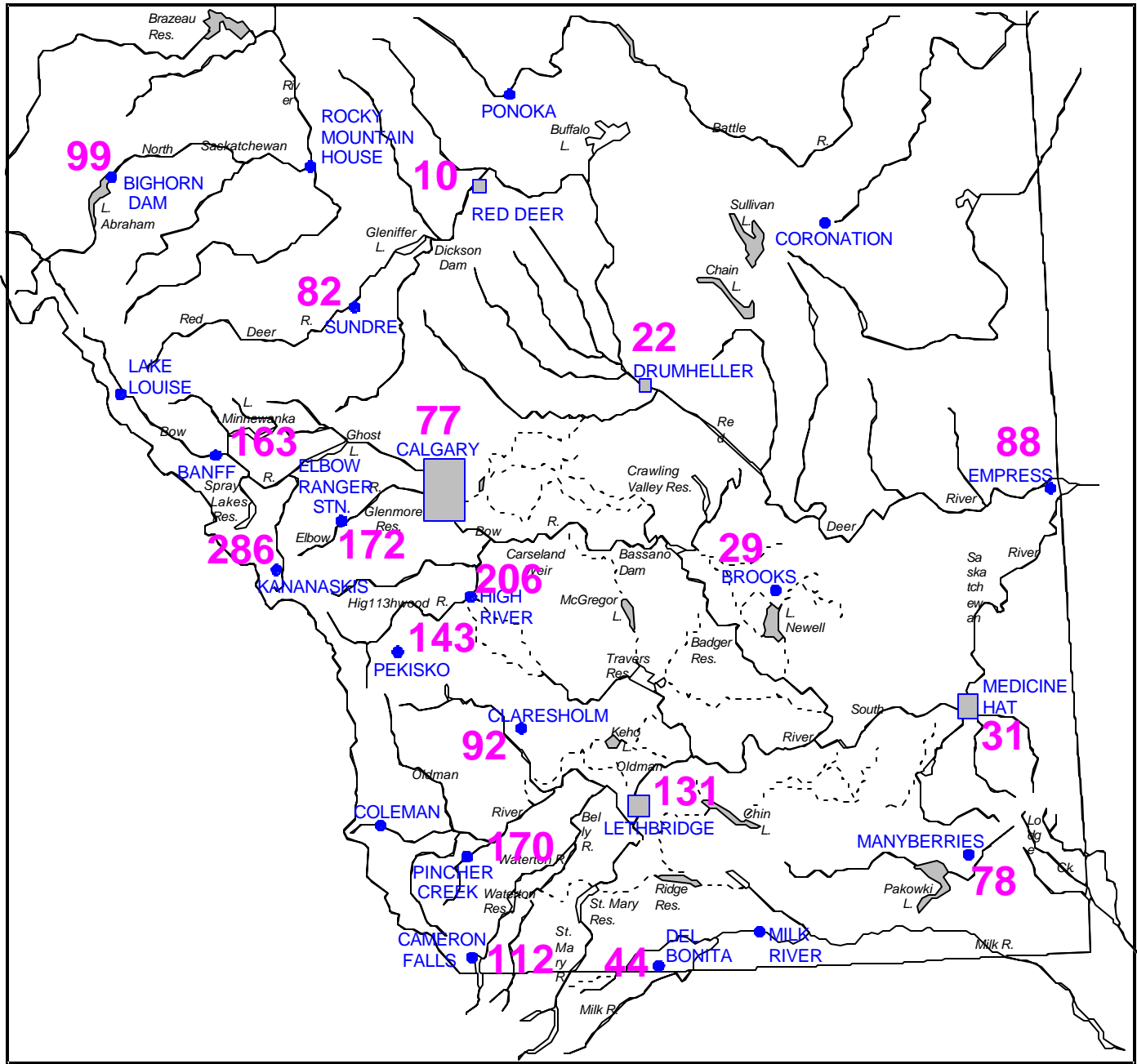


Figure 2
Winter Precipitation
Southern Alberta
April 1 to 30, 2001
as a percent of Normal
Normal = 100%
 (based on 1961 to 1990)

