



AGENDA

IDAHO WATER RESOURCE BOARD

Upper Snake River Advisory Committee Meeting No. 3-23

Thursday, March 9, 2023

10:00 a.m. (MST)

Brad Little
Governor

Jeff Raybould
Chairman
St. Anthony
At Large

Jo Ann Cole-Hansen
Secretary
Lewiston
At Large

Dale Van Stone
Hope
District 1

Albert Barker
Boise
District 2

Dean Stevenson
Paul
District 3

Brian Olmstead
Twin Falls
At Large

Marcus Gibbs
Grace
District 4

Patrick McMahon
Sun Valley
At Large

Meeting Location(s):

BOISE
Water Center
Conf. Room 602B
322 E. Front St.

or

IDAHO FALLS
Eastern Regional Office
Main Conference Room
900 N. Skyline Drive

ONLINE via Zoom - [Click here to join our Zoom Meeting](#)

Dial in Option: [+1 \(253\) 215-8782](#)

Meeting ID: 860 8548 7210 Passcode: 673668

1. Introduction and Attendance
2. Weather Forecast (NOAA)
3. Snow Pack / Streamflow Forecasts (NRCS)
4. Water Supply / Operations Update (USBR)
5. Idaho Power Company
 - a. Operations Update
 - b. Cloud Seeding Update
6. Water District 01 Briefing
7. IWRB Managed Recharge Operations
8. New Business
9. Adjourn

Committee Members – Brian Olmstead

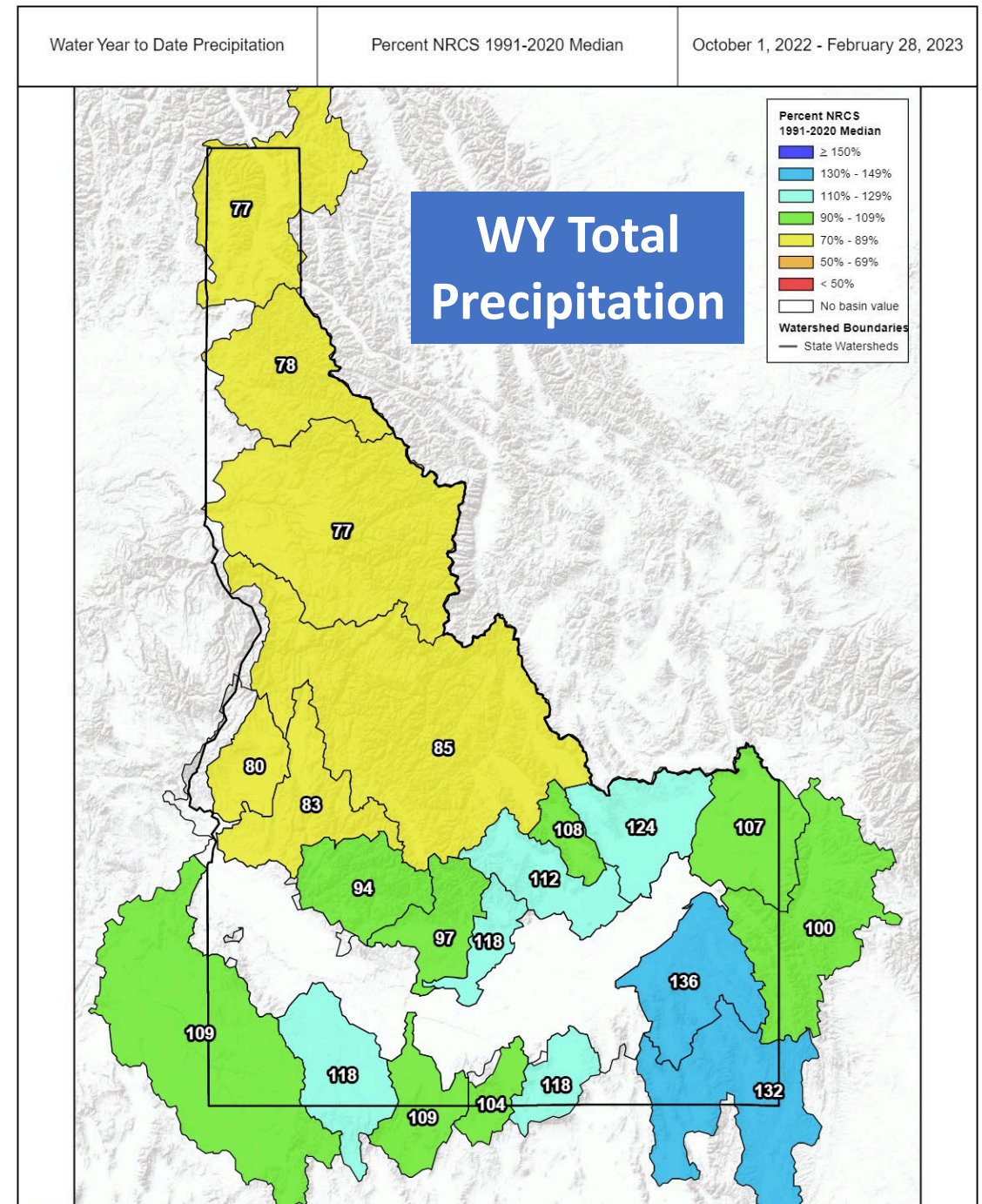
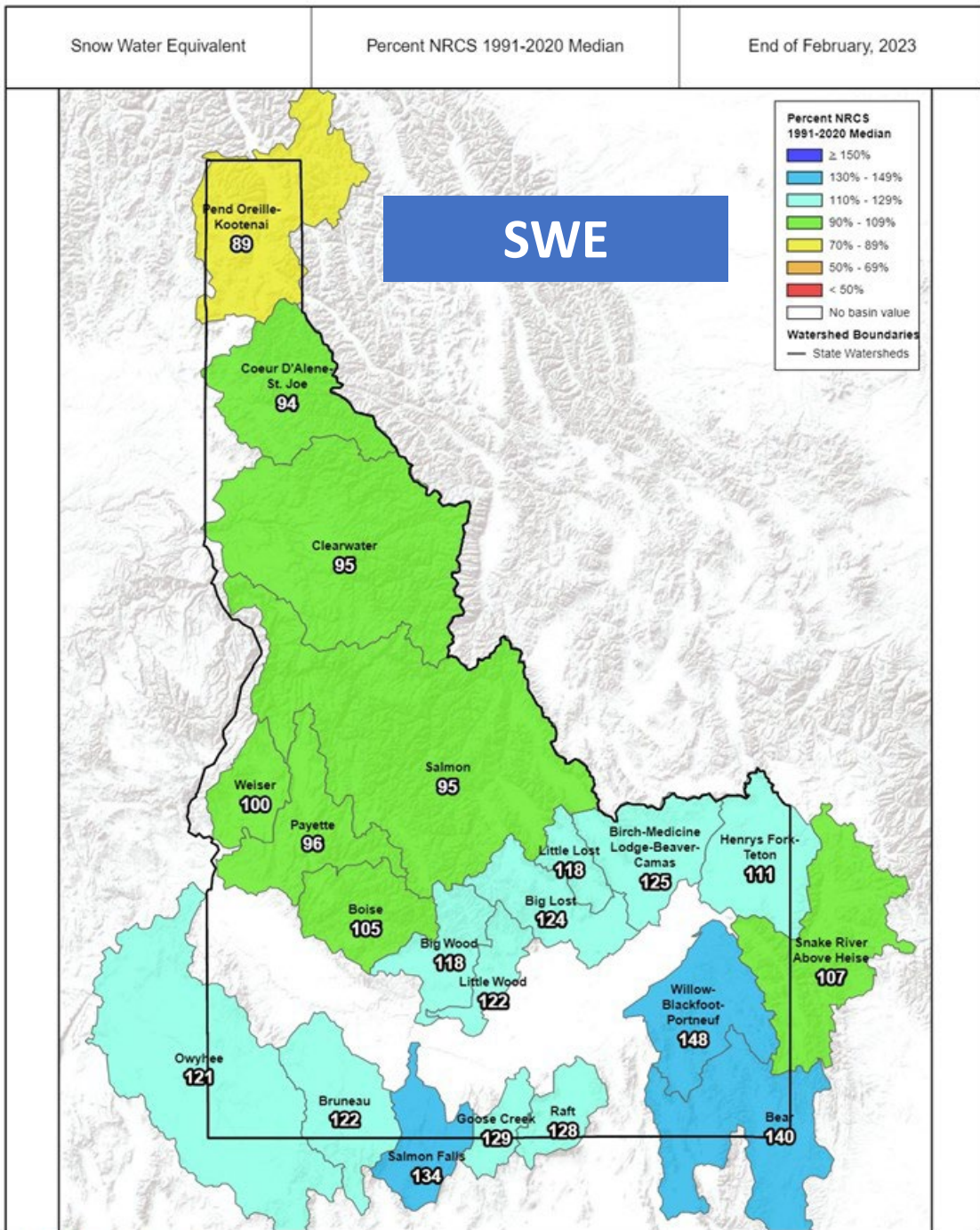
Americans with Disabilities: The meeting will be held online. If you require special accommodations to attend, participate in, or understand the meeting, please make advance arrangements by contacting Department staff by email jennifer.strange@idwr.idaho.gov or by phone at (208) 287-4800.

