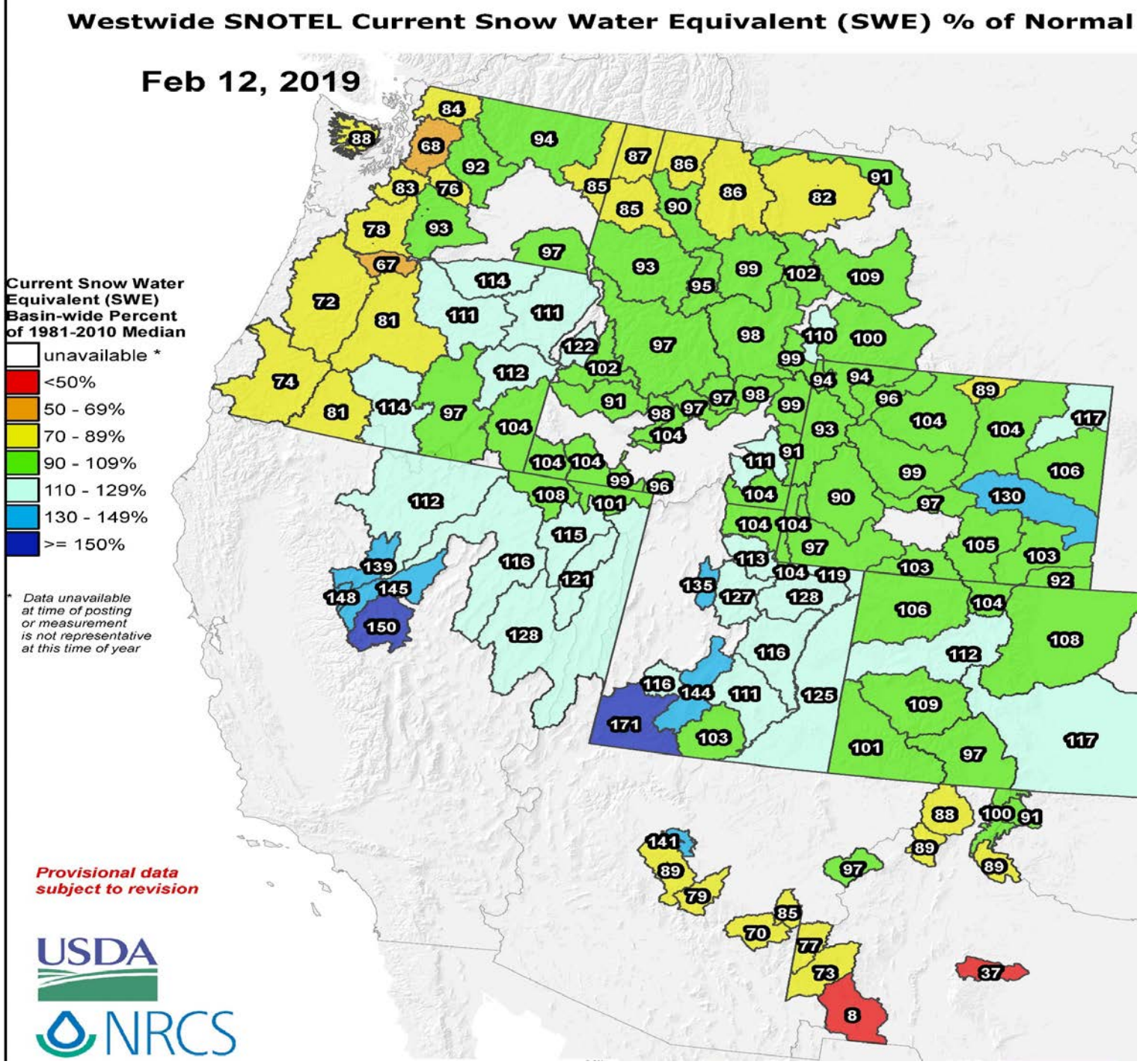
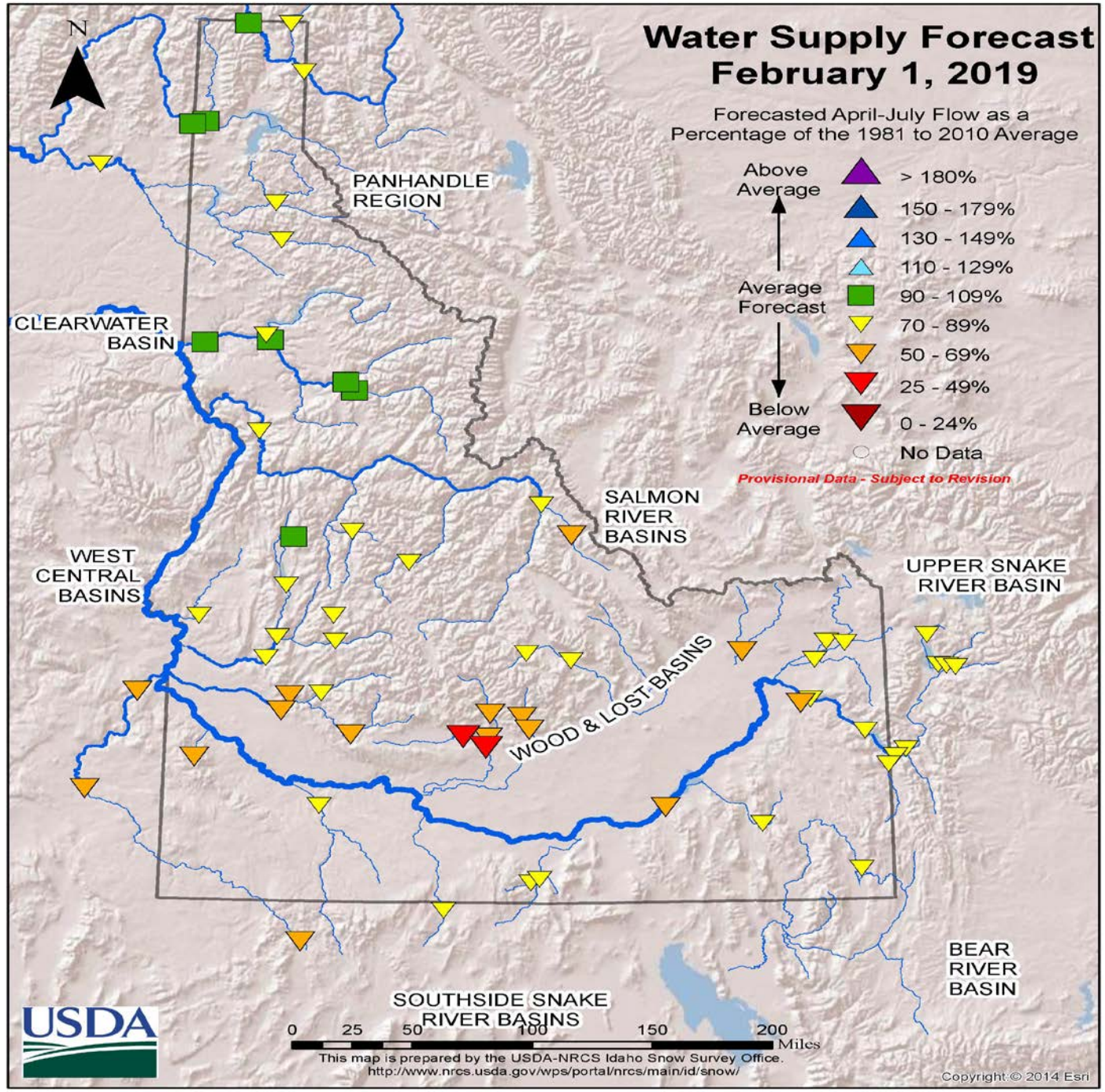
Wood River Water Collaborative Meeting

February 14, 2019

Downtown Hailey, Idaho




Water Supply Forecast
February 1, 2019
Forecasted April-July Flow as a
Percentage of the 1981 to 2010 Average
Above Average
Average Forecast
Below Average
> 180%
150 - 179%
130 - 149%
110 - 129%
90 - 109%
70 - 89%
50 - 69%
25 - 49%
0 - 24%
No Data
Provisional Data - Subject to Revision
N
PANHANDLE REGION
CLEARWATER BASIN
SALMON RIVER BASINS
WEST CENTRAL BASINS
UPPER SNAKE RIVER BASIN
WOOD & LOST BASINS
BEAR RIVER BASIN
SOUTHSIDE SNAKE RIVER BASINS
USDA
0 25 50 100 150 200
Miles
This map is prepared by the USDA-NRCS Idaho Snow Survey Office.
http://www.nrcs.usda.gov/wps/portal/nrcs/main/id/snow/
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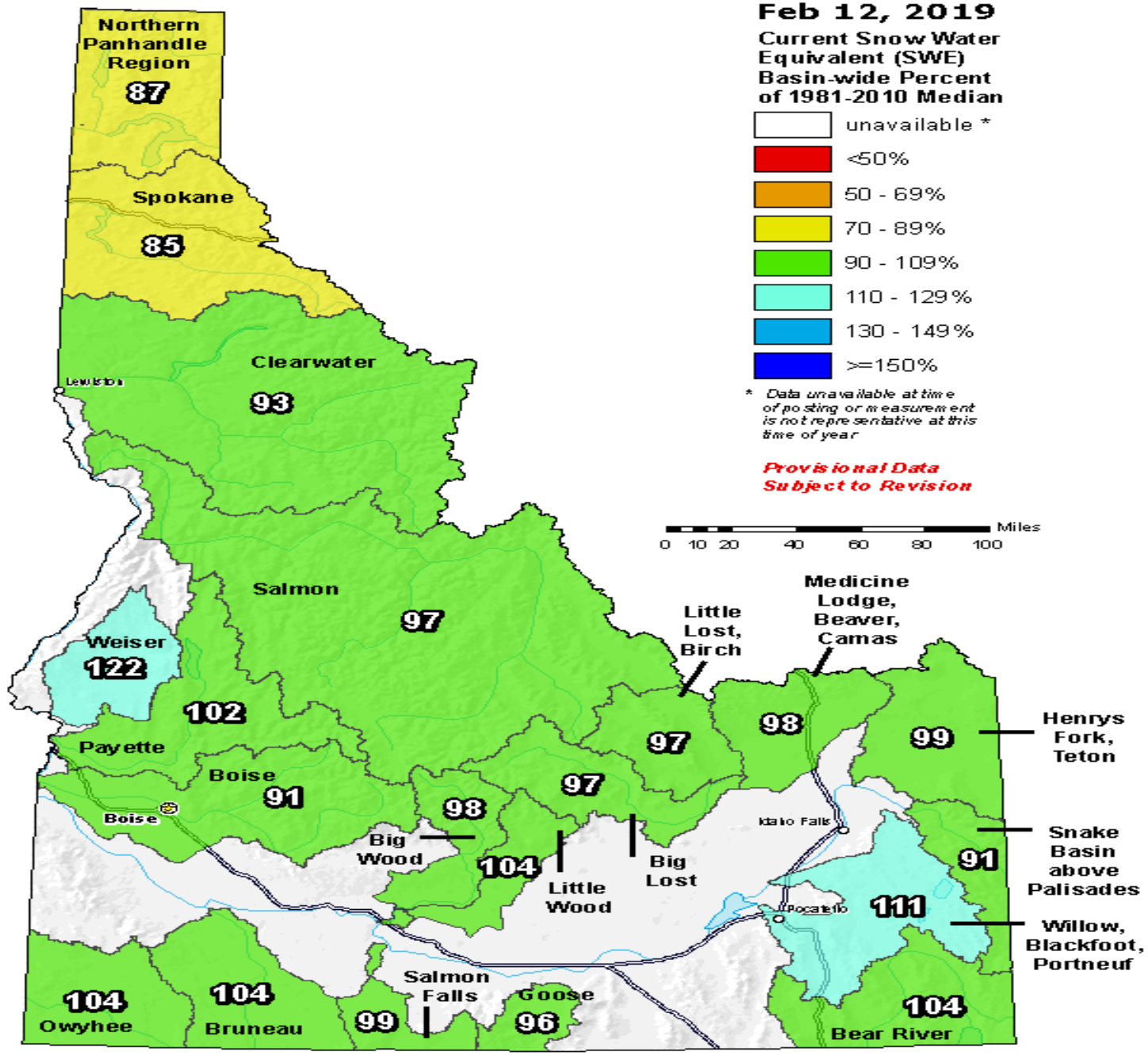
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal