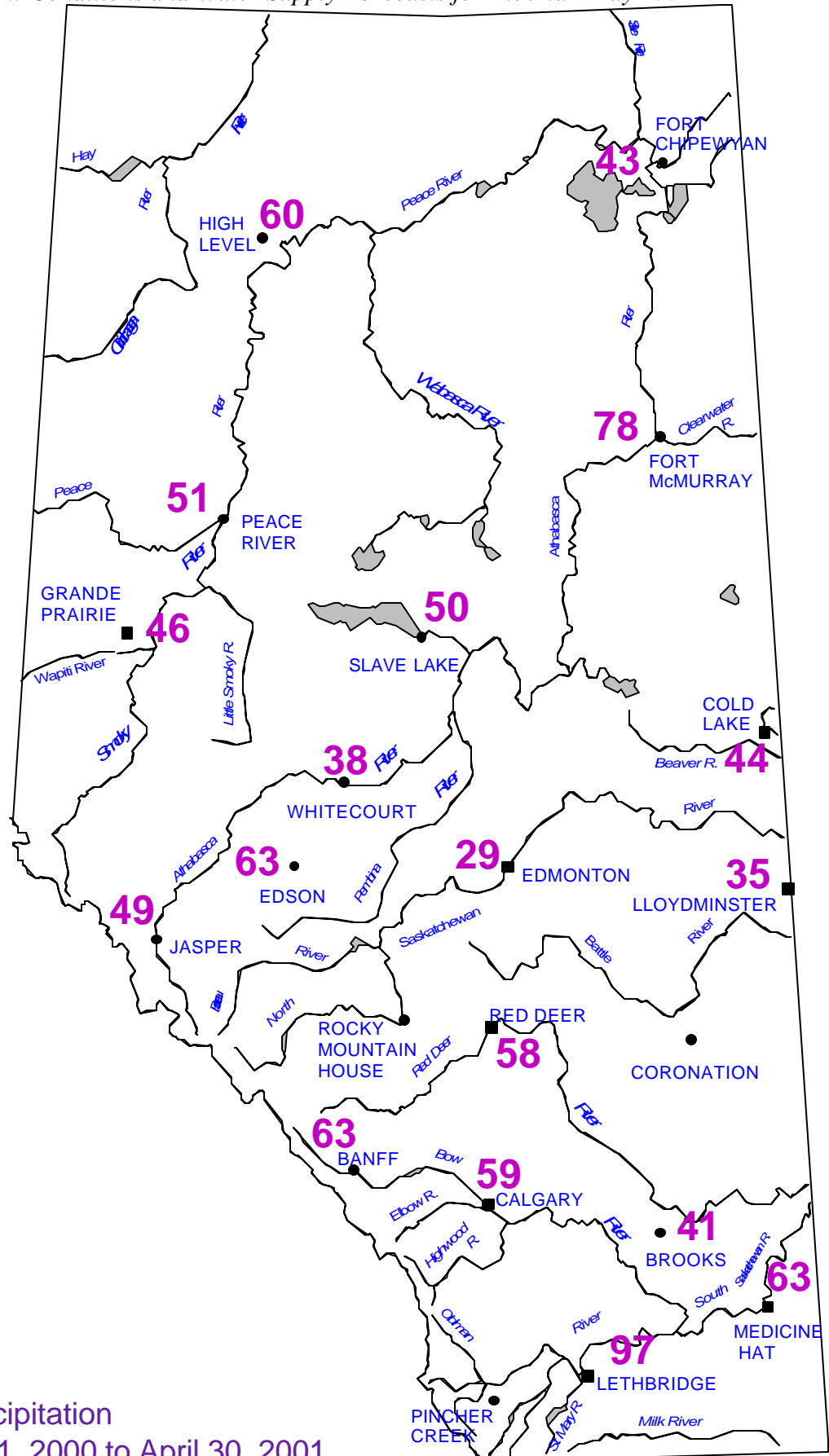


Figure 3
 Winter Precipitation
 November 1, 2000 to April 30, 2001
 as a percent of Normal
 Normal = 100%
 (based on 1961 to 1990 data)

