

Report Created:
9/30/2014 10:37:10 PM

Streamflow Forecast Summary: April 1, 2011
(averages based on 1981-2010 reference period)

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
KOOTENAI RIVER BASIN in MONTANA	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Tobacco R nr Eureka	APR-JUL	138	157	169	124%	181	200	136
	APR-SEP	150	172	186	124%	200	220	150
Libby Reservoir Inflow ¹								
Fisher R nr Libby	APR-JUL	240	265	285	124%	305	330	230
	APR-SEP	255	285	305	124%	325	355	245
Yaak R nr Troy	APR-JUL	415	470	510	110%	550	605	465
	APR-SEP	440	500	540	110%	580	640	490
Kootenai R at Leonia ^{1,2}	APR-JUL	6610	7340	7680	109%	8020	8750	7040
	APR-SEP	7770	8520	8860	109%	9200	9950	8120

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
FLATHEAD RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
NF Flathead R nr Columbia Falls	APR-JUL	1790	1910	1990	123%	2070	2190	1620
	APR-SEP	1980	2120	2210	123%	2300	2440	1800
MF Flathead R nr West Glacier	APR-JUL	1760	1890	1980	125%	2070	2200	1590
	APR-SEP	1920	2060	2160	124%	2260	2400	1740
Sf Flathead R nr Hungry Horse	APR-JUL	1460	1550	1620	130%	1690	1780	1250
	APR-SEP	1550	1660	1730	130%	1800	1910	1330
Hungry Horse Reservoir Inflow ^{1,2}	APR-JUL	2190	2440	2560	128%	2680	2930	2000
	APR-SEP	2330	2610	2730	129%	2850	3130	2120
Flathead R at Columbia Falls ²	APR-JUL	6070	6460	6720	126%	6980	7370	5350
	APR-SEP	6580	7020	7320	126%	7620	8060	5820
Ashley Ck nr Marion ²	APR	2.4	3.2	3.8	141%	4.4	5.2	2.7
	APR-JUL	7.1	8.5	9.4	131%	10.3	11.7	7.2
Swan R nr Bigfork	APR-JUL	700	755	790	140%	825	880	565
	APR-SEP	800	865	905	140%	945	1010	645
Flathead Lake Inflow ^{1,2}	APR-JUL	6670	7390	7720	125%	8050	8770	6180
	APR-SEP	7180	8000	8380	125%	8760	9580	6700
Mill Ck ab Bassoo ck nr Niarada	APR-JUL	6.1	6.9	7.4	180%	7.9	8.7	4.1
	APR-SEP	6.6	7.4	7.9	180%	8.4	9.2	4.4
South Crow Ck nr Ronan	APR-JUL	10.5	11.9	12.9	128%	13.9	15.3	10.1
	APR-SEP	12	13.6	14.7	128%	15.8	17.4	11.5
Mission Ck nr St. Ignatius	APR-JUL	26	28	30	120%	32	34	25
	APR-SEP	31	34	36	120%	38	41	30

SF Jocko R nr Arlee

APR-JUL	45	49	52	173%	55	59	30
APR-SEP	51	56	59	174%	62	67	34

NF Jocko R bl Tabor Feeder Canal

APR-JUL	41	43	45	145%	47	49	31
APR-SEP	44	46	48	145%	50	52	33

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

UPPER CLARK FORK RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Little Blackfoot nr Garrison	APR-JUL	63	79	90	118%	101	117	76
	APR-SEP	69	87	99	118%	111	129	84
Flint Ck nr Southern Cross	APR-JUL	8.8	12.5	15	109%	17.5	21	13.7
	APR-SEP	9.9	14.5	17.7	109%	21	26	16.2
Flint Ck bl Boulder Ck	APR-JUL	34	48	58	104%	68	82	56
	APR-SEP	45	62	74	104%	86	103	71
Lower Willow Ck Reservoir Inflow ²	APR-MAY	5.9	8	9.4	115%	10.8	12.9	8.2
	APR-JUL	8.8	12.1	14.4	115%	16.7	20	12.5
MF Rock Ck nr Philipsburg	APR-JUL	53	63	69	108%	75	85	64
	APR-SEP	60	71	78	108%	85	96	72
Rock Ck nr Clinton	APR-JUL	215	260	290	107%	320	365	270
	APR-SEP	240	290	325	107%	360	410	305
Clark Fork R ab Milltown	APR-JUL	500	635	725	120%	815	950	605
	APR-SEP	590	740	840	119%	940	1090	705
Nevada Ck nr Helmville	APR-MAY	7.3	10.4	12.5	121%	14.6	17.7	10.3
	APR-JUL	12.4	17.5	21	121%	24	30	17.3
Blackfoot R nr Bonner	APR-JUL	875	980	1050	130%	1120	1230	805
	APR-SEP	980	1090	1170	131%	1250	1360	890
Clark Fork R ab Missoula	APR-JUL	1400	1620	1770	126%	1920	2140	1410
	APR-SEP	1610	1850	2010	126%	2170	2410	1600