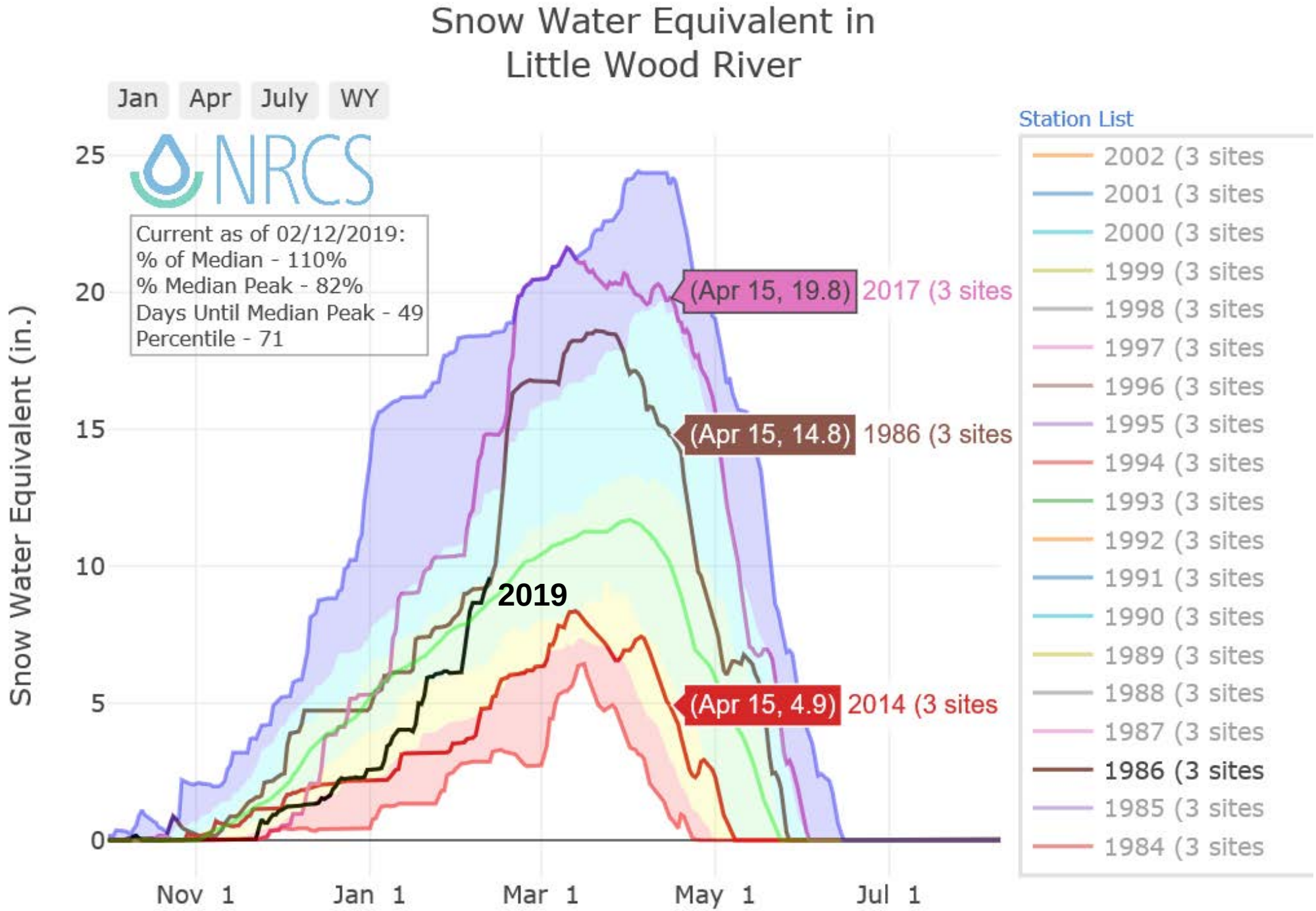


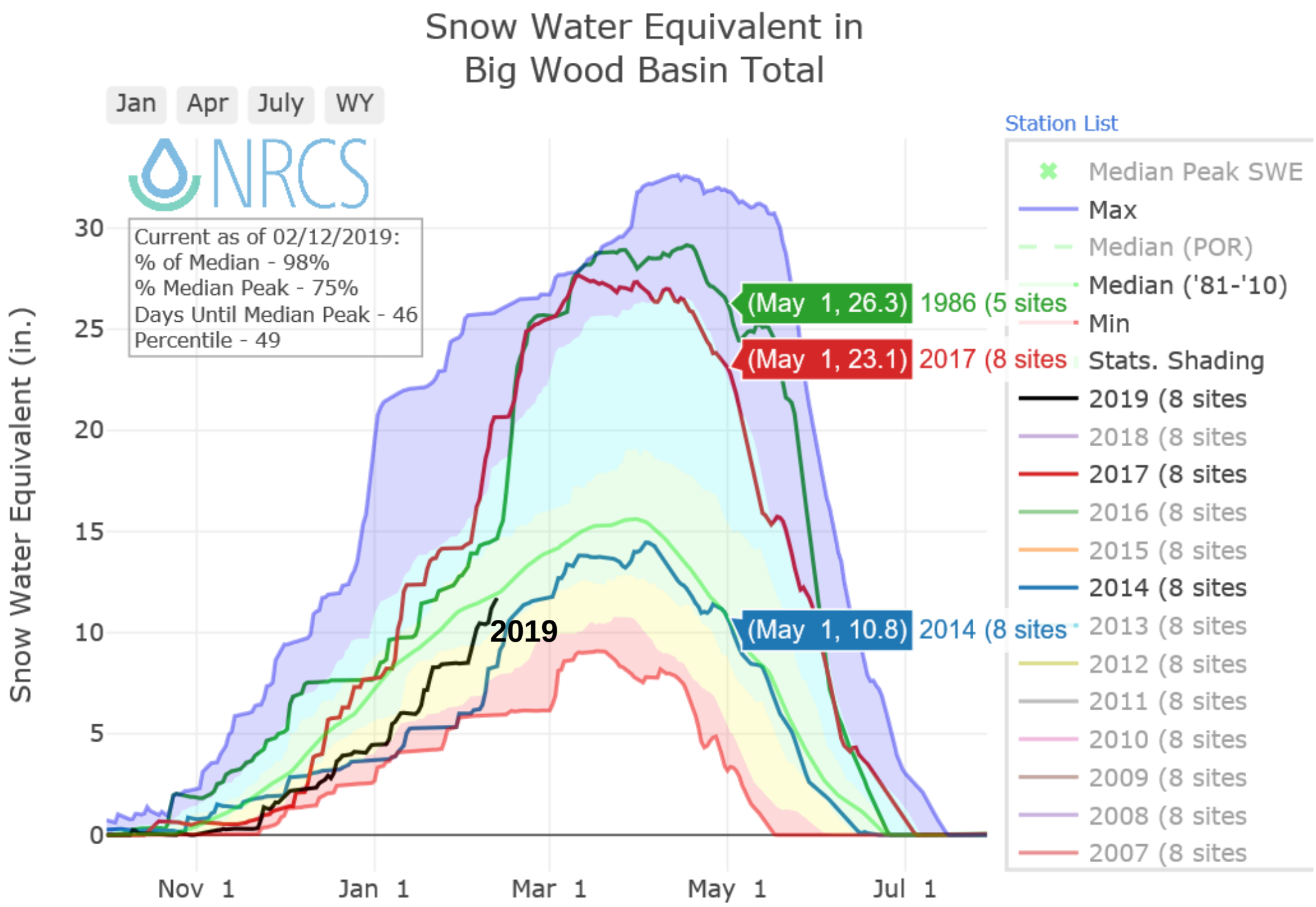
SNOTEL Snowpack & Precipitation Summary

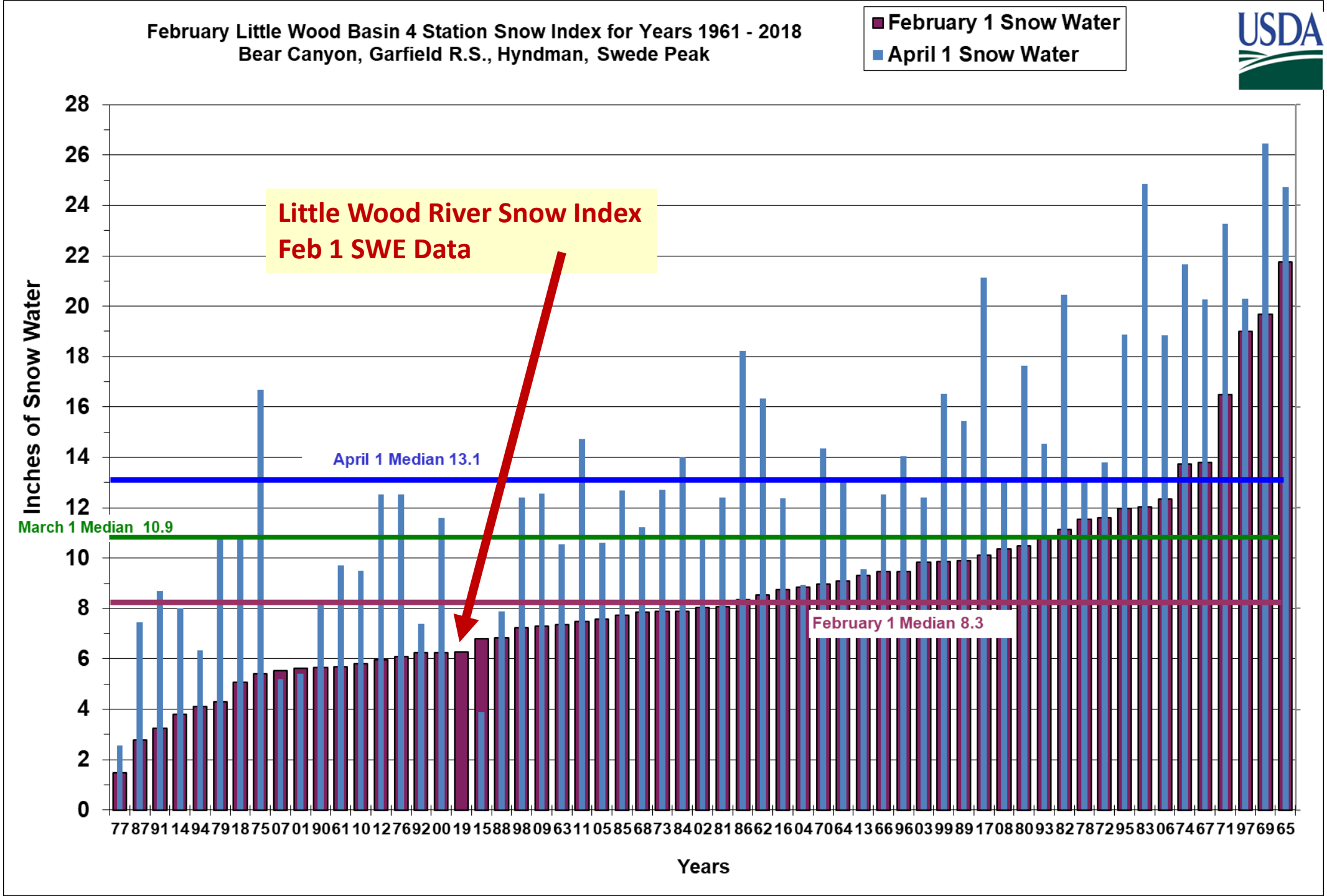
as of February 12, 2019

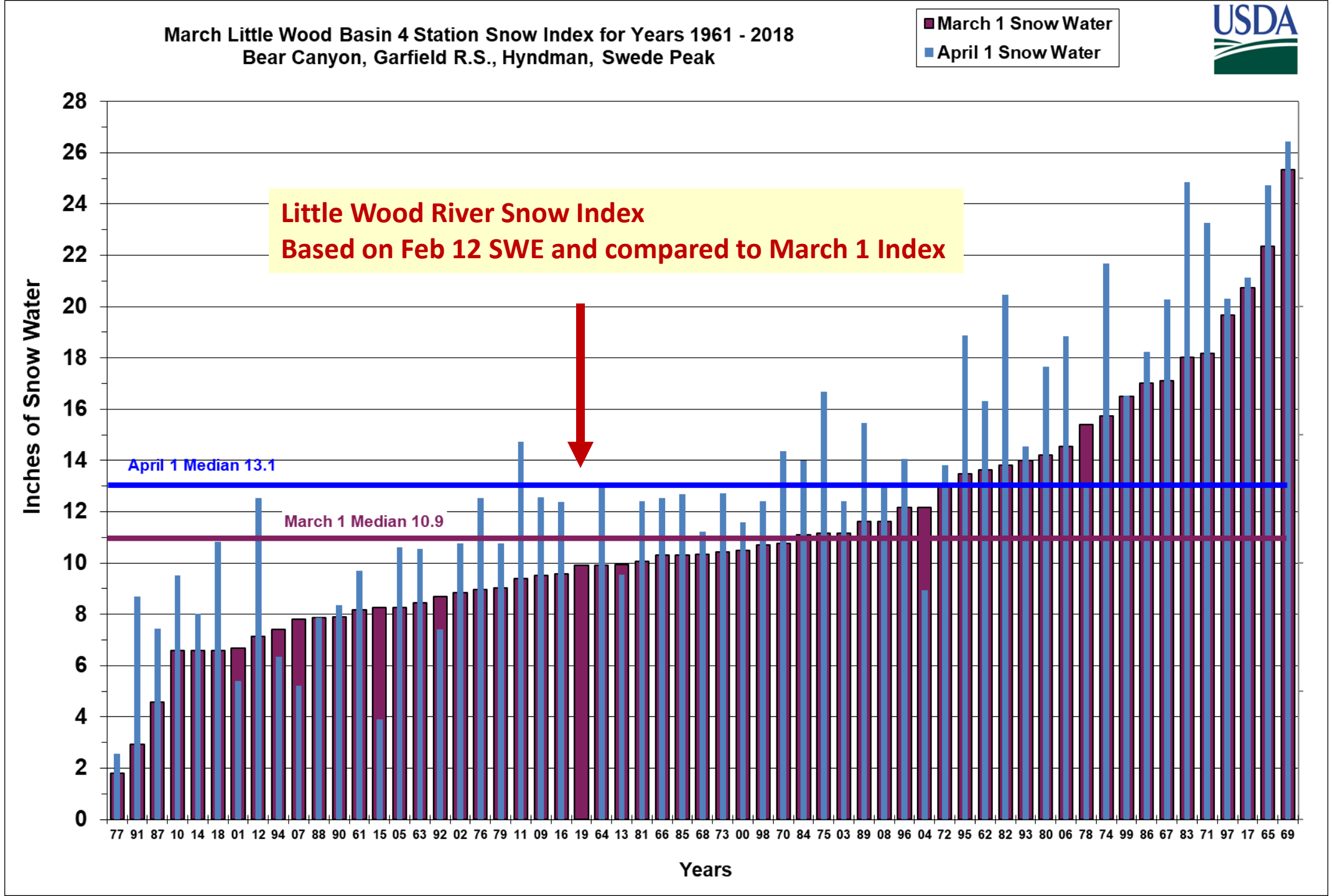
	February 12, 2019		February 1-12
Region or Basin	SWE as % of Median	Percent of Seasonal Peak	Precipitation as % of Monthly Total Precipitation
NORTHERN PANHANDLE REGION	87	64	40
SPOKANE BASIN	85	66	39
CLEARWATER BASIN	93	68	43
SALMON BASIN	97	66	58
WEISER BASIN	122	91	101
PAYETTE BASIN	102	71	70
BOISE BASIN	91	65	80
BIG WOOD BASIN	98	70	90
LITTLE WOOD BASIN	104	70	148
BIG LOST BASIN	97	65	143
LITTLE LOST, BIRCH BASINS	97	66	105
MEDICINE LODGE, BEAVER, CAMAS	98	63	132
HENRYS FORK, TETON BASINS	99	67	80
SNAKE BASIN ABOVE PALISADES	91	62	64
WILLOW, BLACKFOOT, PORTNEUF	111	79	113
SNAKE BASIN ABOVE AMERICAN	97	66	77
OAKLEY BASIN	96	69	61
SALMON FALLS BASIN	99	70	77
BRUNEAU BASIN	104	74	84
OWYHEE BASIN	104	77	65
BEAR RIVER BASIN	104	69	75