Water Supply Update

*Upper Snake River Advisory Committee
March 09, 2023*

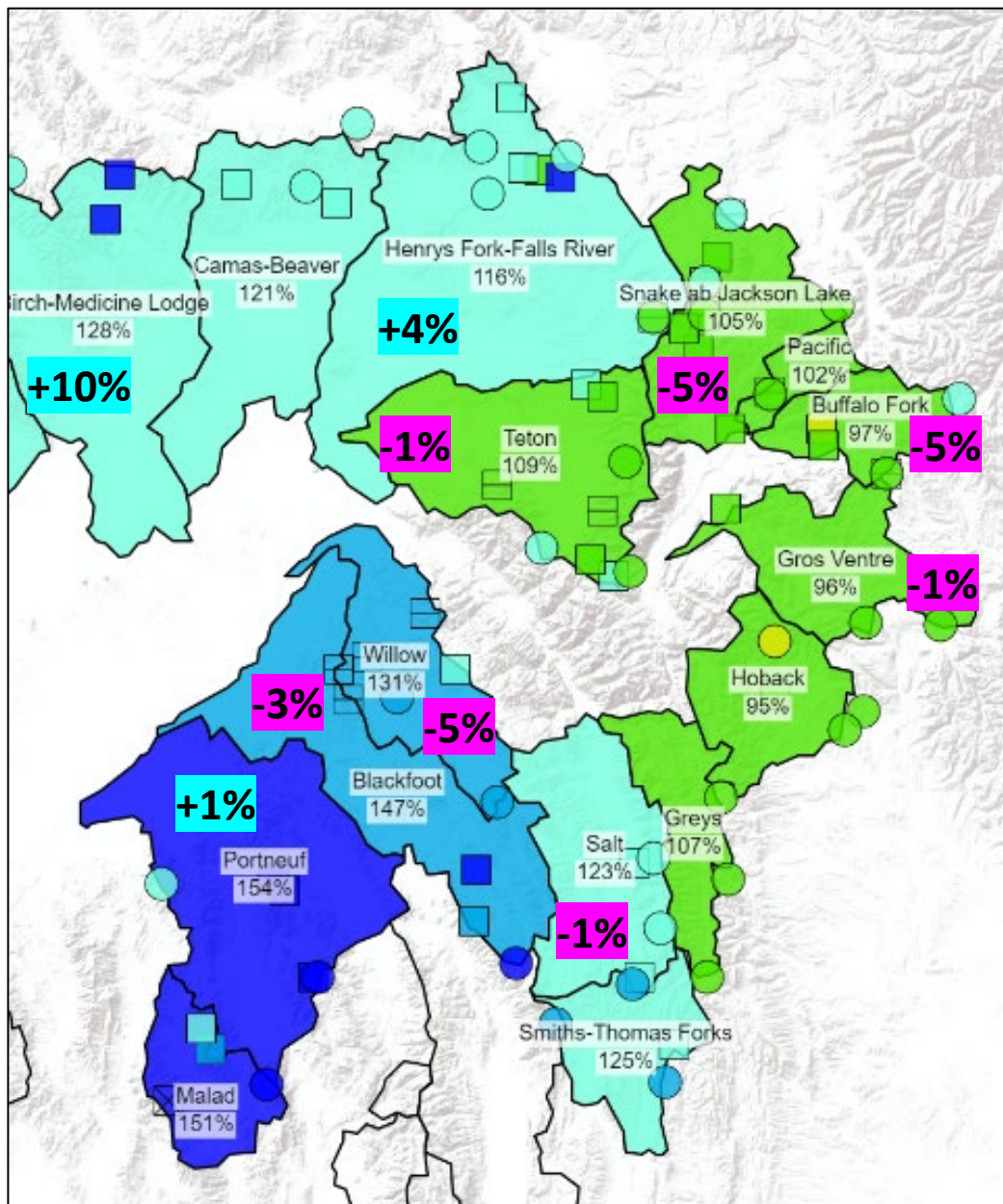


Presented by Erin
Whorton

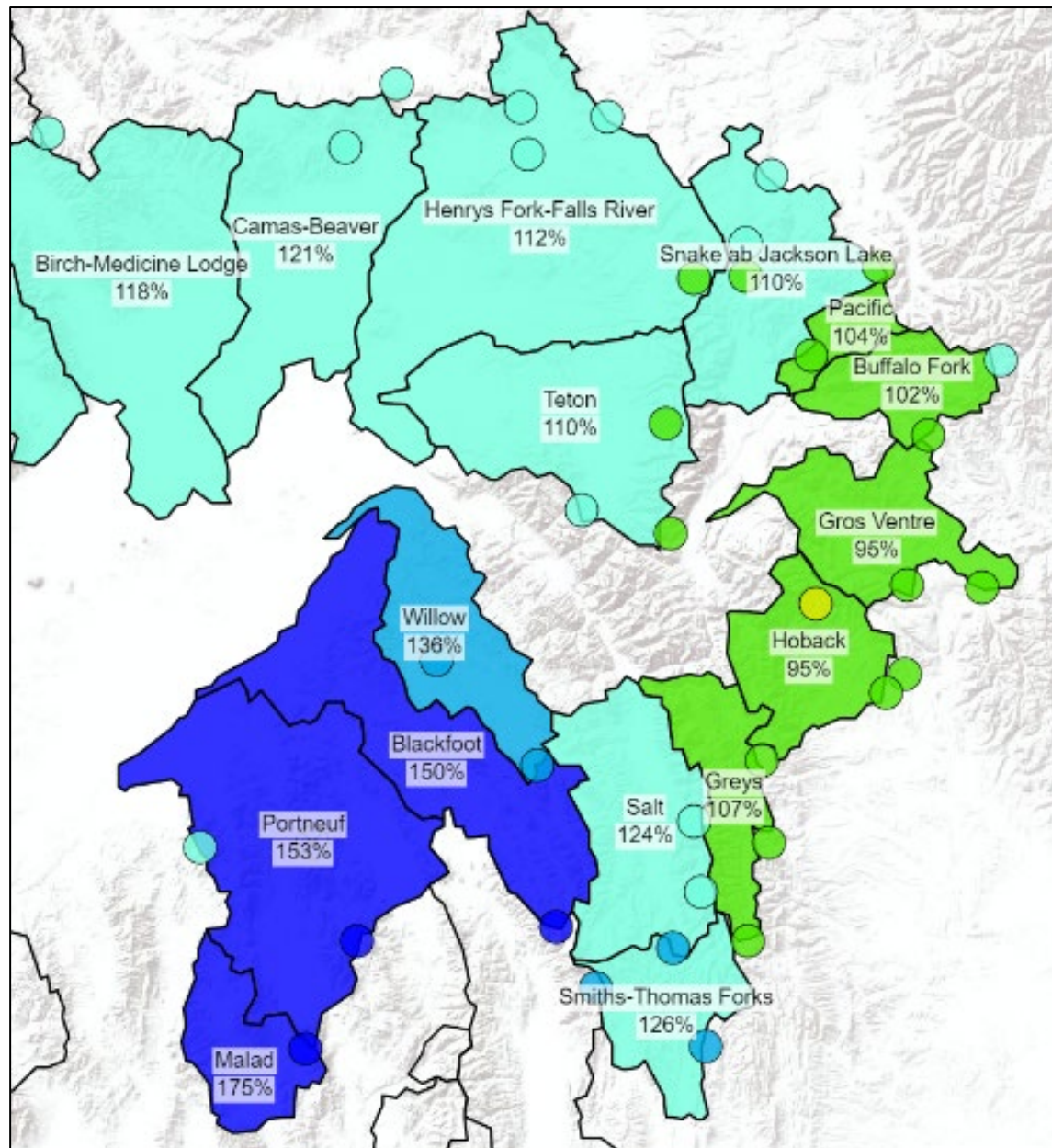


March 1 snowpack

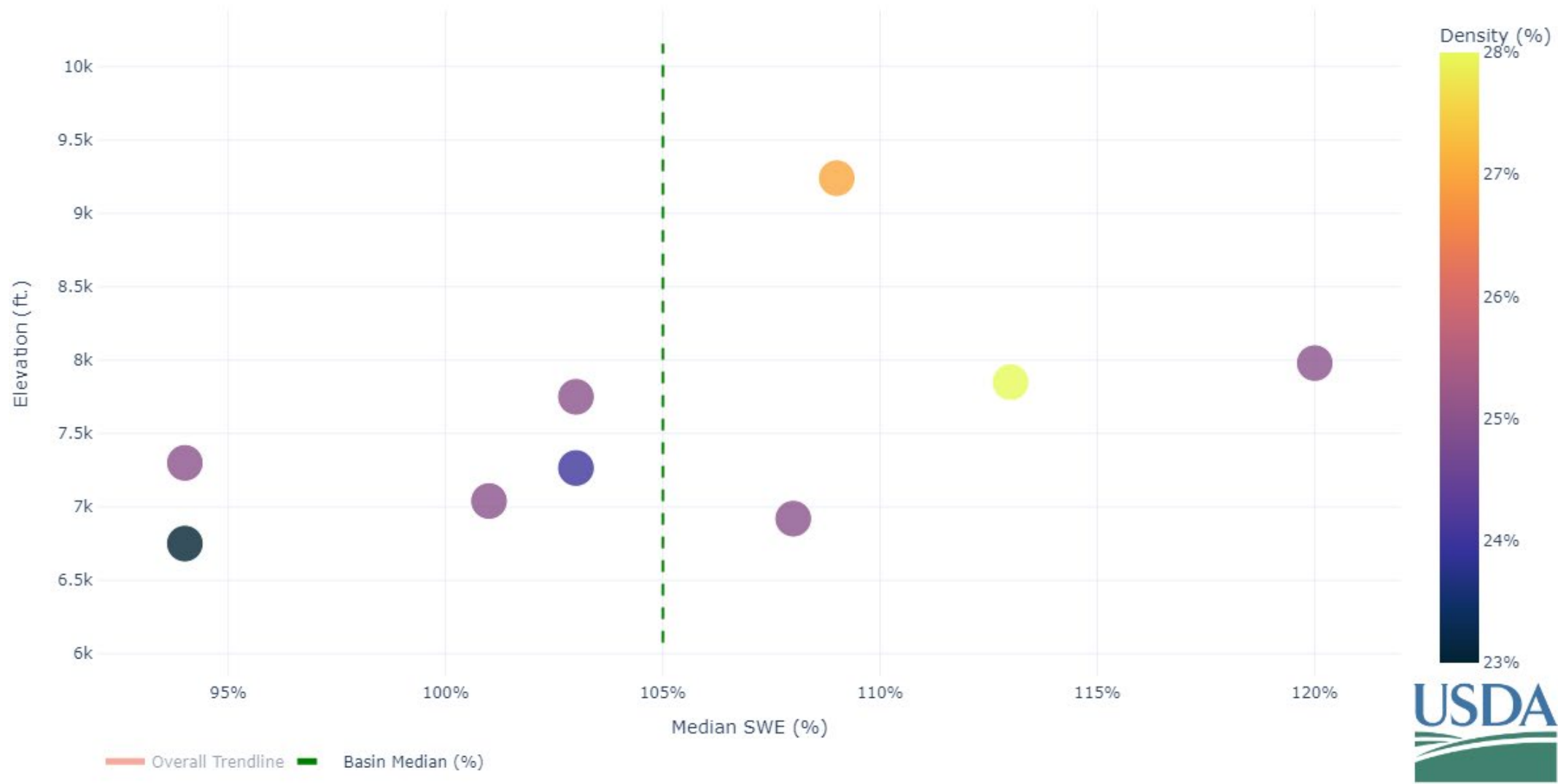