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

BITTERROOT RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
WF Bitterroot R Nr Conner ²	APR-JUL	118	143	160	112%	177	200	143
	APR-SEP	132	158	176	112%	194	220	157
Bitterroot R Nr Darby	APR-JUL	380	450	500	109%	550	620	460
	APR-SEP	440	510	560	109%	610	680	515
Como Reservoir Inflow ²	APR-JUL	71	78	83	106%	88	95	78

Bitterroot R nr Missoula	APR-SEP	74	82	87	106%	92	100	82
	APR-JUL	1110	1270	1370	110%	1470	1630	1250
	APR-SEP	1220	1390	1500	109%	1610	1780	1370

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

LOWER CLARK FORK RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Clark Fork R bl Missoula	APR-JUL	2560	2920	3160	119%	3400	3760	2660
	APR-SEP	2860	3250	3510	119%	3770	4160	2960
Clark Fork R at St. Regis ¹	APR-JUL	3380	4010	4300	122%	4590	5220	3520
	APR-SEP	3760	4450	4760	122%	5070	5760	3910
Clark Fork R nr Plains ^{1,2}	APR-JUL	10500	11900	12500	124%	13100	14500	10100
	APR-SEP	11500	13000	13700	123%	14400	15900	11100
Thompson nr Thompson Falls	APR-JUL	220	255	275	134%	295	330	205
	APR-SEP	250	285	310	135%	335	370	230
Prospect Ck at Thompson Falls	APR-JUL	133	144	152	131%	160	171	116
	APR-SEP	142	154	162	131%	170	182	124
Clark Fork R at Whitehorse Rapids ^{1,2}	APR-JUL	12000	13500	14100	125%	14700	16200	11300
	APR-SEP	13200	14800	15500	124%	16200	17800	12500

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

JEFFERSON RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lima Reservoir Inflow ²	APR-JUL	73	83	90	94%	97	107	96
	APR-SEP	80	92	100	96%	108	120	104
Clark Canyon Inflow ²	APR-JUL	59	99	126	96%	153	193	131
	APR-SEP	81	123	152	97%	181	225	156
Beaverhead R at Barretts ²	APR-JUL	58	121	163	97%	205	270	168
	APR-SEP	72	146	196	98%	245	320	200
Ruby R Reservoir Inflow ²	APR-JUL	72	86	95	113%	104	118	84
	APR-SEP	86	101	112	111%	123	138	101
Big Hole R at Wisdom	APR-JUL	74	113	139	115%	165	205	121
	APR-SEP	74	116	145	112%	174	215	130
Big Hole R nr Melrose	APR-JUL	575	665	730	120%	795	885	610
	APR-SEP	620	720	790	120%	860	960	660
Jefferson R nr Twin Bridges ²	APR-JUL	600	795	930	118%	1060	1260	785
	APR-SEP	635	860	1010	115%	1160	1380	880

Boulder R nr Boulder	APR-JUL	54	68	78	100%	88	102	78
	APR-SEP	56	72	83	98%	94	110	85
Willow Ck Reservoir Inflow ²	APR-JUL	8.8	13.4	16.5	92%	19.6	24	17.9
	APR-SEP	9.8	14.9	18.4	92%	22	27	20
Jefferson R nr Three Forks ²	APR-JUL	560	760	900	115%	1040	1240	780
	APR-SEP	605	830	985	115%	1140	1370	860