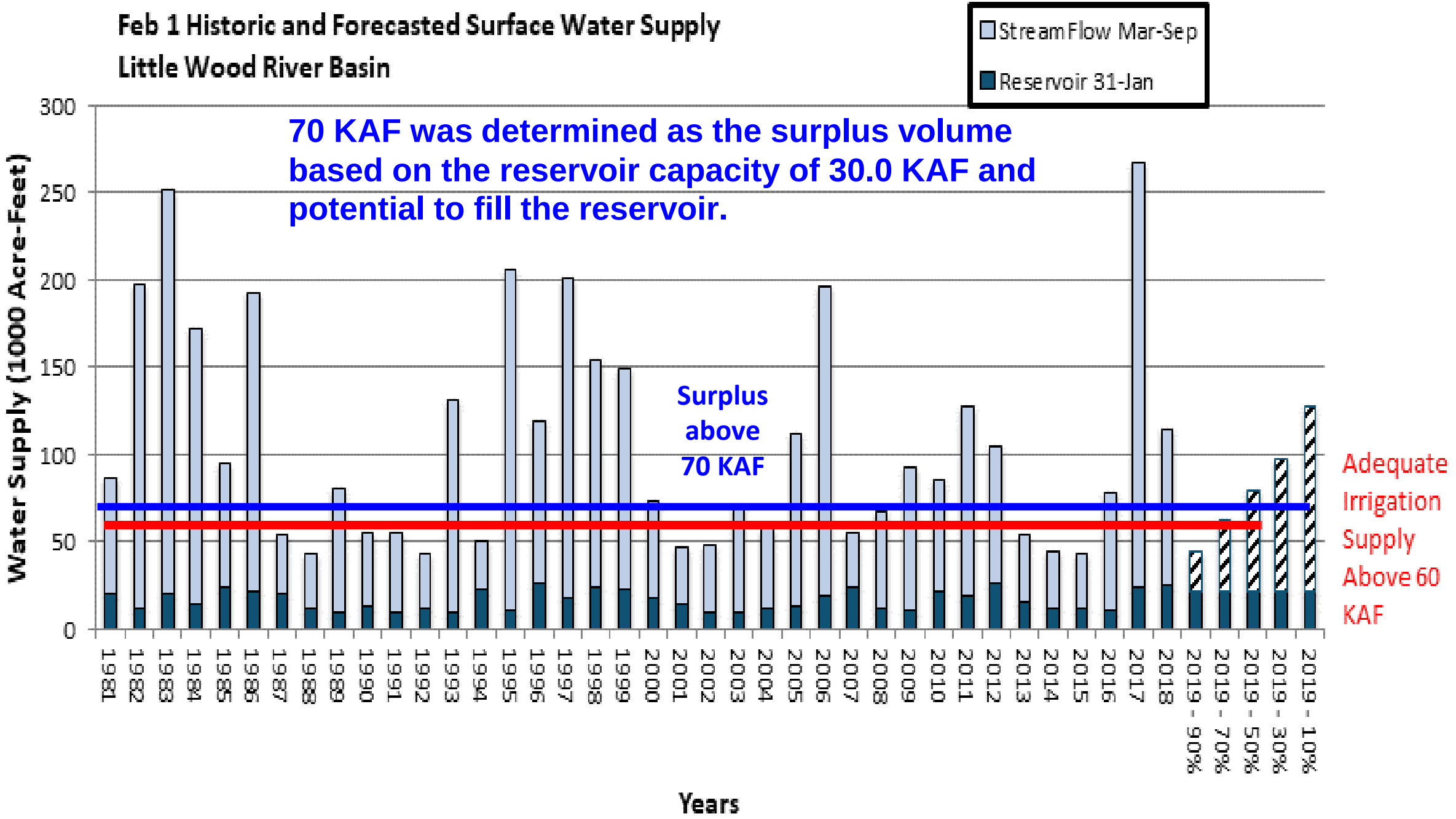
SWE = Snow Water Equivalent

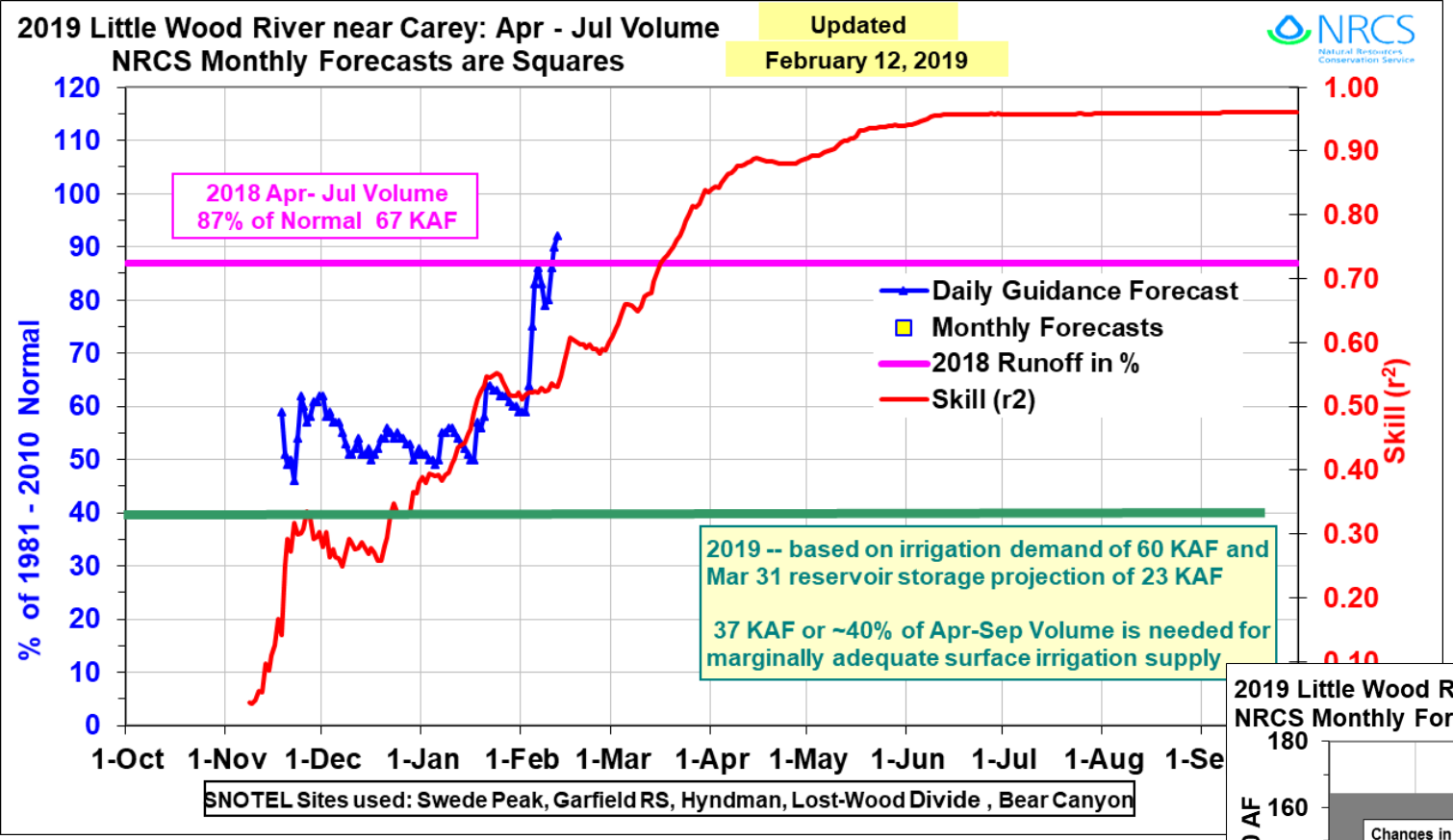

Snow Water Equivalent in
Little Wood River
Jan
Apr
July
WY
NRCS
Current as of 02/12/2019:
% of Median - 110%
% Median Peak - 82%
Days Until Median Peak - 49
Percentile - 71
Snow Water Equivalent (in.)
25
20
15
10
5
0
Nov 1
Jan 1
Mar 1
May 1
Jul 1
(Apr 15, 19.8) 2017 (3 sites
(Apr 15, 14.8) 1986 (3 sites
2019
(Apr 15, 4.9) 2014 (3 sites
Station List
2002 (3 sites
2001 (3 sites
2000 (3 sites
1999 (3 sites
1998 (3 sites
1997 (3 sites
1996 (3 sites
1995 (3 sites
1994 (3 sites
1993 (3 sites
1992 (3 sites
1991 (3 sites
1990 (3 sites
1989 (3 sites
1988 (3 sites
1987 (3 sites
1986 (3 sites
1985 (3 sites
1984 (3 sites

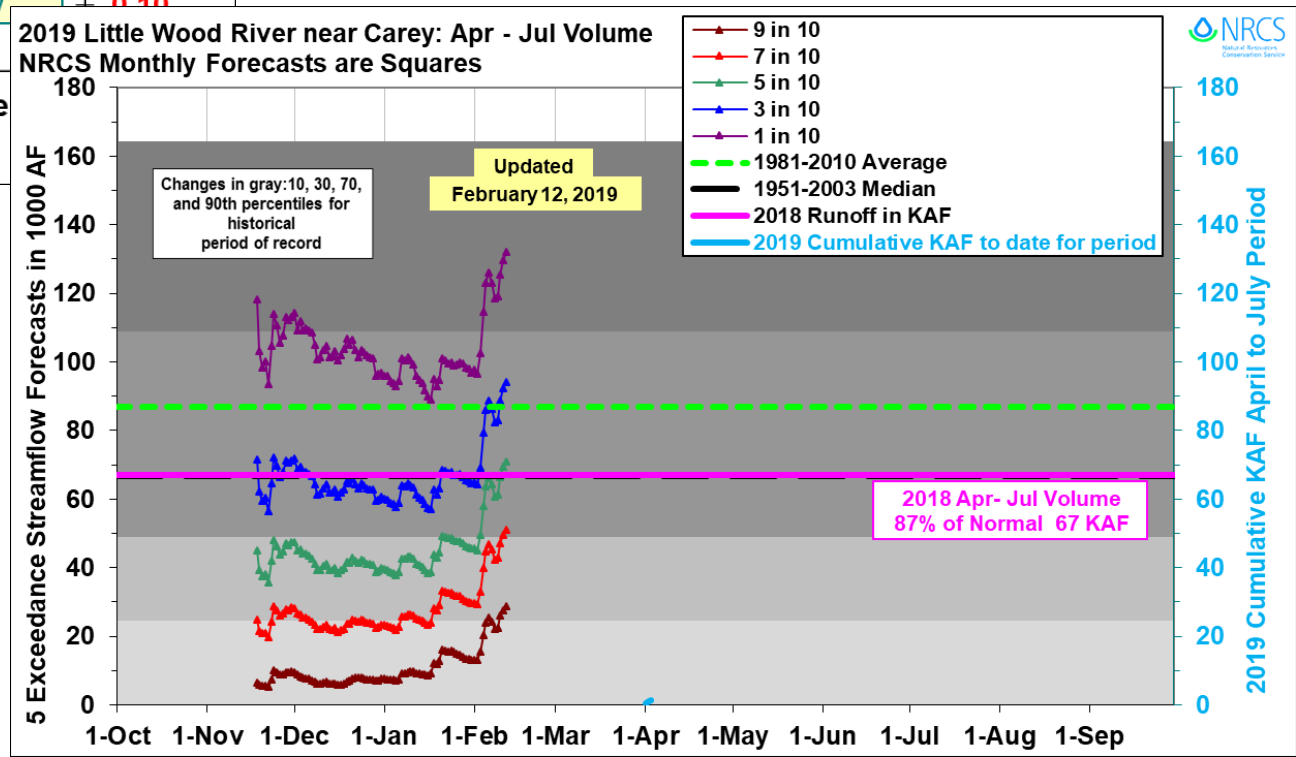

Snow Water Equivalent in
Big Wood Basin Total
Jan
Apr
July
WY
NRCS
Current as of 02/12/2019:
% of Median - 98%
% Median Peak - 75%
Days Until Median Peak - 46
Percentile - 49
Snow Water Equivalent (in.)
30
25
20
15
10
5
0
Nov 1
Jan 1
Mar 1
May 1
Jul 1
(May 1, 26.3) 1986 (5 sites
(May 1, 23.1) 2017 (8 sites
(May 1, 10.8) 2014 (8 sites
2019
Station List
Median Peak SWE
Max
Median (POR)
Median ('81-'10)
Min
Stats. Shading
2019 (8 sites
2018 (8 sites
2017 (8 sites
2016 (8 sites
2015 (8 sites
2014 (8 sites
2013 (8 sites
2012 (8 sites
2011 (8 sites
2010 (8 sites
2009 (8 sites
2008 (8 sites
2007 (8 sites