Snow Courses + SNOTEL sites



SNOTEL sites only



SNOWPACK BY ELEVATION IN SNAKE AB JACKSON LAKE
MARCH 1, 2023



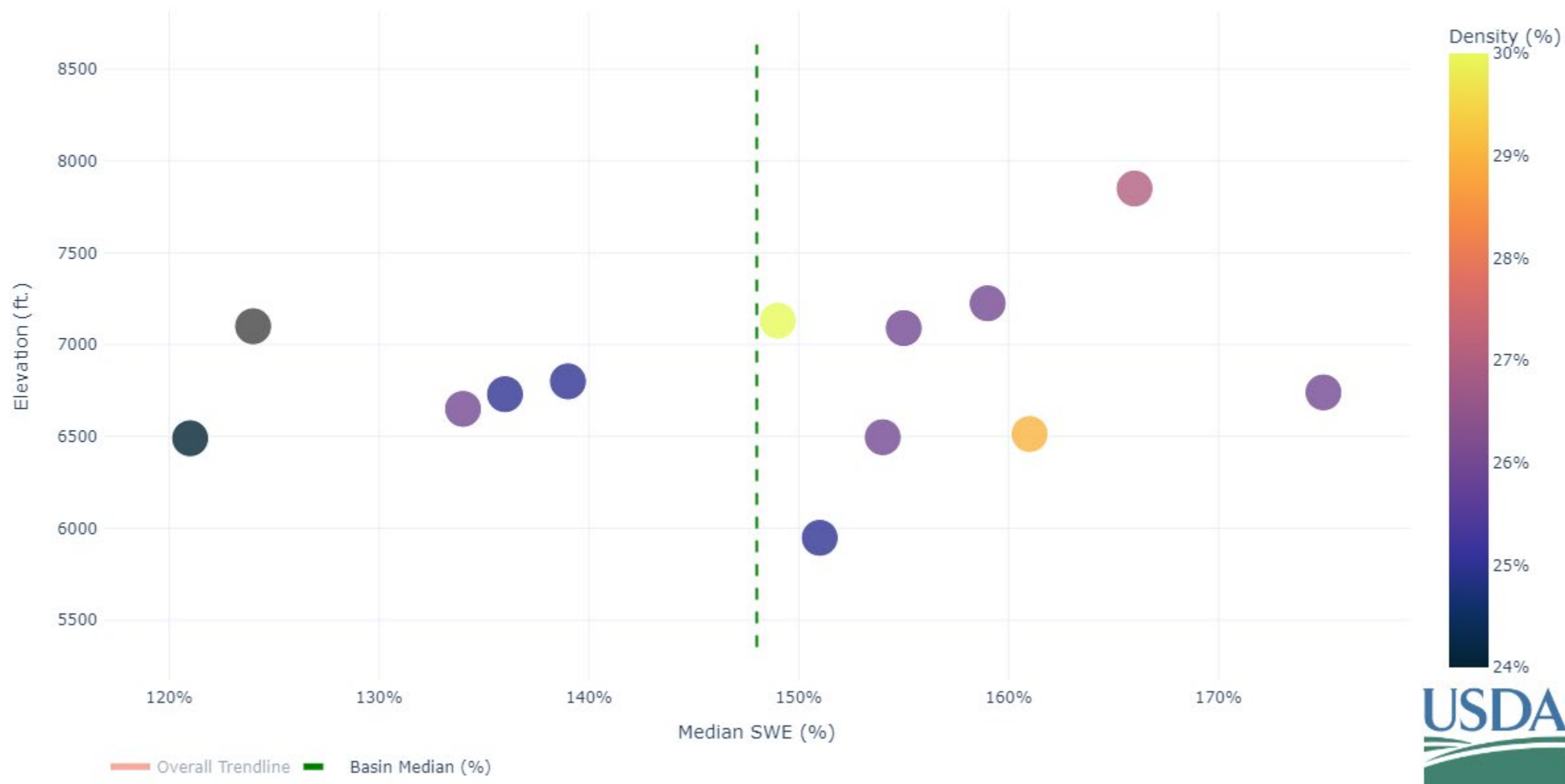
<https://www.wcc.nrcs.usda.gov/ftpref/nwcc/basinCharts/#ID>