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

MADISON RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Hebgen Reservoir Inflow ²	APR-JUL	385	415	435	110%	455	485	395
	APR-SEP	490	525	550	109%	575	610	505
Ennis Reservoir Inflow ²	APR-JUL	625	695	745	110%	795	865	680
	APR-SEP	790	870	925	109%	980	1060	850

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

GALLATIN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gallatin R nr Gateway	APR-JUL	395	450	485	110%	520	575	440
	APR-SEP	460	525	565	110%	605	670	515
Hyalite Reservoir Inflow ²	APR-JUL	19.6	22	23	105%	24	26	22
	APR-SEP	23	25	26	104%	27	29	25
Gallatin R at Logan	APR-JUL	410	505	570	115%	635	730	495
	APR-SEP	475	585	660	116%	735	845	570

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

SMITH-JUDITH-MUSSELSHELL	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Sheep Ck nr White Sulphur Springs	APR-JUL	15.6	18.8	21	123%	23	26	17.1
	APR-SEP	17.4	21	24	120%	27	31	20
Smith R bl Eagle Ck ²	APR-JUL	93	124	145	109%	166	197	133
	APR-SEP	99	136	162	109%	188	225	149
NF Musselshell R nr Delpine	APR-JUL	3.7	4.8	5.6	122%	6.4	7.5	4.6
	APR-SEP	4.3	5.6	6.5	120%	7.4	8.7	5.4

SF Musselshell R ab Martinsdale								
	APR-JUL	36	52	63	121%	74	90	52
	APR-SEP	38	56	68	121%	80	98	56
Musselshell R at Harlowton ²								
	APR-JUL	54	85	105	136%	125	156	77
	APR-SEP	55	88	110	136%	132	165	81
Musselshell R nr Roundup ²								
	APR-JUL	42	105	147	148%	189	250	99
	APR-SEP	38	100	142	139%	184	245	102

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
SUN-TETON-MARIAS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gibson Reservoir Inflow	APR-JUL	435	480	515	112%	550	595	460
	APR-SEP	475	530	565	112%	600	655	505
Two Medicine R nr Browning ²	APR-JUL	191	215	230	112%	245	270	205
	APR-SEP	205	230	245	114%	260	285	215
Badger Ck nr Browning	APR-JUL	77	90	99	115%	108	121	86
	APR-SEP	83	98	108	114%	118	133	95
Swift Reservoir Inflow ²	APR-JUL	55	66	73	114%	80	91	64
	APR-SEP	65	77	86	112%	95	107	77
Dupuyer Ck nr Valier	APR-JUL	5.7	12.8	17.6	126%	22	29	14
	APR-SEP	6.6	14.4	19.7	125%	25	33	15.7
Cut Bank Ck nr Browning	APR-JUL	63	75	83	108%	91	103	77
	APR-SEP	68	81	90	107%	99	112	84
Marias R nr Shelby ²	APR-JUL	320	420	485	117%	550	650	415
	APR-SEP	315	420	495	113%	570	675	440
Teton R nr Dutton	APR-JUL	21	47	65	127%	83	109	51
	APR-SEP	26	54	73	124%	92	120	59

		Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast						
ST. MARY & MILK BASINS	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Sherburne Inflow								
	APR-JUL	108	116	122	116%	128	136	105
	APR-SEP	123	132	139	114%	146	155	122
St. Mary R nr Babb ²								
	APR-JUL	380	420	445	116%	470	510	385
	APR-SEP	440	485	515	114%	545	590	450
St. Mary R at Intl Boundary ²								
	APR-JUL	425	480	520	120%	560	615	435
	APR-SEP	515	575	615	119%	655	715	515
Milk R at Western Crossing of Intl Bndry, AB								

Milk R at Eastern Crossing of Intl Bndry	APR-JUL	32	39	43	130%	47	54	33
	APR-SEP	33	41	46	128%	51	59	36
	APR-JUL	57	82	99	163%	116	141	60.6
	APR-SEP	62	90	108	156%	126	154	69.2