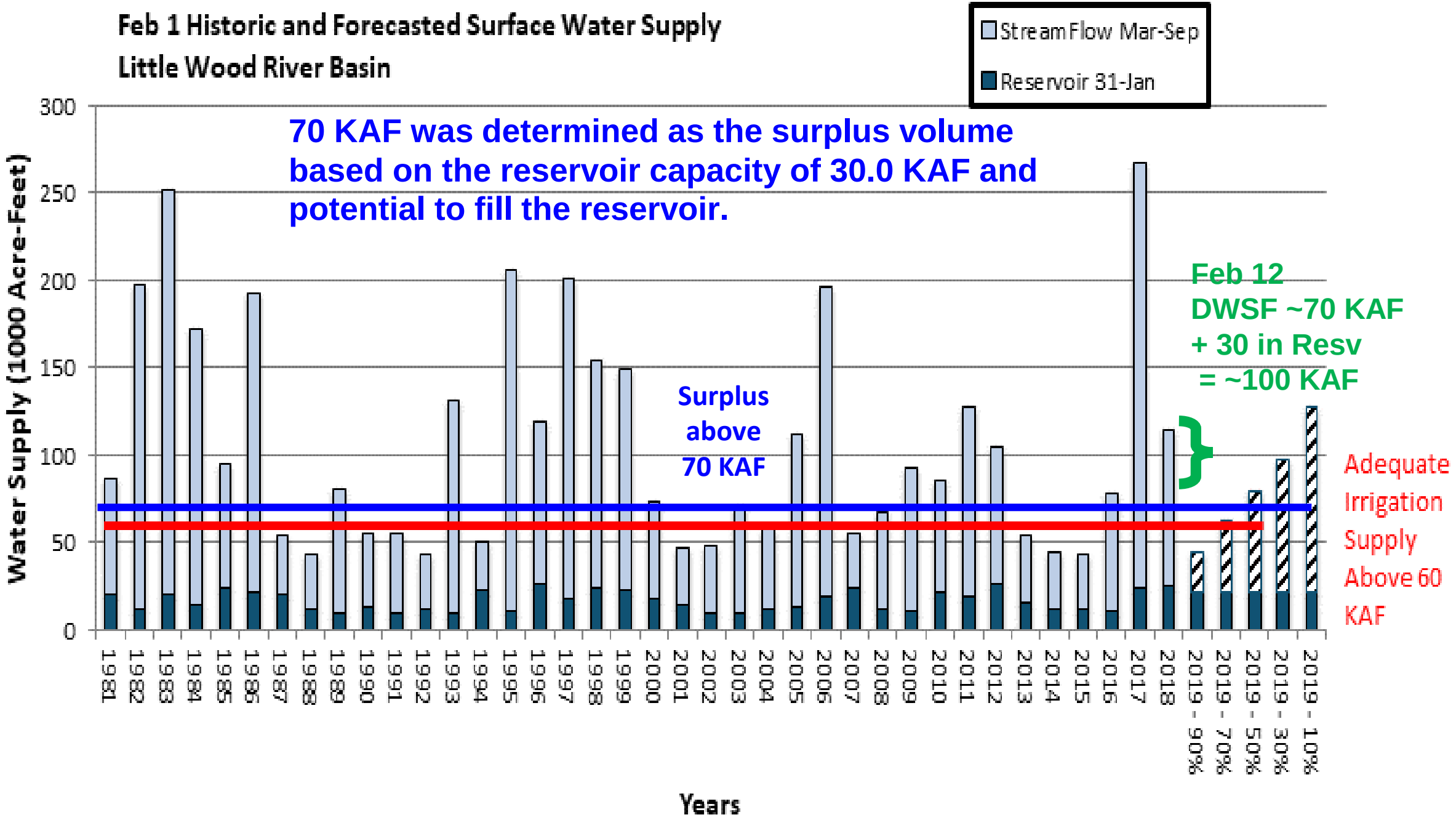

February Little Wood Basin 4 Station Snow Index for Years 1961 - 2018
Bear Canyon, Garfield R.S., Hyndman, Swede Peak
February 1 Snow Water
April 1 Snow Water
USDA
Little Wood River Snow Index
Feb 1 SWE Data
April 1 Median 13.1
March 1 Median 10.9
February 1 Median 8.3
Inches of Snow Water
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
77 87 91 14 94 79 18 75 07 01 90 61 10 12 76 92 00 19 15 88 98 09 63 11 05 85 68 73 84 02 81 86 62 16 04 70 64 13 66 96 03 99 89 17 08 80 93 82 78 72 95 83 06 74 67 71 97 69 65
Years


March Little Wood Basin 4 Station Snow Index for Years 1961 - 2018
Bear Canyon, Garfield R.S., Hyndman, Swede Peak
March 1 Snow Water
April 1 Snow Water
USDA
Little Wood River Snow Index
Based on Feb 12 SWE and compared to March 1 Index
April 1 Median 13.1
March 1 Median 10.9
Inches of Snow Water
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
77 91 87 10 14 18 01 12 94 07 88 90 61 15 05 63 92 02 76 79 11 09 16 19 64 13 81 66 85 68 73 00 98 70 84 75 03 89 08 96 04 72 95 62 82 93 80 06 78 74 99 86 67 83 71 97 17 65 69
Years


Feb 1 Historic and Forecasted Surface Water Supply
Little Wood River Basin
Stream Flow Mar-Sep
Reservoir 31-Jan
70 KAF was determined as the surplus volume based on the reservoir capacity of 30.0 KAF and potential to fill the reservoir.
Surplus above 70 KAF
Adequate Irrigation Supply Above 60 KAF
Water Supply (1000 Acre-Feet)
300
250
200
150
100
50
0
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019 - 90%
2019 - 70%
2019 - 50%
2019 - 30%
2019 - 10%
Years


2019 Little Wood River near Carey: Apr - Jul Volume
NRCS Monthly Forecasts are Squares
Updated
February 12, 2019
NRCS
2018 Apr- Jul Volume
87% of Normal 67 KAF
Daily Guidance Forecast
Monthly Forecasts
2018 Runoff in %
Skill (r2)
2019 -- based on irrigation demand of 60 KAF and Mar 31 reservoir storage projection of 23 KAF
37 KAF or ~40% of Apr-Sep Volume is needed for marginally adequate surface irrigation supply
% of 1981 - 2010 Normal
Skill (r²)
1-Oct 1-Nov 1-Dec 1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Se
SNOTEL Sites used: Swede Peak, Garfield RS, Hyndman, Lost-Wood Divide , Bear Canyon

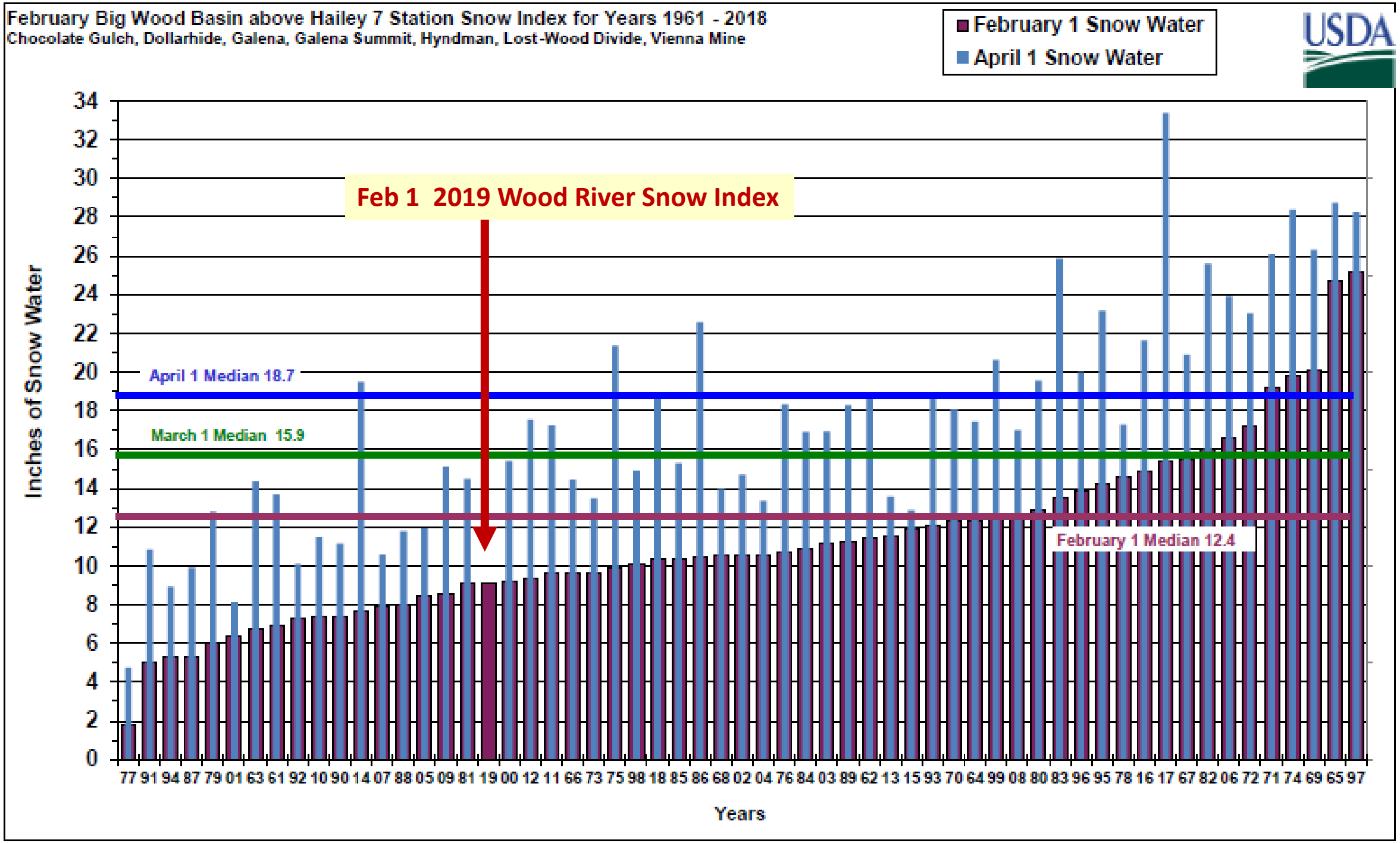

2019 Little Wood River near Carey: Apr - Jul Volume
NRCS Monthly Forecasts are Squares
NRCS
9 in 10
7 in 10
5 in 10
3 in 10
1 in 10
1981-2010 Average
1951-2003 Median
2018 Runoff in KAF
2019 Cumulative KAF to date for period
Changes in gray:10, 30, 70, and 90th percentiles for historical period of record
Updated
February 12, 2019
2018 Apr- Jul Volume
87% of Normal 67 KAF
5 Exceedance Streamflow Forecasts in 1000 AF
2019 Cumulative KAF April to July Period
1-Oct 1-Nov 1-Dec 1-Jan 1-Feb 1-Mar 1-Apr 1-May 1-Jun 1-Jul 1-Aug 1-Sep


Feb 1 Historic and Forecasted Surface Water Supply
Little Wood River Basin
Stream Flow Mar-Sep
Reservoir 31-Jan
70 KAF was determined as the surplus volume based on the reservoir capacity of 30.0 KAF and potential to fill the reservoir.
Feb 12
DWSF ~70 KAF
+ 30 in Resv
= ~100 KAF
Surplus above 70 KAF
Adequate Irrigation Supply Above 60 KAF
Water Supply (1000 Acre-Feet)
300
250
200
150
100
50
0
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019 - 90%
2019 - 70%
2019 - 50%
2019 - 30%
2019 - 10%
Years

How many were surprised to see this much snow in February so far?