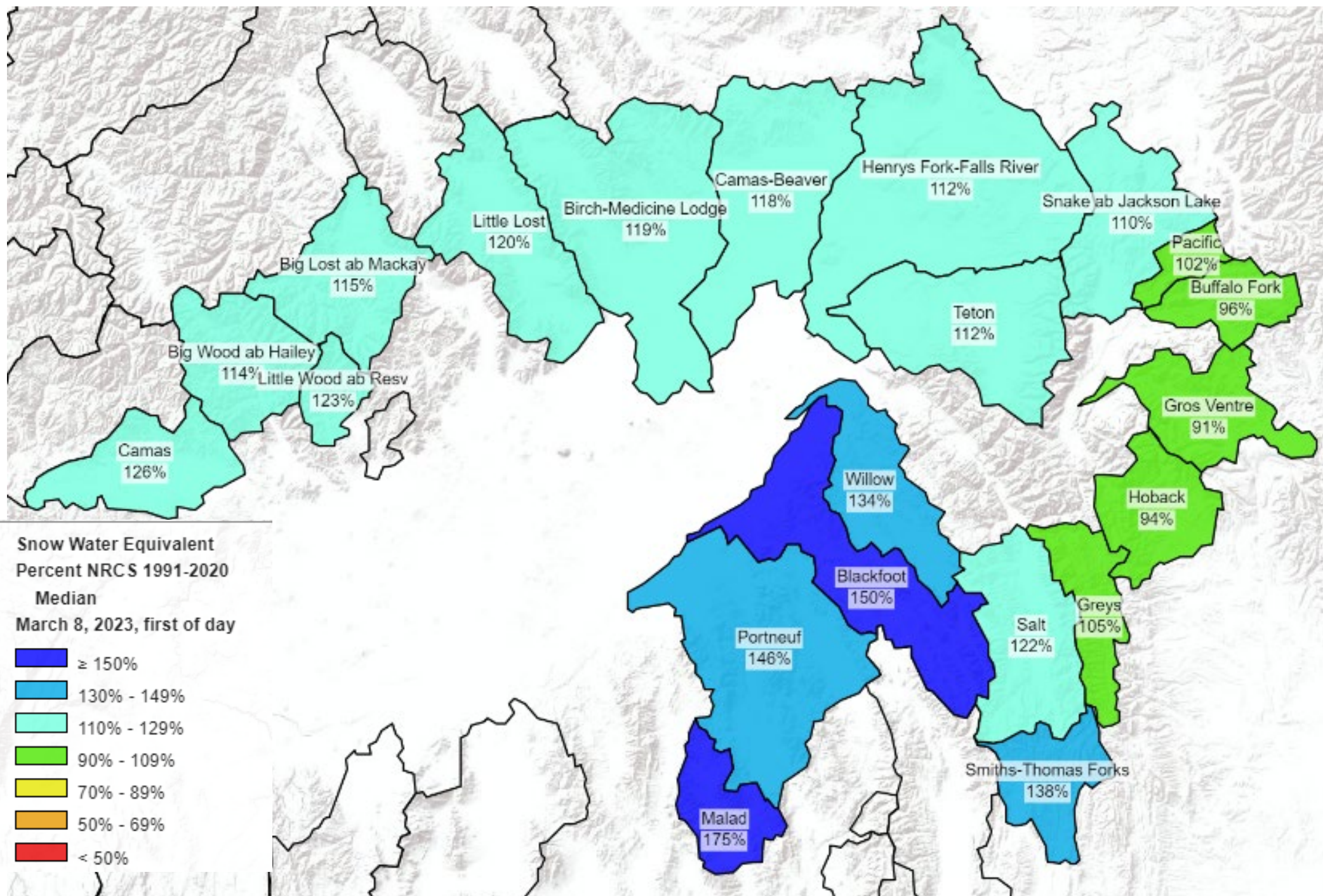
SNOWPACK BY ELEVATION IN SNAKE RIVER ABOVE HEISE MARCH 1, 2023



SNOWPACK BY ELEVATION IN WILLOW-BLACKFOOT-PORTNEUF

MARCH 1, 2023





SNOW WATER EQUIVALENT IN SNAKE RIVER ABOVE HEISE

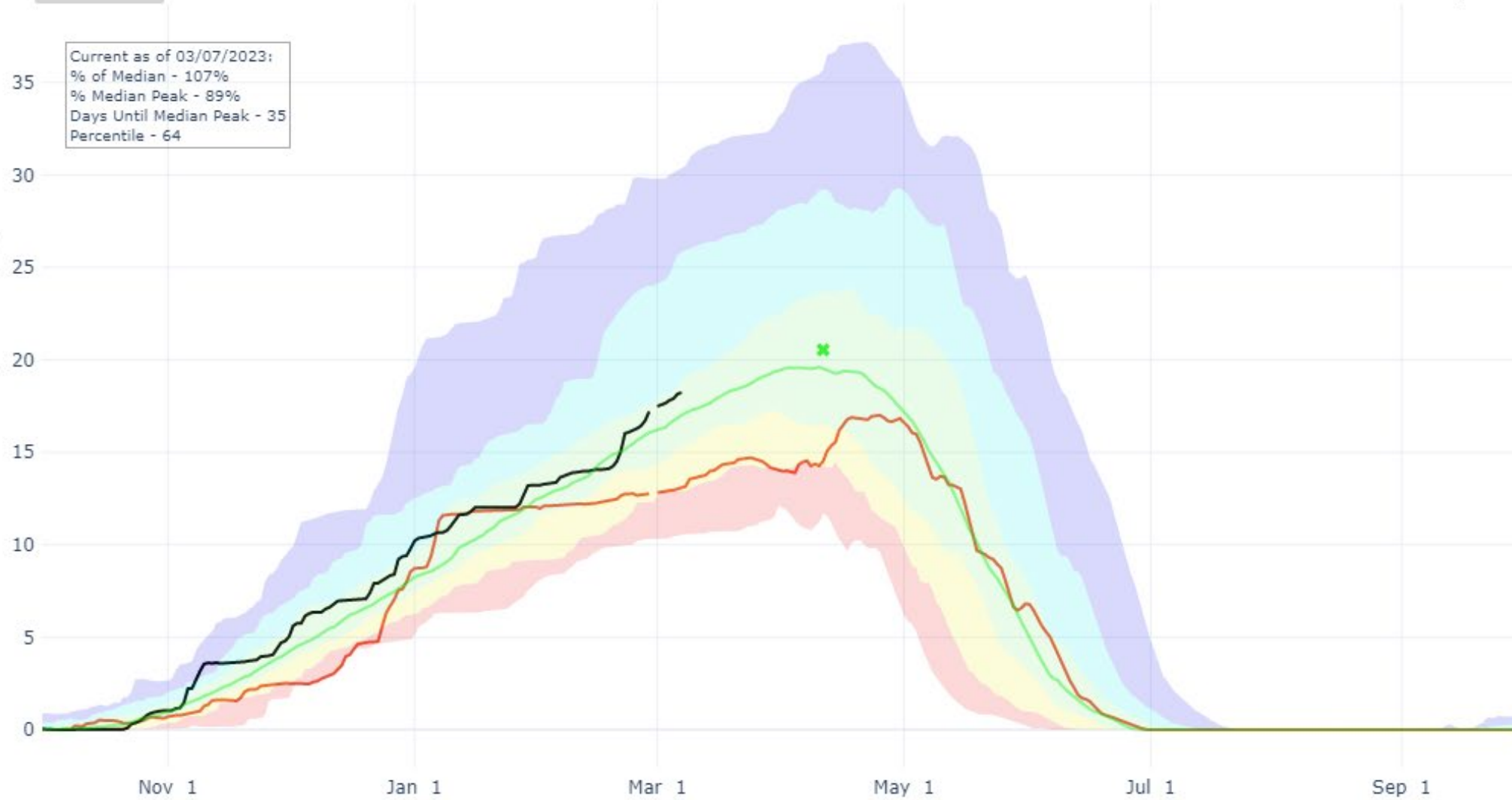
Reset Range

[Link to data: CSV / JSON](#)

Station List

Current as of 03/07/2023:
% of Median - 107%
% Median Peak - 89%
Days Until Median Peak - 35
Percentile - 64

Snow Water Equivalent (in.)