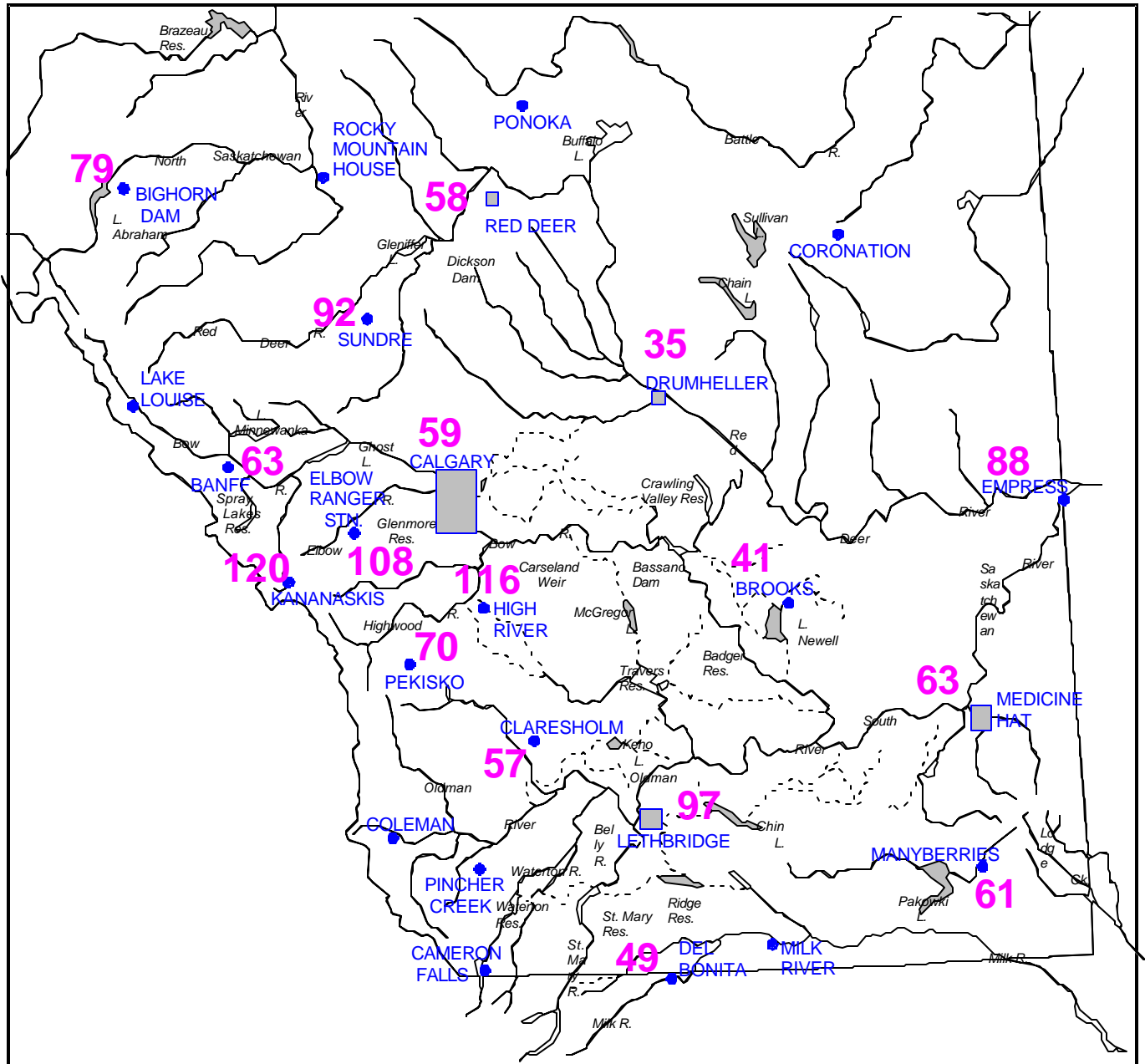


Figure 4
Winter Precipitation
Southern Alberta
November 1, 2000 to April 30, 2001
as a percent of Normal
Normal = 100%
 (based on 1961 to 1990)