- **Raise your right hand**

Cat Skiing Brundage Sunday February 10, 2019

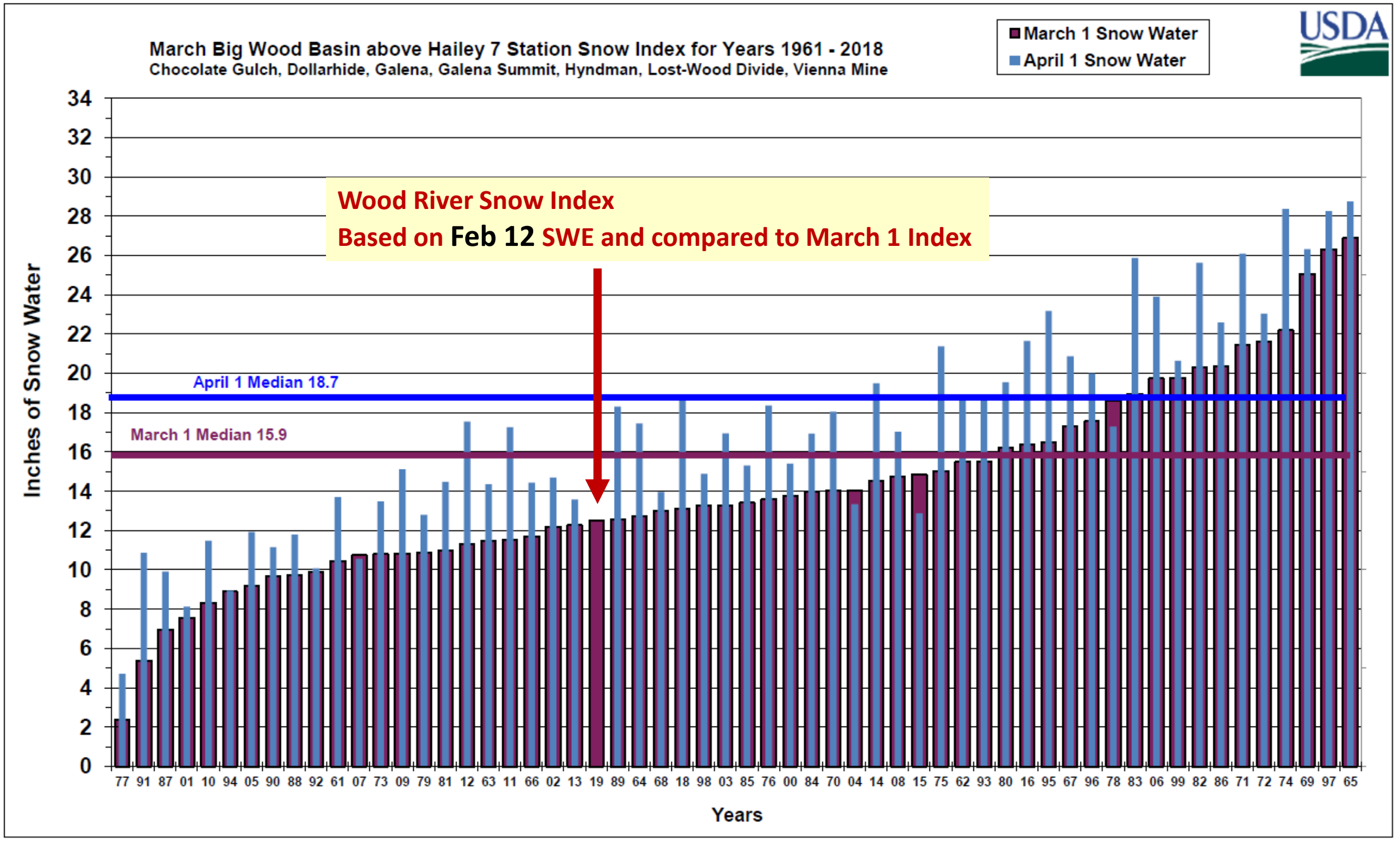

February Big Wood Basin above Hailey 7 Station Snow Index for Years 1961 - 2018
Chocolate Gulch, Dollarhide, Galena, Galena Summit, Hyndman, Lost-Wood Divide, Vienna Mine
February 1 Snow Water
April 1 Snow Water
USDA
Feb 1 2019 Wood River Snow Index
April 1 Median 18.7
March 1 Median 15.9
February 1 Median 12.4
Inches of Snow Water
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
77 91 94 87 79 01 63 61 92 10 90 14 07 88 05 09 81 19 00 12 11 66 73 75 98 18 85 86 68 02 04 76 84 03 89 62 13 15 93 70 64 99 08 80 83 96 95 78 16 17 67 82 06 72 71 74 69 65 97
Years

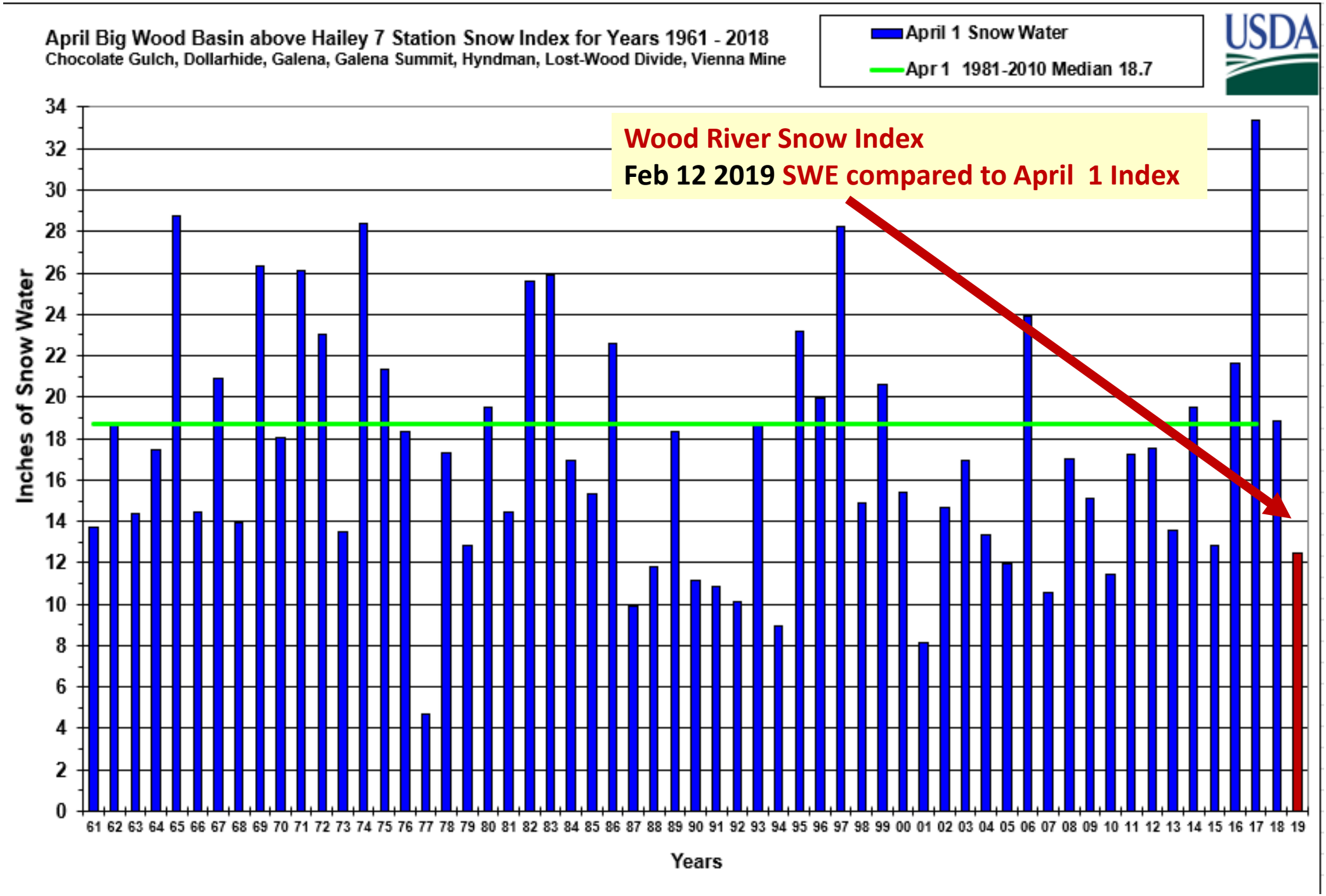
Big Wood Basin 7 Station Snow Index Big Wood River above Hailey

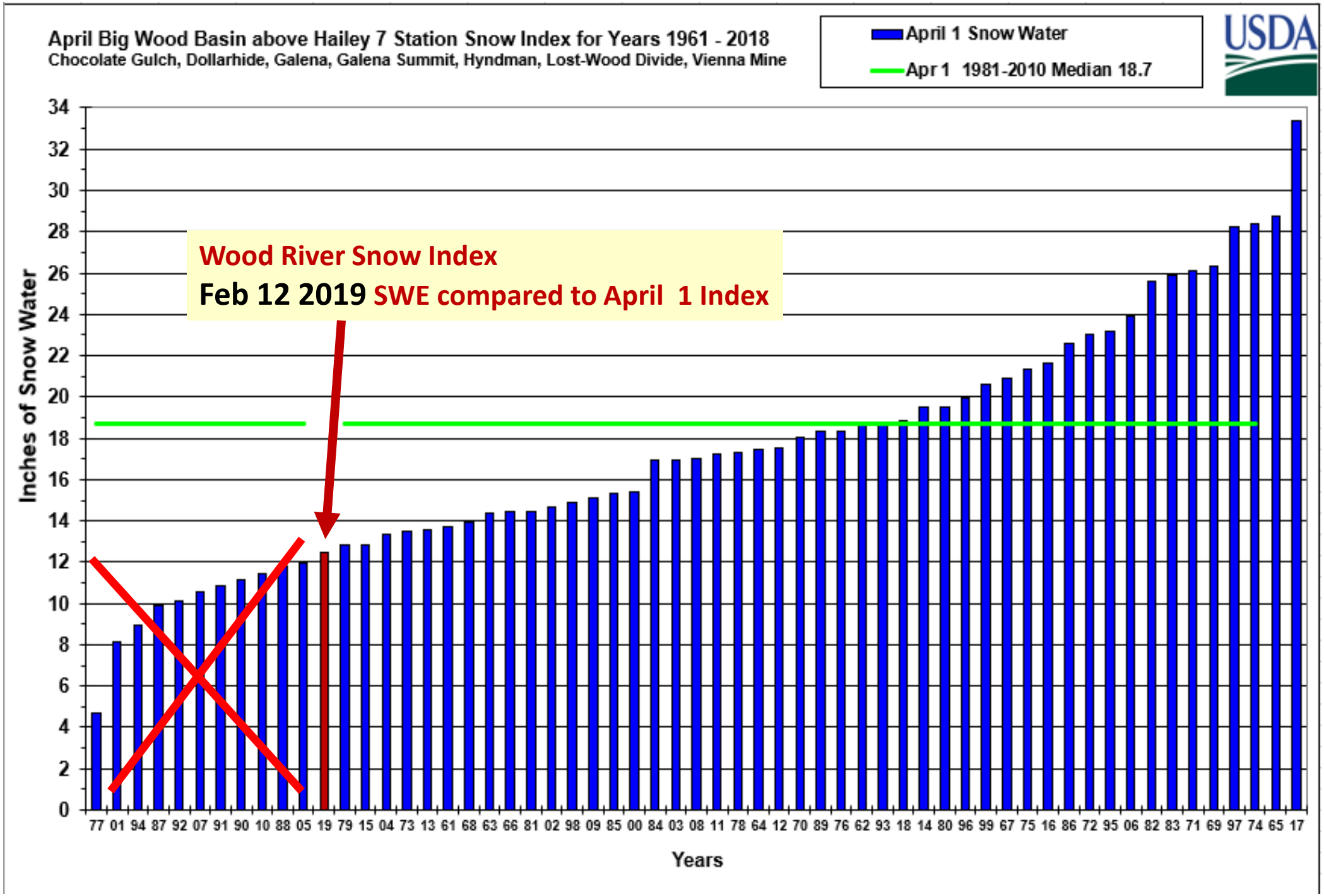
	1981-2010 Normals						Daily SWE Starts			
SNOTEL Site	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Year**			
CHOCOLATE GULCH	5.3	8.5	10.8	11.7	5.8	0.0	1994		8.9	CHOCOLATE GULCH
DOLLARHIDE SUMMIT	10.0	14.3	18.5	21.7	21.6	12.6	1982		15.6	DOLLARHIDE SUMMI
GALENA	10.0	14.3	18.5	21.7	21.6	12.6	1983		10.0	GALENA
GALENA SUMMIT	8.6	12.1	15.4	18.7	17.1	5.4	1982		12.5	GALENA SUMMIT
HYNDMAN	5.2	7.8	9.9	11.9	6.2	0.0	1981		8.7	HYNDMAN
LOST-WOOD DIVIDE	7.9	12.4	15.9	18.5	13.7	0.0	1982		11.6	LOST-WOOD DIVIDE
VIENNA MINE	13.2	20.1	24.8	30.2	30.8	19.5	1981		20.1	VIENNA MINE
Sum	**60.2**	**89.5**	**113.8**	**134.4**	**116.8**	**50.1**	*****		**87.4**	**Sum**
1981-2010 Averages	**8.6**	**12.8**	**16.3**	**19.2**	**16.7**	**7.2**	*****		**as of Feb 12**	
1981-2010 Medians	**8.6**	**12.4**	**15.9**	**18.7**	**17.1**	**5.4**	*****			

SWE = Snow Water Equivalent, units = inches

Year	Jan Index Total	Feb Index Total	Mar Index Total	Apr Index Total	May Index Total	June Index Total	Quality Flag
77	4.0	12.4	16.8	33.0	4.8	*****	est
91	31.7	34.9	37.7	76.1	77.2	38.9	est
87	21.0	37.4	48.8	69.4	19.1	0.0	est
01	43.1	44.8	53.0	56.9	40.5	0.0	1st
10	38.7	51.4	58.3	80.3	69.4	40.3	1st
94	28.6	36.9	62.2	62.5	38.8	4.0	1st
05	54.5	59.4	64.3	83.5	67.8	17.6	1st
90	21.2	51.6	67.7	78.1	46.5	18.8	est
88	42.4	55.9	68.1	82.5	54.0	*****	est
92	56.9	51.1	69.2	70.6	34.4	0.0	est
61	53.6	48.7	73.1	95.9	84.4	*****	est
07	56.6	55.1	75.2	73.9	44.2	0.8	1st
73	47.3	67.7	75.6	94.4	81.2	*****	est
09	52.3	59.6	75.8	105.9	88.6	18.7	1st
79	32.7	42.4	76.3	89.6	88.2	*****	est
81	57.6	63.8	77.0	101.4	76.1	*****	est
12	46.3	65.4	79.3	122.8	77.3	24.2	1st
63	37.4	47.1	80.3	100.5	109.9	*****	est
11	67.8	67.2	80.5	120.8	136.5	82.9	1st
66	34.5	67.5	81.9	101.1	62.7	*****	est
02	62.6	73.6	85.4	102.9	86.3	17.0	1st
13	85.1	80.9	85.9	95.0	66.4	10.2	1st
19	34.3	63.8	**87.4**				
89	64.7	78.9	88.1	128.2	98.6	18.7	est
64	53.9	86.3	89.1	122.2	115.0	*****	est
68	44.3	73.4	90.9	97.7	78.5	*****	est
18	49.0	72.2	91.7	132.0	105.0	13.7	1st
98	32.7	70.4	92.9	104.2	93.5	53.9	1st
03	70.0	77.9	93.1	118.6	120.6	39.1	1st
85	86.3	72.3	93.9	107.2	73.0	16.3	est
76	66.3	75.1	95.1	128.5	132.7	*****	est
00	36.2	64.3	96.4	107.9	70.9	16.3	1st
84	87.9	76.5	97.8	118.5	123.4	51.9	est
70	41.3	86.2	98.3	126.3	136.8	*****	est
04	63.6	73.6	98.3	93.4	51.7	13.4	1st
14	34.4	53.6	101.5	136.4	109.8	17.9	1st
08	56.5	88.9	103.2	119.2	114.5	33.9	1st
15	67.5	83.5	103.9	90.1	49.7	4.2	1st