- ✖ Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2023 (22 sites)
- 2022 (22 sites)
- 2021 (22 sites)
- 2020 (22 sites)
- 2019 (22 sites)
- 2018 (22 sites)
- 2017 (22 sites)
- 2016 (22 sites)
- 2015 (21 sites)
- 2014 (21 sites)
- 2013 (22 sites)
- 2012 (22 sites)
- 2011 (22 sites)
- 2010 (22 sites)
- 2009 (22 sites)
- 2008 (22 sites)
- 2007 (22 sites)
- 2006 (22 sites)
- 2005 (22 sites)
- 2004 (22 sites)



SNOW WATER EQUIVALENT PROJECTIONS IN SNAKE RIVER ABOVE HEISE

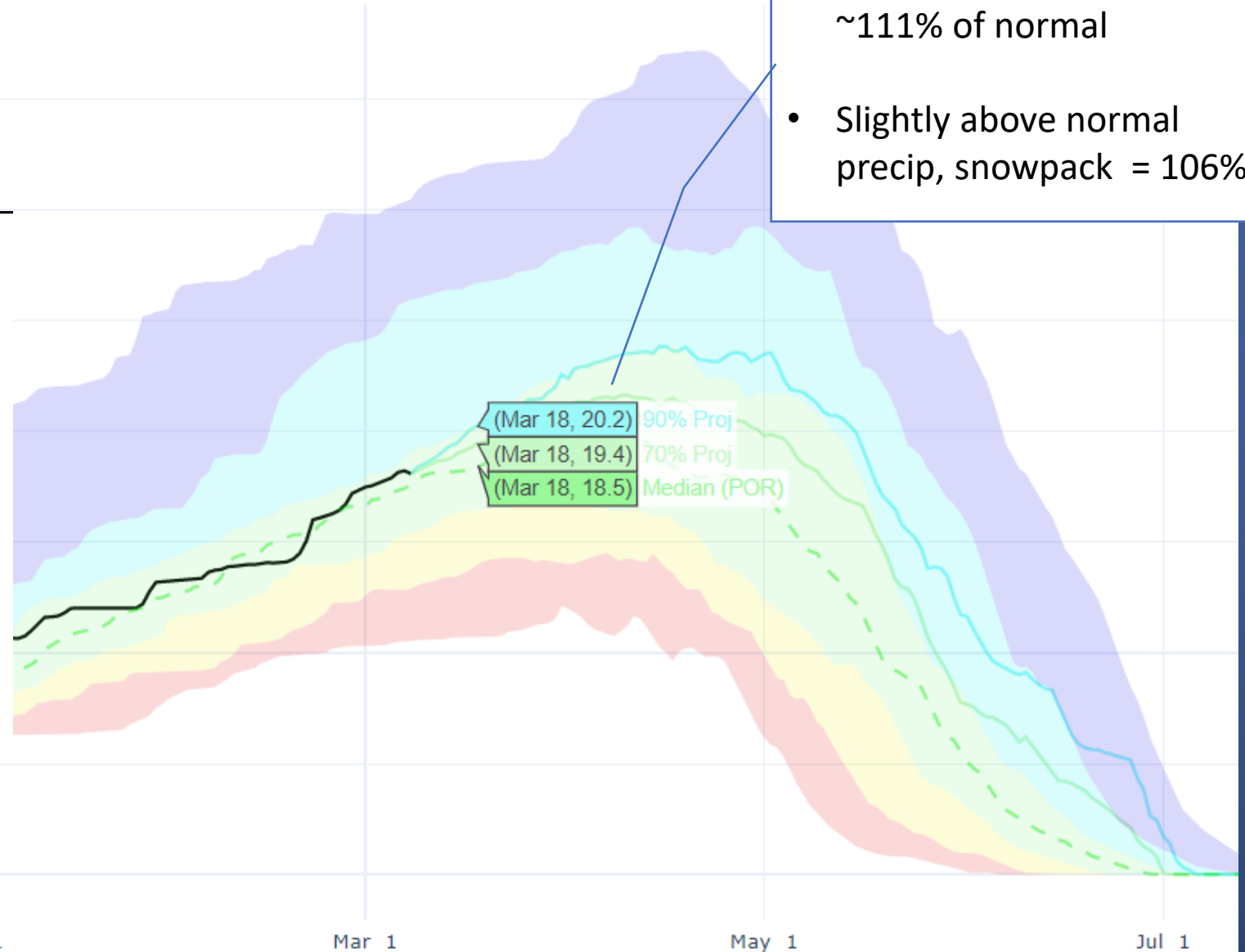
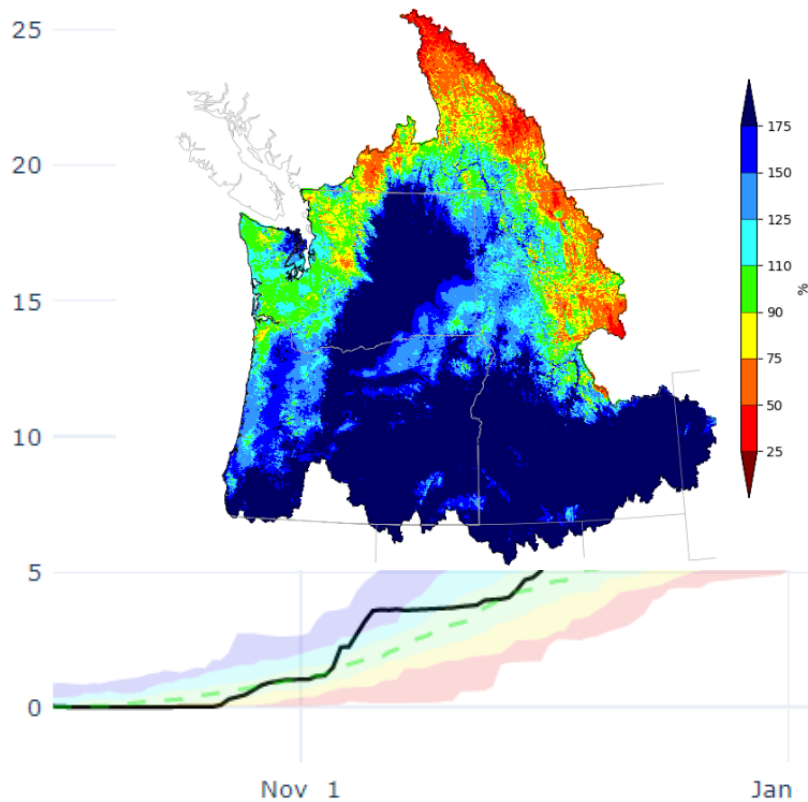
Reset Range

Current as of 03/08/2023:
% of Median - 106%
% Median Peak - 88%
Days Until Median Peak - 34
Percentile - 57