Mountain Snow Conditions and Water Supply Forecasts for Alberta – May 2001

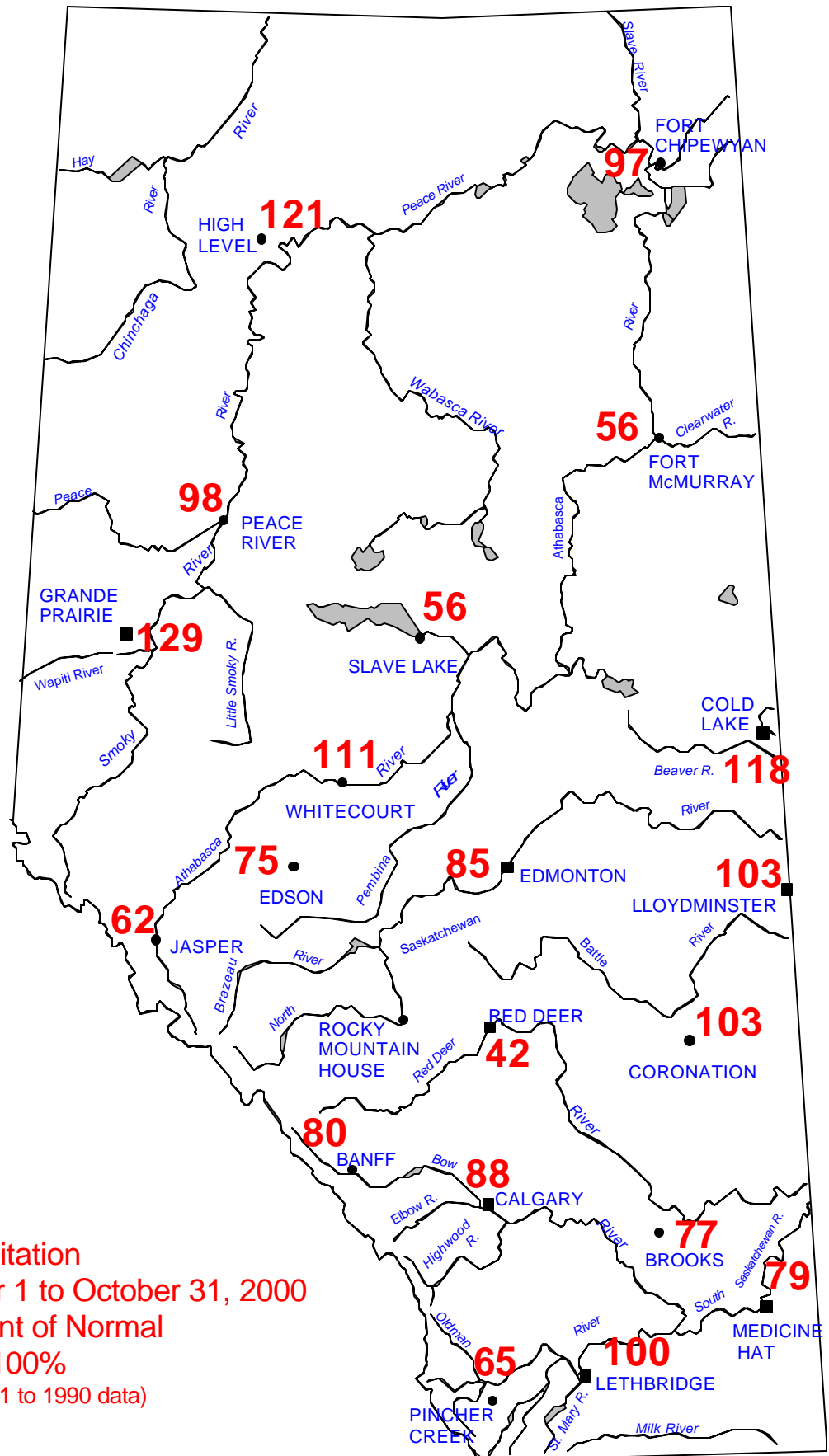


Figure 5
 Fall Precipitation
 September 1 to October 31, 2000
 as a percent of Normal
 Normal = 100%
 (based on 1961 to 1990 data)