March Big Wood Basin above Hailey 7 Station Snow Index for Years 1961 - 2018
Chocolate Gulch, Dollarhide, Galena, Galena Summit, Hyndman, Lost-Wood Divide, Vienna Mine
March 1 Snow Water
April 1 Snow Water
USDA
Wood River Snow Index
Based on Feb 12 SWE and compared to March 1 Index
April 1 Median 18.7
March 1 Median 15.9
Inches of Snow Water
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34
77 91 87 01 10 94 05 90 88 92 61 07 73 09 79 81 12 63 11 66 02 13 19 89 64 68 18 98 03 85 76 00 84 70 04 14 08 15 75 62 93 80 16 95 67 96 78 83 06 99 82 86 71 72 74 69 97 65
Years


April Big Wood Basin above Hailey 7 Station Snow Index for Years 1961 - 2018
Chocolate Gulch, Dollarhide, Galena, Galena Summit, Hyndman, Lost-Wood Divide, Vienna Mine
April 1 Snow Water
Apr 1 1981-2010 Median 18.7
USDA
Wood River Snow Index
Feb 12 2019 SWE compared to April 1 Index
Inches of Snow Water
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34
61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19
Years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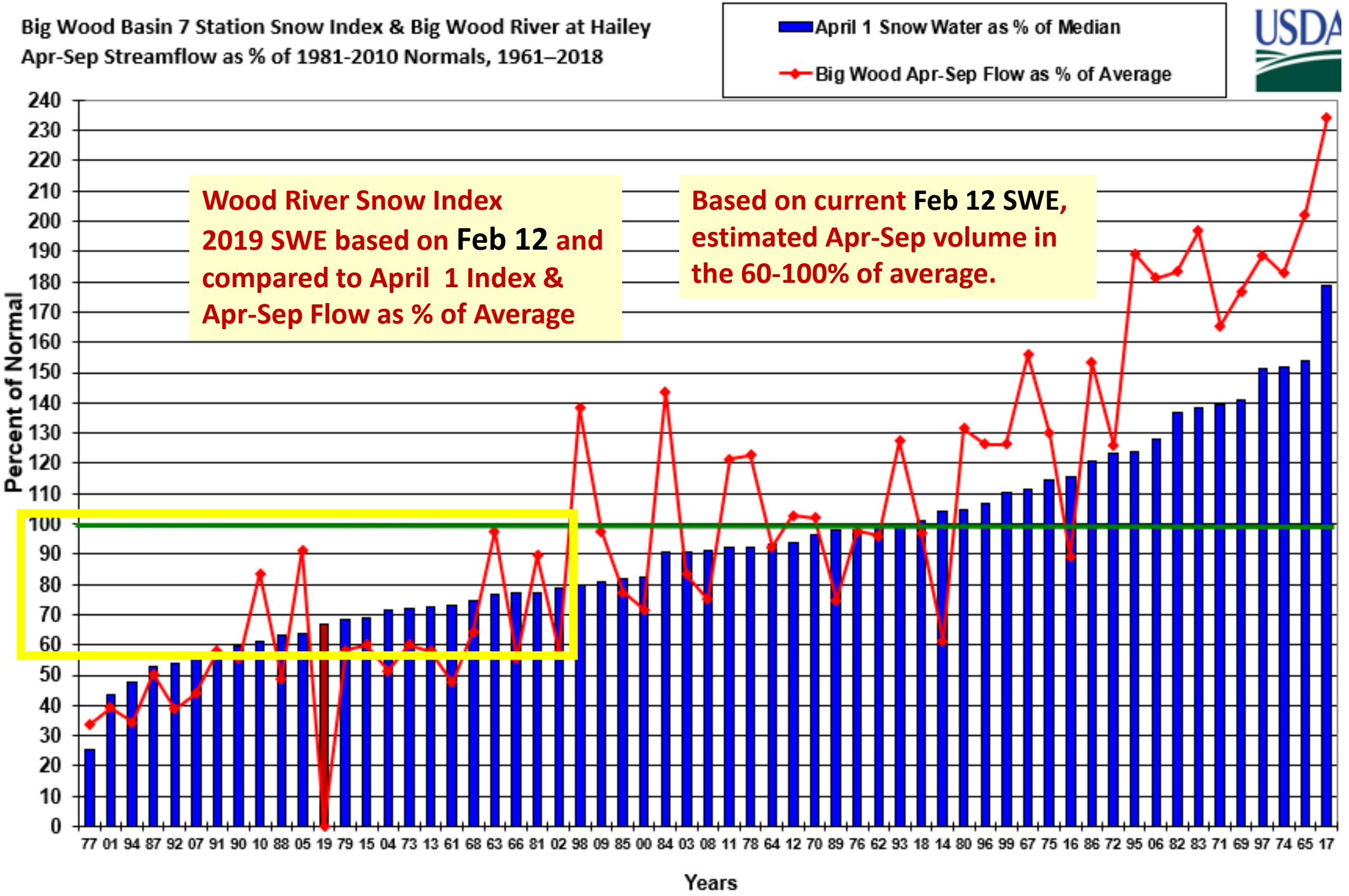
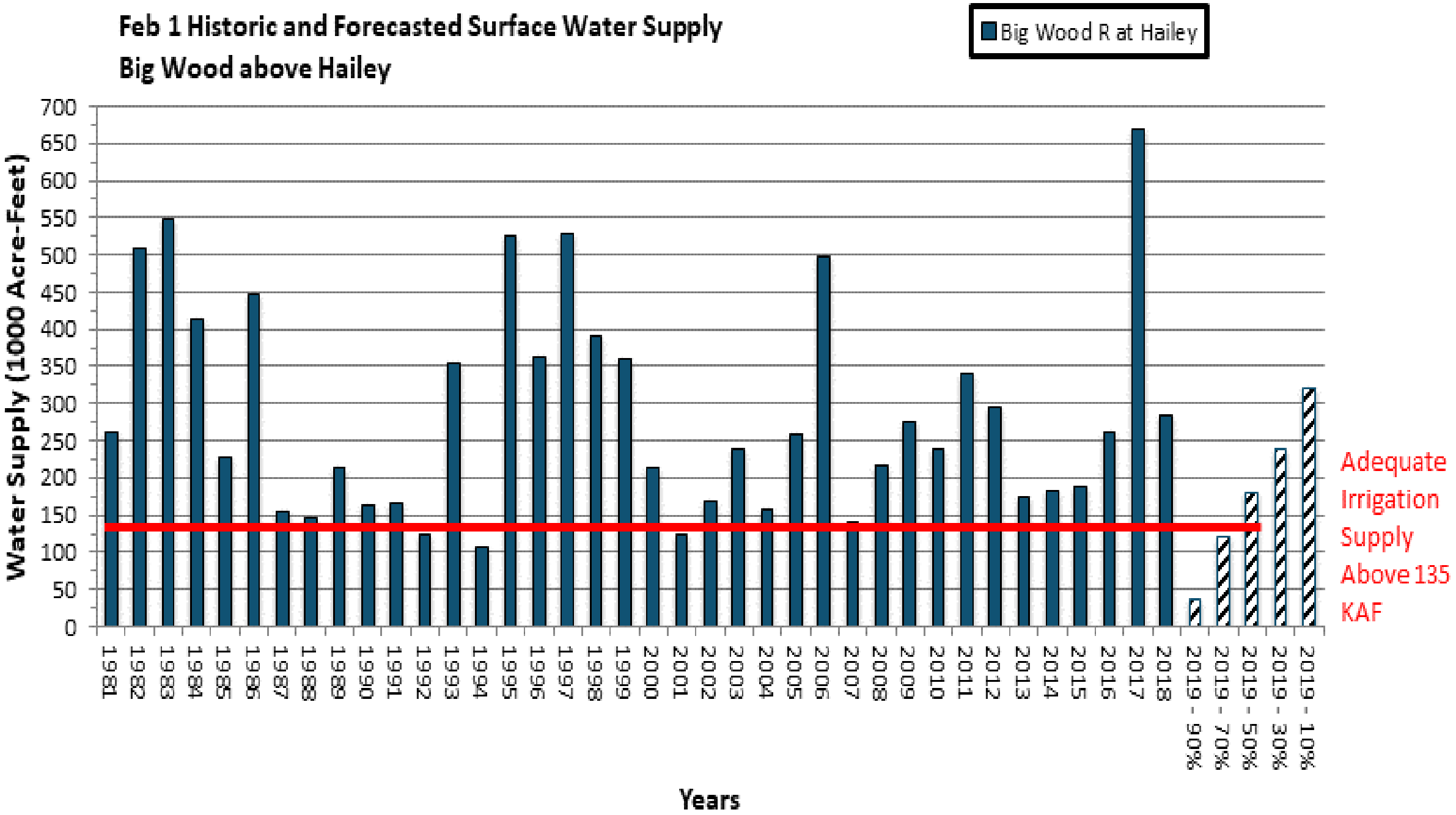
Chocolate Gulch, Dollarhide, Galena, Galena Summit, Hyndman, Lost-Wood Divide, Vienna Mine
April 1 Snow Water
Apr 1 1981-2010 Median 18.7
USDA
Wood River Snow Index
Feb 12 2019 SWE compared to April 1 Index
Inches of Snow Water
0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34
77 01 94 87 92 07 91 90 10 88 05 19 79 15 04 73 13 61 68 63 66 81 02 98 09 85 00 84 03 08 11 78 64 12 70 89 76 62 93 18 14 80 96 99 67 75 16 86 72 95 06 82 83 71 69 97 74 65 17
Years


Big Wood Basin 7 Station Snow Index & Big Wood River at Hailey
Apr-Sep Streamflow as % of 1981-2010 Normals, 1961–2018
April 1 Snow Water as % of Median
Big Wood Apr-Sep Flow as % of Average
USDA
Wood River Snow Index
2019 SWE based on Feb 12 and
compared to April 1 Index &
Apr-Sep Flow as % of Average
Based on current Feb 12 SWE,
estimated Apr-Sep volume in
the 60-100% of average.
Percent of Normal
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
77 01 94 87 92 07 91 90 10 88 05 19 79 15 04 73 13 61 68 63 66 81 02 98 09 85 00 84 03 08 11 78 64 12 70 89 76 62 93 18 14 80 96 99 67 75 16 86 72 95 06 82 83 71 69 97 74 65 17
Years


Feb 1 Historic and Forecasted Surface Water Supply
Big Wood above Hailey
Big Wood R at Hailey
Water Supply (1000 Acre-Feet)
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019 - 90%
2019 - 70%
2019 - 50%
2019 - 30%
2019 - 10%
Years
Adequate Irrigation Supply Above 135 KAF

Wood and Lost Basins Streamflow Forecasts - February 1, 2019

Forecast Point	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment <--Drier----------Projected Volume----------Wetter--> 90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Camas Ck at Camas	APR-JUL	2.9	8.9	14.9	53%	22	36	28
Little Lost R bl Wet Ck nr Howe	APR-JUL	9	15.6	20	71%	24	31	28
	APR-SEP	9.8	18.4	24	71%	30	39	34
Big Lost R at Howell Ranch	APR-JUL	49	93	123	77%	153	196	159
	APR-SEP	56	105	139	77%	173	225	180
Big Lost R bl Mackay Reservoir	APR-JUL	12.8	58	88	72%	118	163	123
	APR-SEP	26	77	112	75%	146	197	150
Little Wood R ab High Five Ck	MAR-JUL	22	37	51	66%	66	92	77
	MAR-SEP	23	40	55	67%	71	99	82
Little Wood R nr Carey 2	MAR-JUL	22	39	54	63%	71	100	86
	MAR-SEP	24	42	58	63%	76	107	92
Big Wood R at Hailey	APR-JUL	30	107	159	68%	210	290	235
	APR-SEP	37	122	180	68%	240	320	265
Big Wood R ab Magic Reservoir	APR-JUL	17.1	52	87	51%	130	210	170
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Camas Ck nr Blaine	APR-JUL	8.2	22	36	44%	53	84	82
	APR-SEP	8.4	23	37	45%	54	85	83
Big Wood R bl Magic Dam 2	APR-JUL	33	79	123	49%	175	270	250
	APR-SEP	38	88	133	50%	188	285	265

60% 160KAF

100% 265KAF

Normals based on 1981-2010 reference period: streamflow, precipitation, & reservoir normals are averages, SWE normals are medians.