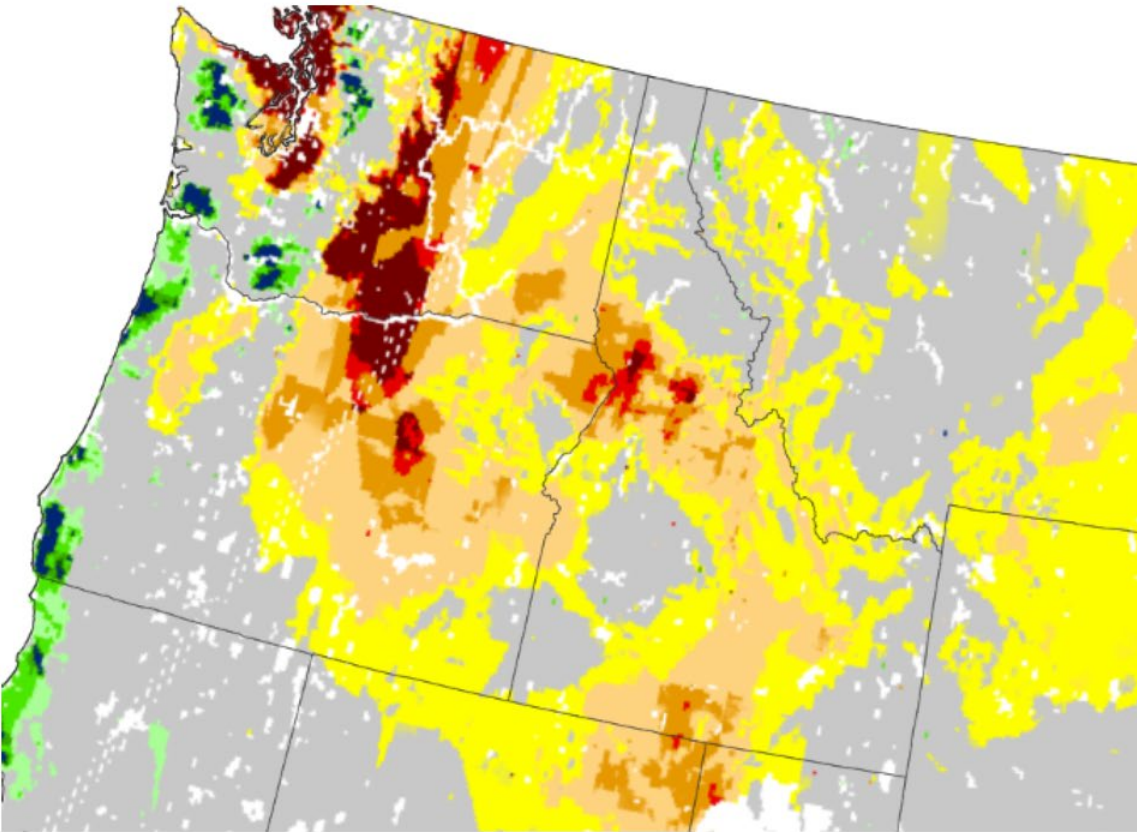
Northwest River Forecast Center
10 Day QPF (Percent of Climatology), Ending 12Z, 03/18/23

Snow Water Equivalent (in.)



- If we get well above normal precip –snowpack will be ~111% of normal
- Slightly above normal precip, snowpack = 106%