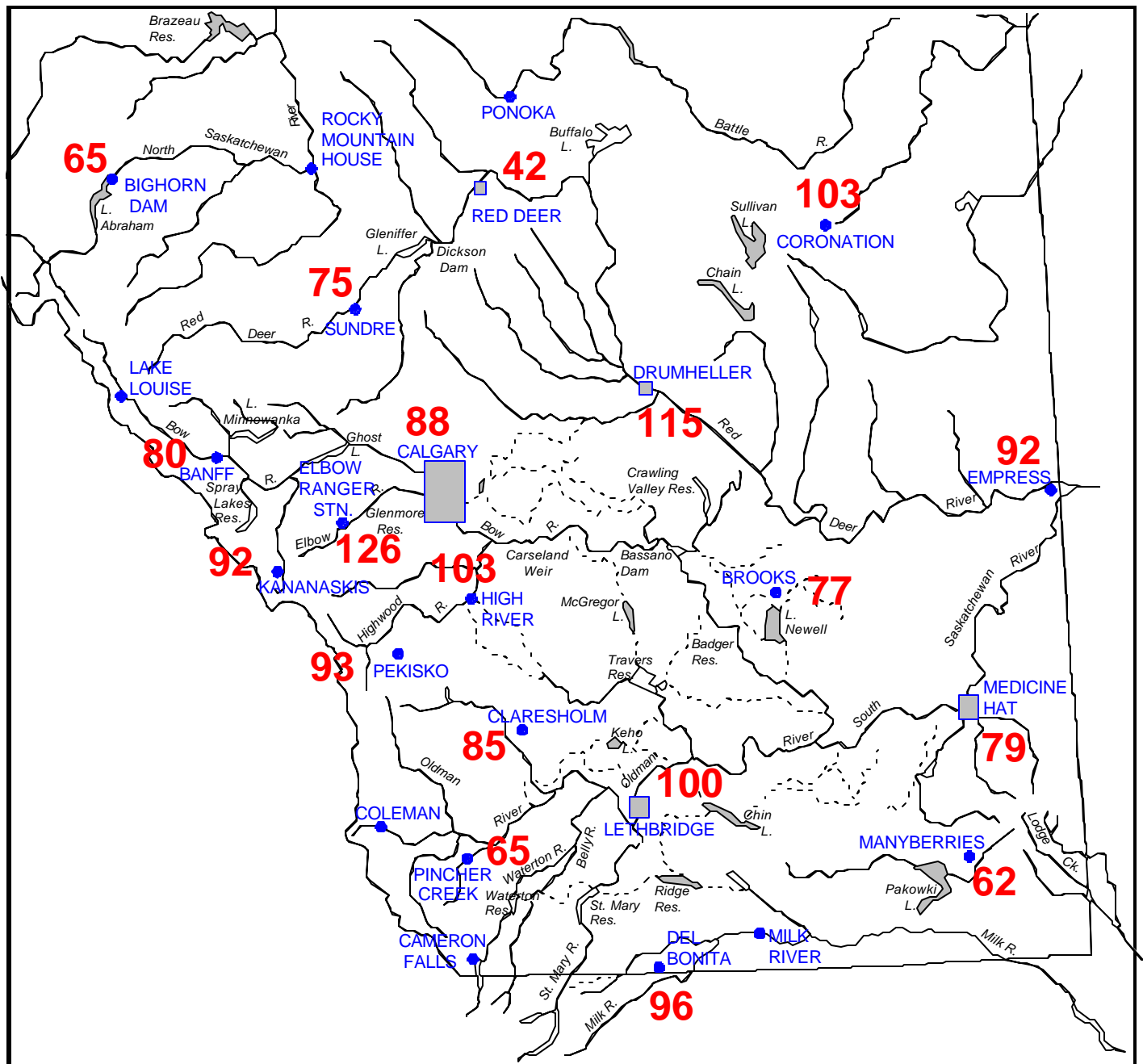


Figure 6
 Fall Precipitation
 Southern Alberta
 September 1 to October 31, 2000
 as a percent of Normal
 Normal = 100%
 (based on 1961 to 1990 data)