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

Big Wood above Hailey SWSI

Adequate Water Supply Greater than -2.9 SWSI or 135 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years	
13139510	Big Wood R at Hailey	Apr-Sep	strm	1981-2018	38	Units KAF

ENSO Classification
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina

Rank	Year	Enso	Stream Flow Apr-Sep	Reservoir 31-Jan	Streamflow + Reservoir Sum	Non-Exceedance Probability	SWSI
1	2017	LN	620	0	620	97%	4.0
2	1983	SE	521	0	521	95%	3.7
3	1995	SE	501	0	501	92%	3.5
4	1997	N	500	0	500	90%	3.3
5	1982	N	485	0	485	87%	3.1
6	2006	N	480	0	480	85%	2.9
7	1986	N	406	0	406	82%	2.7
8	1984	N	381	0	381	79%	2.5
9	1998	SE	366	0	366	77%	2.2
10	1993	EN	338	0	338	74%	2.0
11	1999	SL	335	0	335	72%	1.8
12	1996	N	334	0	334	69%	1.6
13	2011	SL	321	0	321	67%	1.4
2019 10% Chance Exceedance Forcast		EN	320	0	320	65%	1.3
14	2012	LN	272	0	272	64%	1.2
15	2009	N	259	0	259	62%	1.0
16	2018	EN	257	0	257	59%	0.7
17	2005	EN	242	0	242	56%	0.5
2019 30% Chance Exceedance Forcast		EN	240	0	240	55%	0.4
18	1981	N	237	0	237	54%	0.3
19	2016	SE	236	0	236	51%	0.1
20	2010	EN	221	0	221	49%	-0.1
21	2003	EN	221	0	221	46%	-0.3
22	1985	N	205	0	205	44%	-0.5
23	2008	N	199	0	199	41%	-0.7
24	1989	SL	198	0	198	38%	-1.0
25	2000	N	190	0	190	36%	-1.2
2019 50% Chance Exceedance Forcast		EN	180	0	180	35%	-1.3
26	2014	N	162	0	162	33%	-1.4
27	2015	EN	159	0	159	31%	-1.6
28	2013	N	154	0	154	28%	-1.8
29	1991	N	153	0	153	26%	-2.0
30	2002	N	153	0	153	23%	-2.2
31	1990	N	147	0	147	21%	-2.5
32	2004	N	136	0	136	18%	-2.7
33	1987	N	134	0	134	15%	-2.9
34	1988	SE	130	0	130	13%	-3.1
2019 70% Chance Exceedance Forcast		EN	122	0	122	12%	-3.2
35	2007	EN	117	0	117	10%	-3.3
36	2001	LN	104	0	104	8%	-3.5
37	1992	EN	103	0	103	5%	-3.7
38	1994	SE	91	0	91	3%	-4.0
2019 90% Chance Exceedance Forcast		EN	37	0	37	1%	-4.1

Surplus Above ???
Flood Stage Level ??

Adequate Supplies

Shortages Likely

135 KAF

Big Wood above Hailey SWSI

Adequate Water Supply Greater than -2.9 SWSI or 135 KAF

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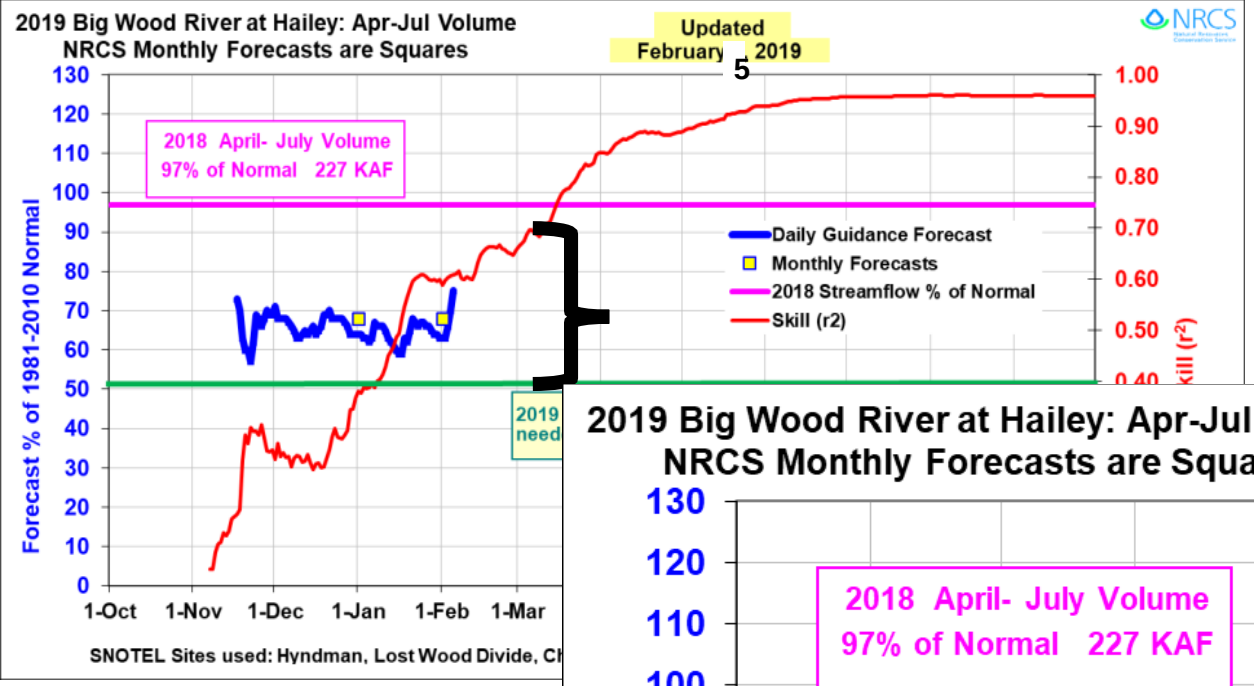
Surplus Above ???
Flood Stage Level ??

Adequate Supplies

Shortages Likely

60-100% of average range =
160 to 265 KAF Apr-Sep Runoff

135 KAF



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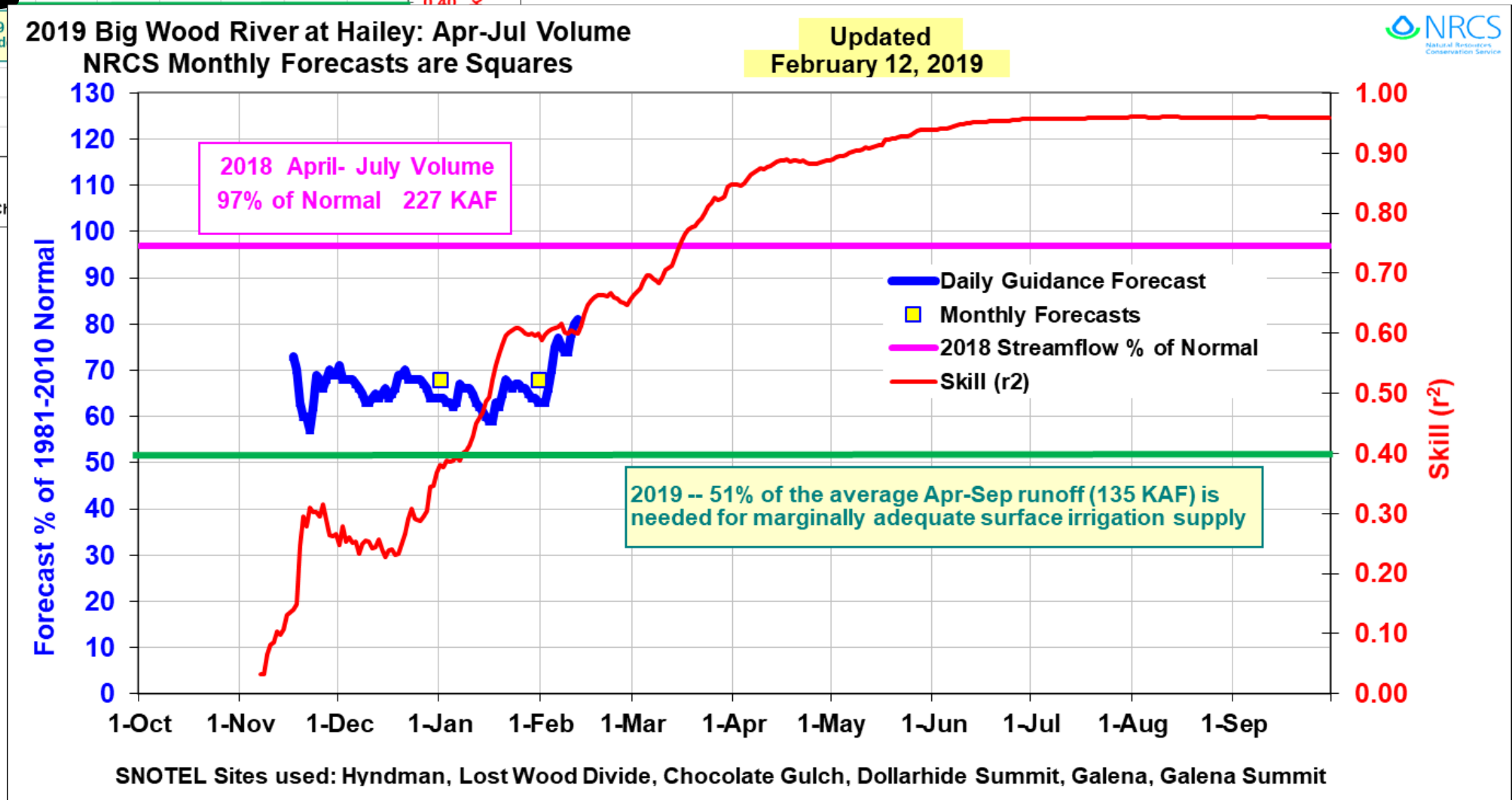
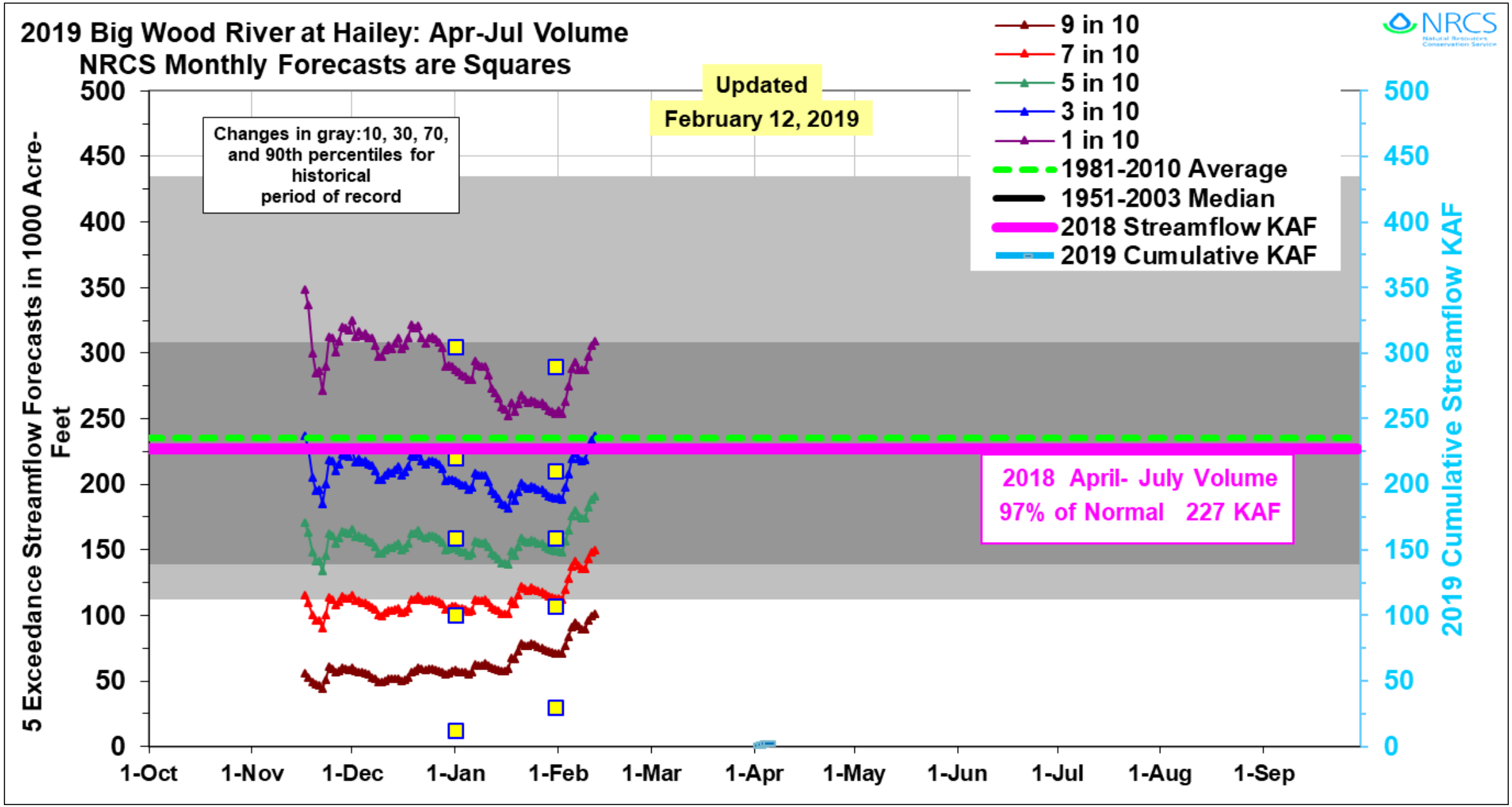
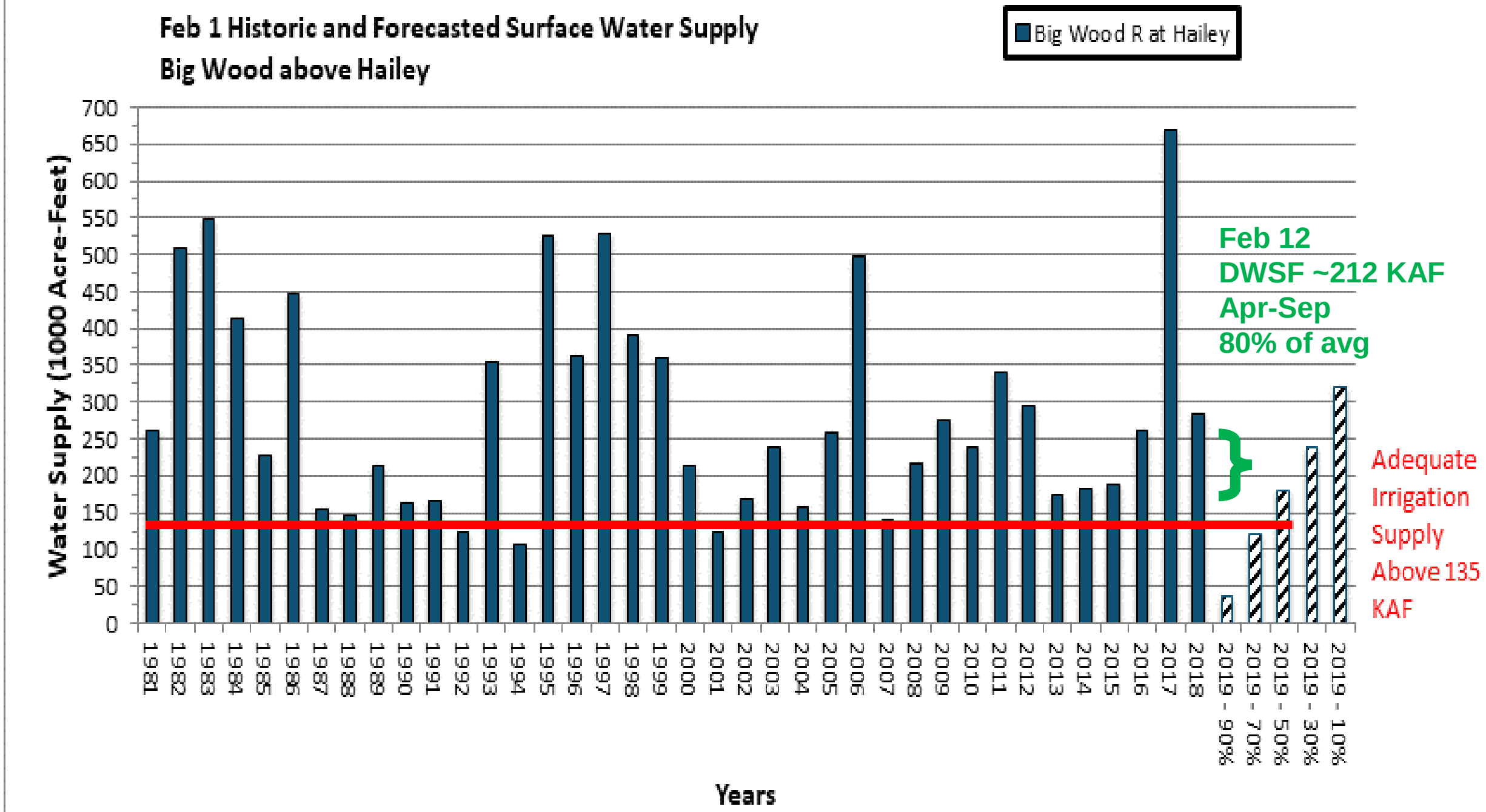
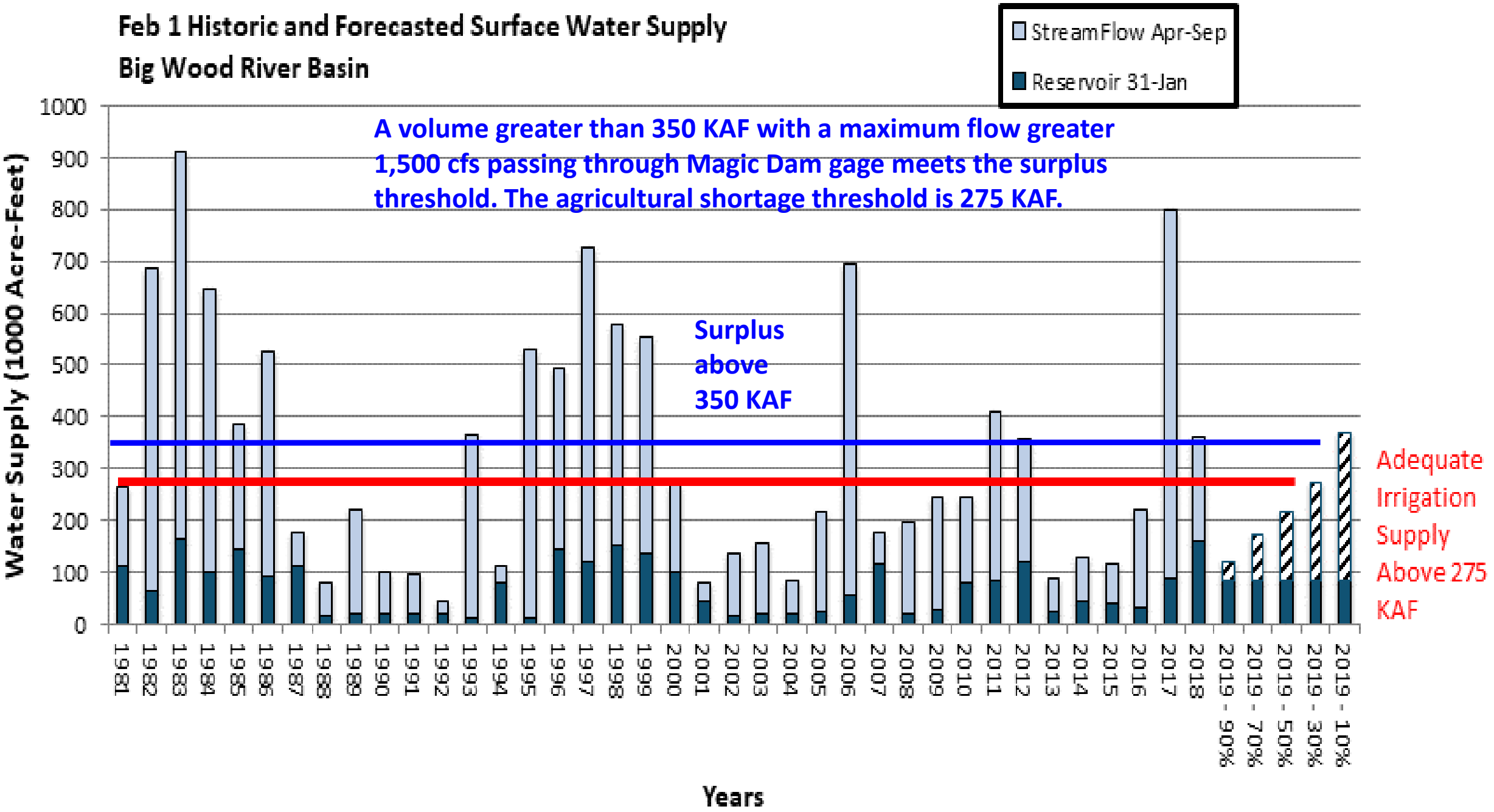