20 cm Soil Moisture Percentile



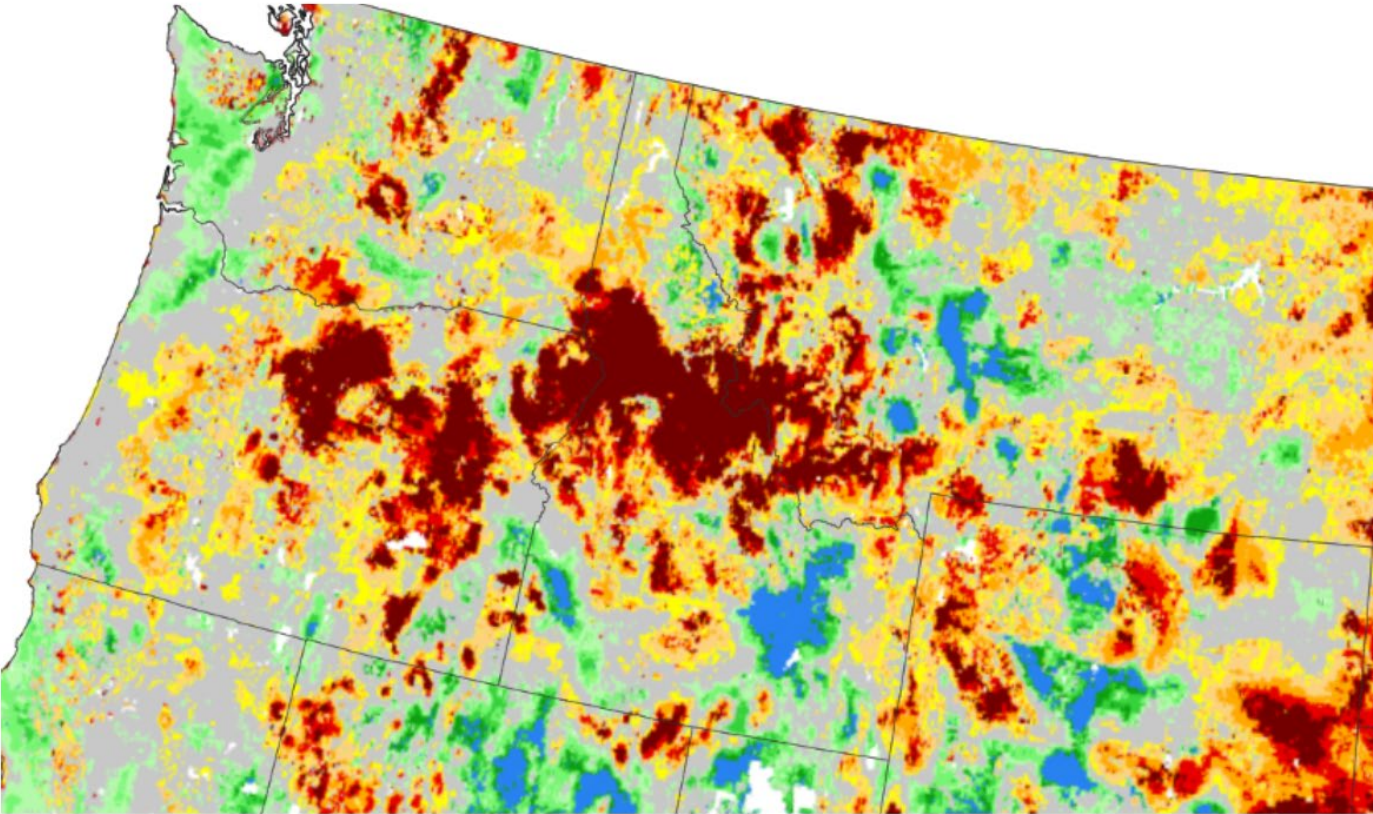
20 cm Soil Moisture Percentile



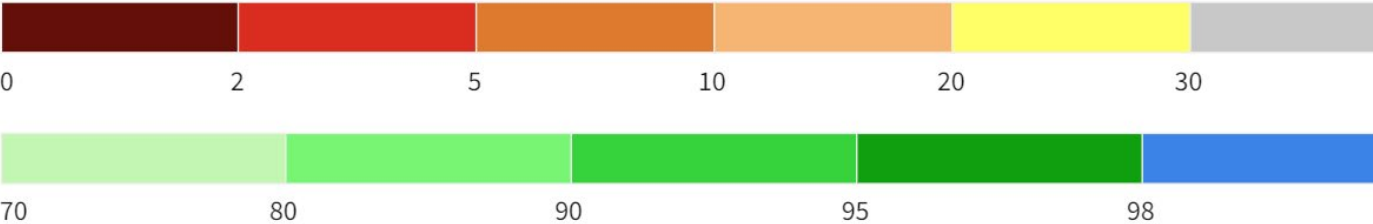
Source(s): NationalSoilMoisture.com

Updates Daily - 03/04/23

Current Soil Moisture Conditions: 0-100 cm Soil Moisture Percentile

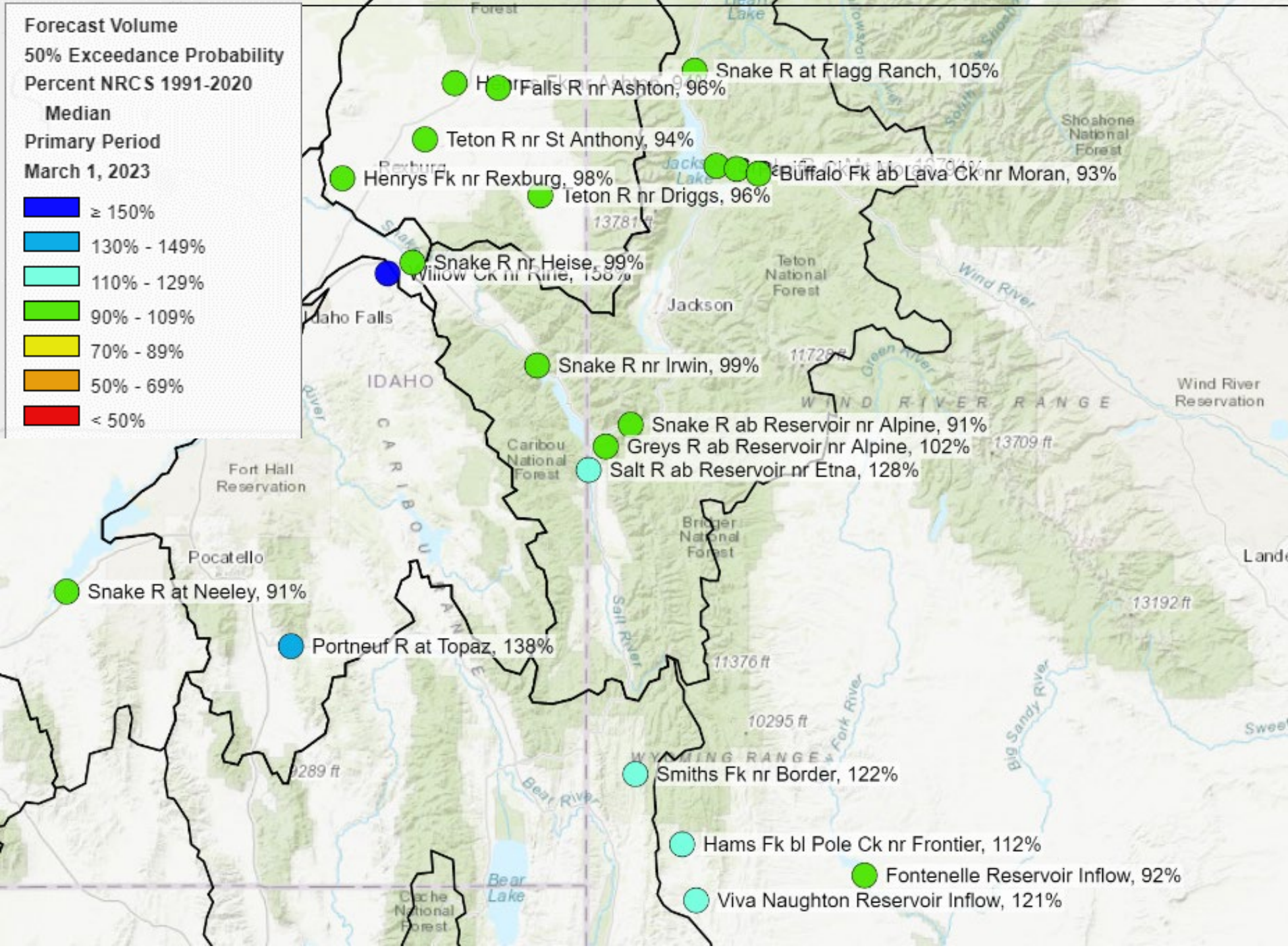


0-100 cm Soil Moisture Percentile



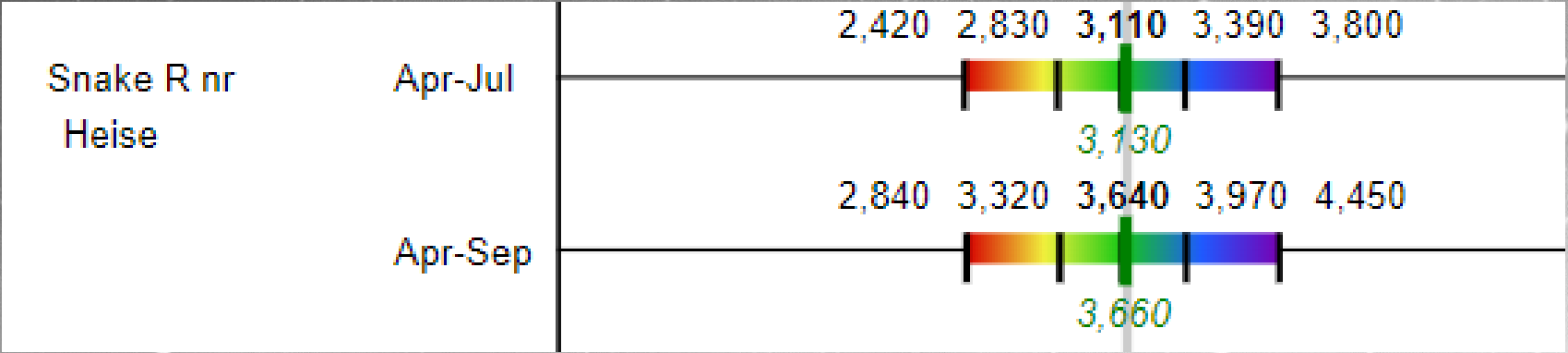
Source(s): NASA

Updates Daily - 03/07/23

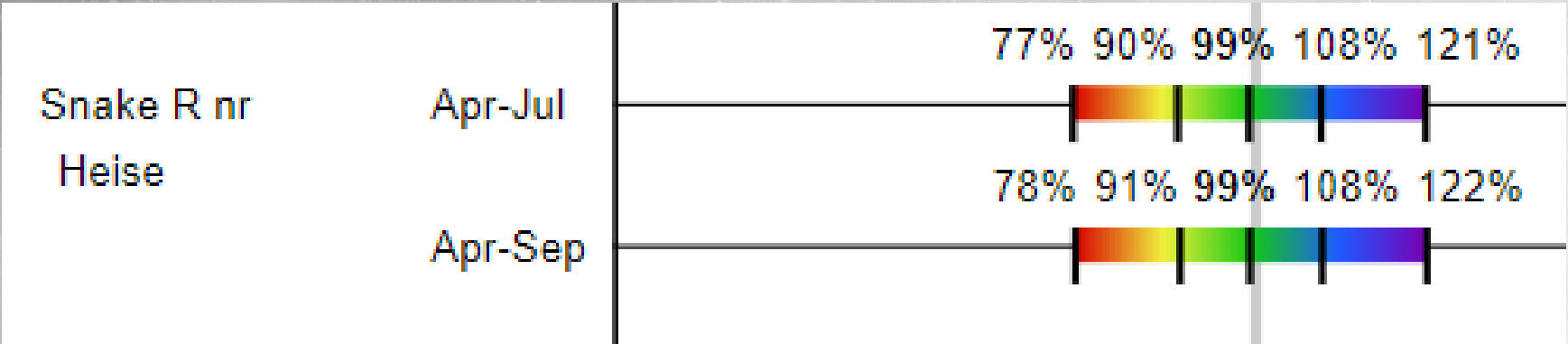


~ 70 KAF decrease in
Snake River near
Heise forecast from
last month

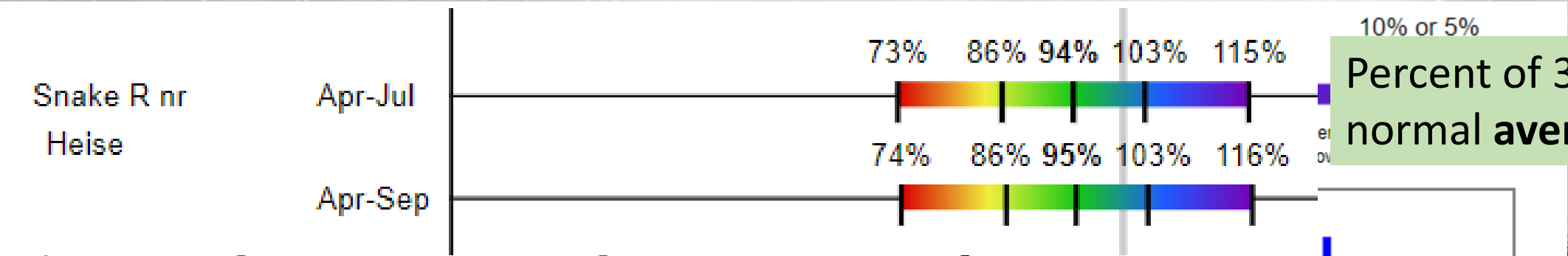
Streamflow Volume Forecasts for March 1



KAF
(median)



Percent of 30-year
normal **median**



Percent of 30-year
normal **average**

Period of Record Minimum Streamflow KAF (Year)

1991-2020 Normal Streamflow KAF

Observed Streamflow KAF

Period of Record Maximum Streamflow KAF (Year)



Natural Resources Conservation Service

Idaho Water Supply Outlook Report

March 1, 2023



Dry Basin Snow Course heavily buried by recent snowfall (photo by Cameron Williams, 5/23/22).

After years of dealing with water supply shortages and drought, basins in southeastern Idaho have been receiving well above normal precipitation nearly all winter. Not only are all basins well above normal for precipitation and snow water equivalent (SWE), but recent snowfall has brought record to near record snow depths as well. With monthly measurements going back nearly 70 years, a dozen SNOTEL and snow course sites in the Bear River and Willow-Blackfoot-Portneuf basins have the [highest or second highest snow depth for March 1](#). With over a month to go in the snow accumulation season, there is plenty of time for more snow to fall in this already impressive water year.