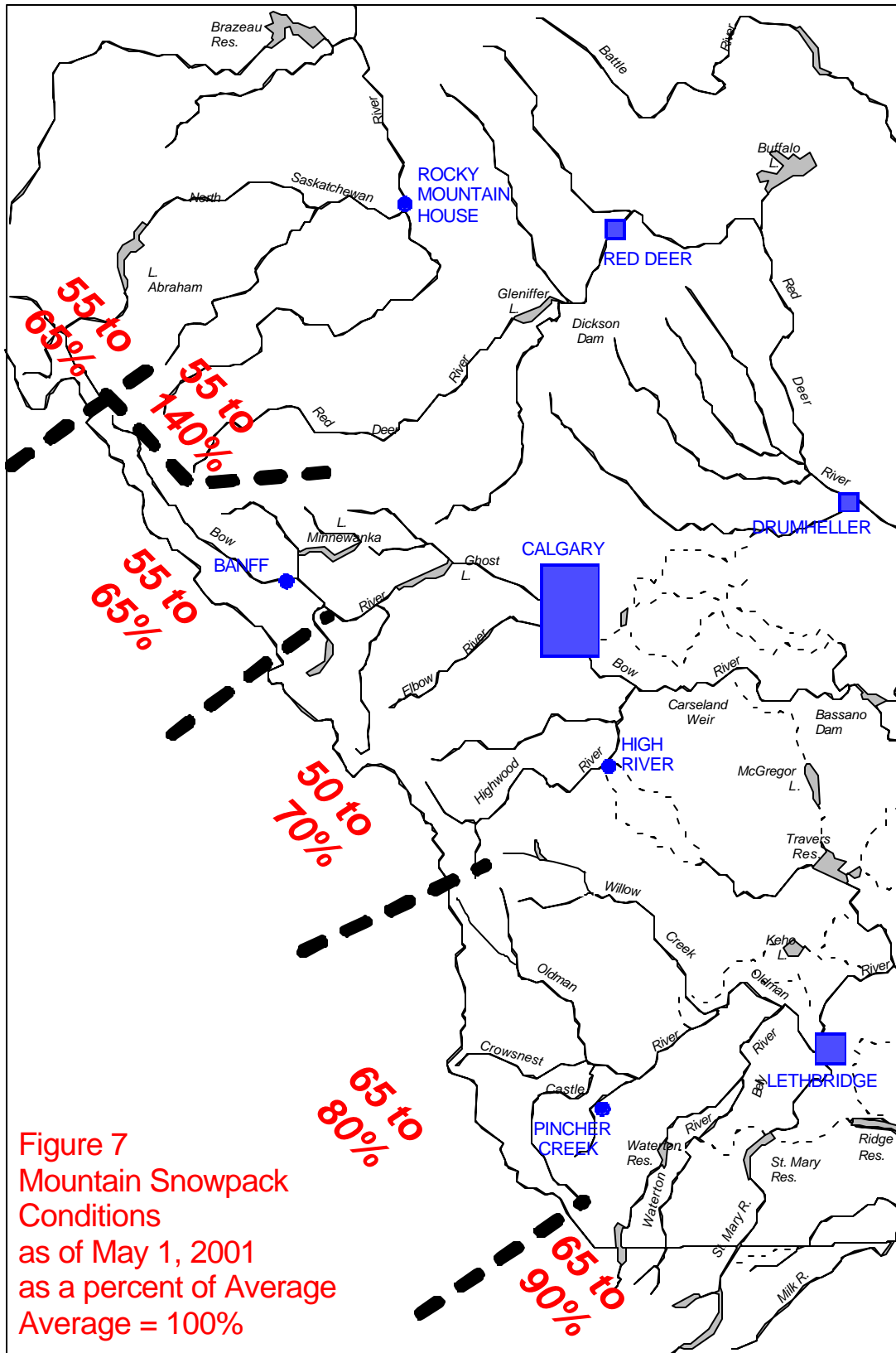


Figure 7
 Mountain Snowpack
 Conditions
 as of May 1, 2001
 as a percent of Average
 Average = 100%