2019 Big Wood River at Hailey: Apr-Jul Volume
NRCS Monthly Forecasts are Squares
Updated
February 12, 2019
Changes in gray:10, 30, 70, and 90th percentiles for historical period of record
9 in 10
7 in 10
5 in 10
3 in 10
1 in 10
1981-2010 Average
1951-2003 Median
2018 Streamflow KAF
2019 Cumulative KAF
2018 April- July Volume
97% of Normal 227 KAF
5 Exceedance Streamflow Forecasts in 1000 Acre-Feet
2019 Cumulative Streamflow KAF
500
450
400
350
300
250
200
150
100
50
0
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
NRCS


Feb 1 Historic and Forecasted Surface Water Supply
Big Wood above Hailey
Big Wood R at Hailey
Water Supply (1000 Acre-Feet)
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019 - 90%
2019 - 70%
2019 - 50%
2019 - 30%
2019 - 10%
Years
Feb 12
DWSF ~212 KAF
Apr-Sep
80% of avg
Adequate
Irrigation
Supply
Above 135
KAF


Feb 1 Historic and Forecasted Surface Water Supply
Big Wood River Basin
Stream Flow Apr-Sep
Reservoir 31-Jan
A volume greater than 350 KAF with a maximum flow greater 1,500 cfs passing through Magic Dam gage meets the surplus threshold. The agricultural shortage threshold is 275 KAF.
Surplus above 350 KAF
Adequate Irrigation Supply Above 275 KAF
Water Supply (1000 Acre-Feet)
0
100
200
300
400
500
600
700
800
900
1000
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019 - 90%
2019 - 70%
2019 - 50%
2019 - 30%
2019 - 10%
Years

As of November 6, 2018
Projected change in reservoir storage from Oct 31, 2018 to start of runoff season in Spring 2019.

	Sep 30 storage KAF	Oct 31 storage KAF	Observed Nov 30 storage KAF	Observed Dec 31 storage KAF	Observed / Projected Jan 31 storage KAF	Projected Feb 28 storage KAF	Projected Mar 31 storage KAF
Boise Reservoir System	446.4	437.5	465.4	494.9	529.3		630
Magic Reservoir	61.1	69.0	76.7	79.9	83.8		120
Little Wood Reservoir	11.1	12.9	15.6	18.3	21.1	23	
Mackay Reservoir	24.8	24.8	26.8	29.7	30.9		40
Jackson & Palisades Reservoir System	1476.7	1462.5	1582.4	1684.7	1781.8		1800
Oakley Reservoir	12.1	13.5	14.4	17.3	18.9	23	
Salmon Falls Reservoir	31.9	33.1	34.8	36.0	39.1	41	
Lake Owyhee	220.5	222.7	237.0	254.0	273.8 / 280		
Bear Lake	802.3	798.2	769.8	809.8			850

Other basins, Spokane, Clearwater, Salmon, Weiser, Payette and Bruneau basins, the surface agricultural irrigation demand is not known or relevant.

For complete summary see: Surface Water Supply Index (SWSI)
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/id/snow/waterproducts/?cid=stelprdb1240689

Created: November 6, 2018
Updated: February 6, 2019

Fall reservoir carryover storage is used to project spring reservoir storage levels based on current conditions and current flow trends. Then, by knowing the adequate irrigation water supply needed in your basin, the projected spring reservoir volumes are subtracted from the adequate irrigation supply to determine the volume of streamflow to marginally meet adequate surface irrigation supplies in 2019.

Column 2 - Column 3 = Column 4 Col4/Col6 X 100= Col 5

Column 1 Basin	2 Amount needed for adequate irrigation water supply KAF	3 Projected end of month reservoir storage (Jan, Feb or Mar) KAF	4 2019 streamflow volume needed for adequate water supply KAF	5 % of average streamflow needed for adequate 2019 irrigation supply KAF	6 1981-2010 Apr - Sep average streamflow KAF	7 Streamflow period used in analysis	9 2018 Apr - Sep Streamflow Runoff KAF	 % of average
Boise	1500	630	870	64%	1360	Apr-Sep	1220	90%
Big Wood above Hailey	135	---	135	51%	263	Apr-Sep	257	98%
Big Wood	275	120	155	58%	265	Apr-Sep	204	77%
Little Wood	60	23	37	40%	92	Mar-Sep	89	97%
Big Lost	180	40	140	93%	150	Apr-Sep	204	136%
Little Lost	40	---	40	118%	34	Apr-Sep	43	126%
Teton	85	---	85	44%	193	Apr-Sep	234	121%
Snake (Heise)	4,400	1800	2600	69%	3,780	Apr-Sep	4792	127%
Oakley	50	23	27	87%	31	Mar-Sep	14	44%
Salmon Falls	110	41	69	81%	85	Mar-Sep	38	45%
Owyhee	575	280	295	44%	665	Feb-Sep	225	34%
* Bear River	280	850	35	17%	205	Apr-Sep	90	44%

* Based on Bear River reservoir allocation: only 245 KAF in storage can be used in 2019, remaining 35 KAF to meet adequate irrigation supply is from runoff.

Wood and Lost Basins Streamflow Forecasts - February 1, 2019

Forecast Point	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment <--Drier----------Projected Volume----------Wetter--> 90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Camas Ck at Camas	APR-JUL	2.9	8.9	14.9	53%	22	36	28
Little Lost R bl Wet Ck nr Howe	APR-JUL	9	15.6	20	71%	24	31	28
	APR-SEP	9.8	18.4	24	71%	30	39	34
Big Lost R at Howell Ranch	APR-JUL	49	93	123	77%	153	196	159
	APR-SEP	56	105	139	77%	173	225	180
Big Lost R bl Mackay Reservoir	APR-JUL	12.8	58	88	72%	118	163	123
	APR-SEP	26	77	112	75%	146	197	150
Little Wood R ab High Five Ck	MAR-JUL	22	37	51	66%	66	92	77
	MAR-SEP	23	40	55	67%	71	99	82
Little Wood R nr Carey 2	MAR-JUL	22	39	54	63%	71	100	86
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1) 90% and 10% exceedance probabilities are actually 95% and 5%

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Need 58% 155 KAF