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

MISSOURI MAINSTEM BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Missouri R at Toston ²	APR-JUL	1750	2090	2320	113%	2550	2890	2050
	APR-SEP	1920	2420	2700	113%	2980	3480	2390
Dearborn R nr Craig	APR-JUL	91	120	139	115%	158	187	121
	APR-SEP	93	124	144	115%	164	195	125
Missouri R at Fort Benton ²	APR-JUL	2430	3010	3410	114%	3810	4390	2990
	APR-SEP	2890	3600	4070	114%	4540	5250	3570
Missouri R nr Virgelle ²	APR-JUL	2840	3510	3970	115%	4430	5100	3450
	APR-SEP	3310	4110	4650	115%	5190	5990	4060
Missouri R nr Landusky ²	APR-JUL	3000	3720	4210	114%	4700	5420	3690
	APR-SEP	3510	4360	4940	114%	5520	6380	4350
Missouri R bl Fort Peck Dam ²	APR-JUL	3120	3840	4340	116%	4840	5560	3740
	APR-SEP	3580	4440	5010	116%	5580	6440	4330
Lake Sakakawea Inflow ²	APR-JUL	8010	9910	11200	115%	12500	14400	9740
	APR-SEP	9170	11400	12900	115%	14400	16600	11200

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

UPPER YELLOWSTONE RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Yellowstone R at Yellowstone Lake Outlet	APR-JUL	615	670	710	120%	750	805	590
	APR-SEP	805	880	930	116%	980	1060	805
Yellowstone R at Corwin Springs	APR-JUL	1790	1960	2070	125%	2180	2350	1650
	APR-SEP	2070	2280	2420	123%	2560	2770	1970
Yellowstone R at Livingston	APR-JUL	2000	2210	2360	124%	2510	2720	1900
	APR-SEP	2330	2590	2760	121%	2930	3190	2280
Shields R nr Livingston	APR-JUL	114	154	181	125%	210	250	145
	APR-SEP	120	165	196	121%	225	270	162
Boulder R at Big Timber	APR-JUL	300	345	370	130%	395	440	285
	APR-SEP	320	370	400	127%	430	480	315
Mystic Lake Inflow ²	APR-JUL	54	58	61	102%	64	68	60

Stillwater R nr Absarokee ²	APR-SEP	68	75	79	103%	83	90	77
	APR-JUL	445	500	540	109%	580	635	495
Clarks Fk Yellowstone R nr Belfry	APR-SEP	520	590	635	109%	680	750	585
	APR-JUL	590	640	675	125%	710	760	540
Cooney Reservoir Inflow	APR-SEP	650	705	745	125%	785	840	595
Yellowstone R at Billings	APR-JUL	3660	4070	4350	124%	4630	5040	3510
	APR-SEP	4010	4750	5090	124%	5430	6160	4120

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average

Forecast Exceedance Probabilities for Risk Assessment Chance that actual volume will exceed forecast

LOWER YELLOWSTONE RIVER BASIN (Wyoming)	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Bighorn R nr St. Xavier ²	APR-JUL	1110	1470	1720	107%	1970	2330	1610
	APR-SEP	1180	1600	1880	107%	2160	2580	1760
Little Bighorn R nr Hardin	APR-JUL	83	108	125	98%	142	167	128
	APR-SEP	94	121	140	97%	159	186	144
Tongue R nr Dayton ²	APR-JUL	73	89	100	104%	111	127	96
	APR-SEP	84	102	114	105%	126	144	109
Big Goose Ck nr Sheridan	APR-JUL	38	48	54	104%	60	70	52
	APR-SEP	47	56	63	105%	70	79	60
Little Goose Ck nr Bighorn	APR-JUL	27	33	37	109%	41	47	34
	APR-SEP	34	41	45	107%	49	56	42
Tongue River Reservoir Inflow ²	APR-JUL	136	195	235	107%	275	335	220
	APR-SEP	160	225	265	106%	305	370	250
Yellowstone R at Miles City ²	APR-JUL	5110	5800	6270	117%	6740	7430	5360
	APR-SEP	5630	6680	7260	117%	7840	8880	6210
Powder R at Moorehead	APR-JUL	105	173	220	107%	265	335	205
	APR-SEP	126	197	245	107%	295	365	230
Powder R nr Locate	APR-JUL	112	194	250	106%	305	390	235
	APR-SEP	132	220	280	108%	340	430	260
Yellowstone R nr Sidney ²	APR-JUL	4800	5660	6250	114%	6840	7700	5480
	APR-SEP	5480	6390	7130	114%	7870	8770	6280

- 1) 90% and 10% exceedance probabilities are actually 95% and 5%
2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions
3) Median value used in place of average