Idaho Snowpack and Water Supply Outlook Report:

If you'd like to subscribe to the monthly distribution list, please [click here](#).

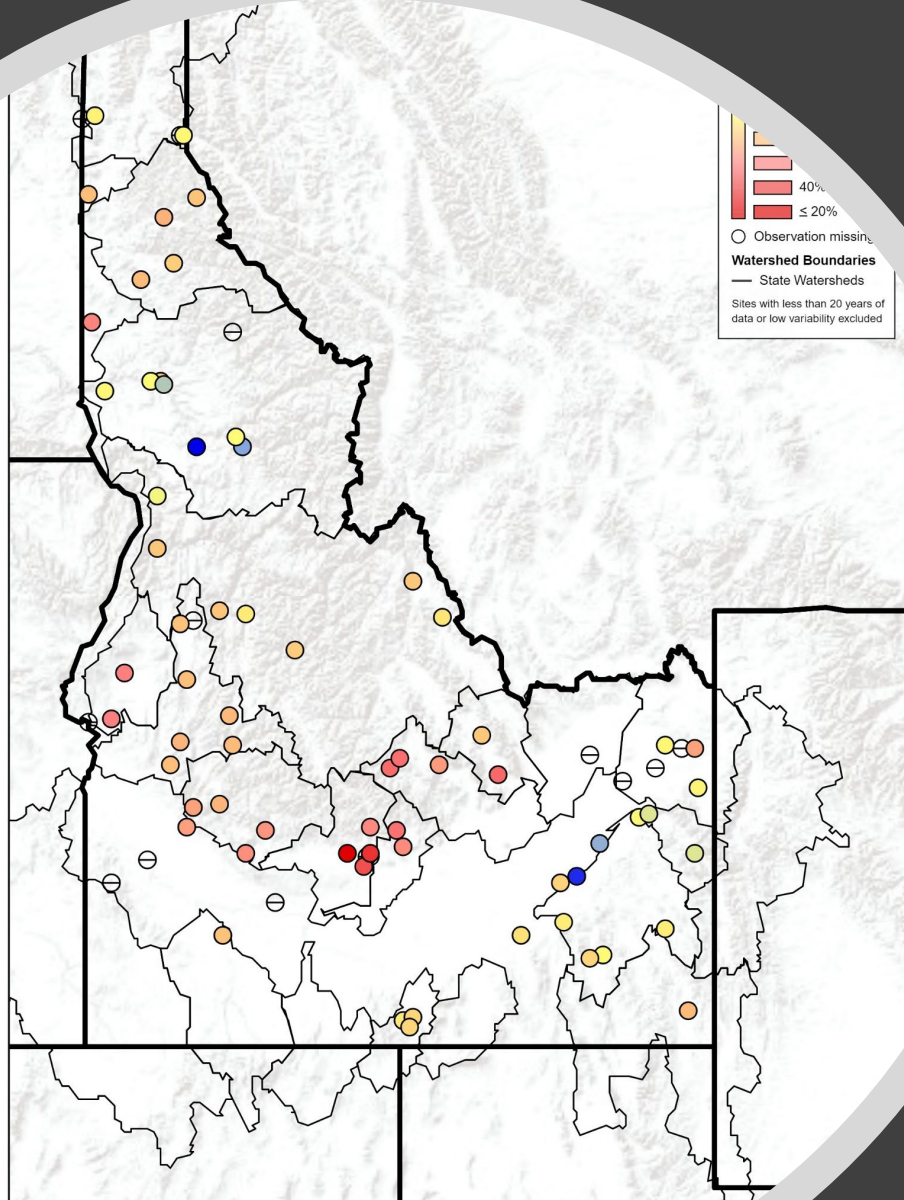
Click [here](#) (or on image to left) to view the most recent report issued at the beginning of each month. (January 1 - June 1).

[Monthly Forecast Tables](#)

[Graphical Forecast Tables](#)

[Past Water Supply Outlook Reports](#)

Thank you!



Idaho Snow Survey - NRCS



Erin Whorton



erin.whorton@usda.gov



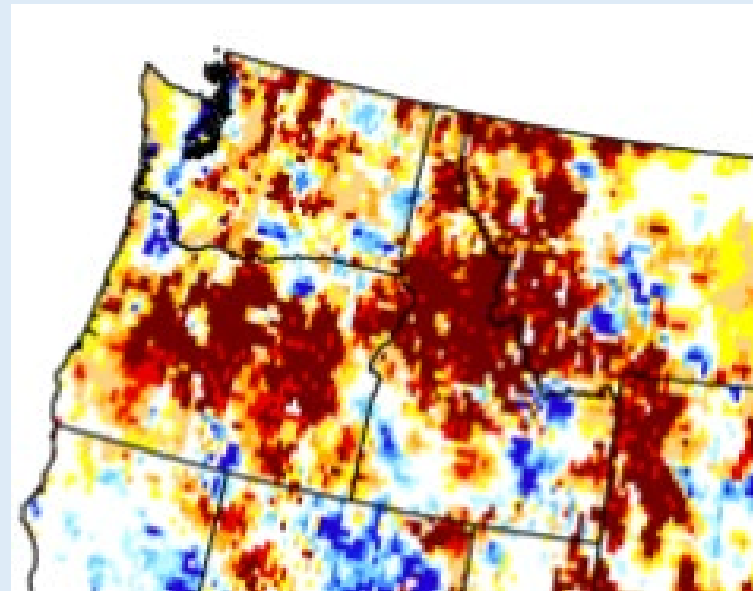
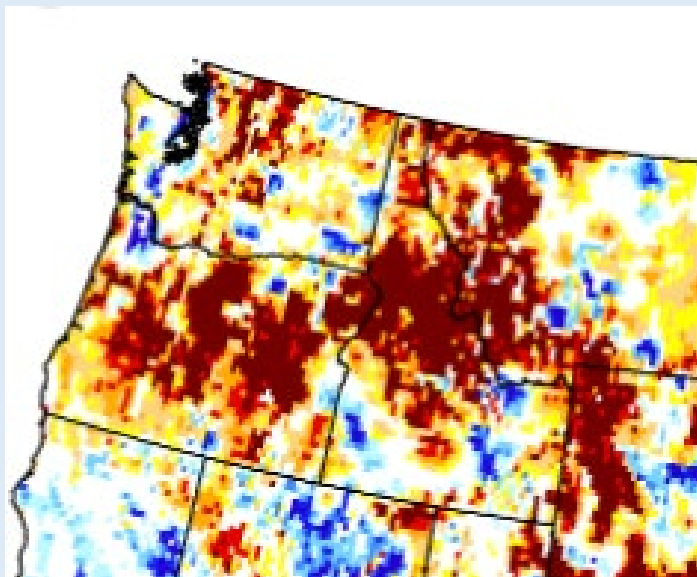
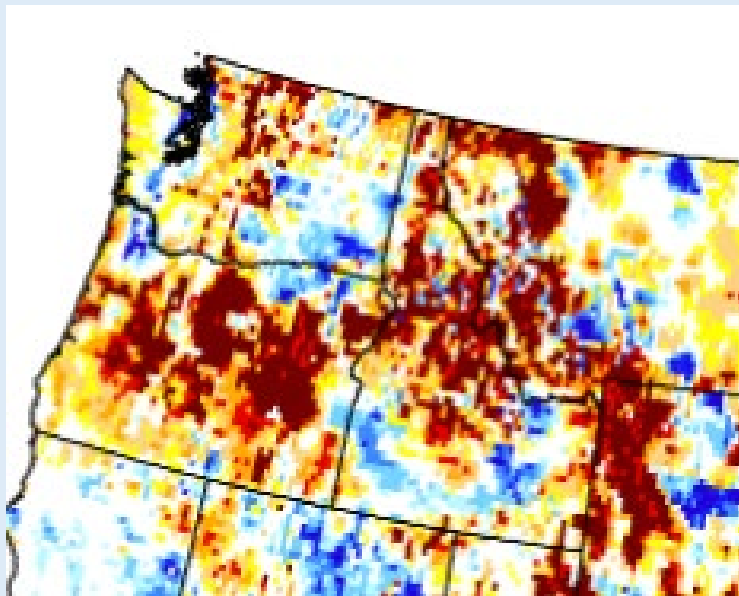
208-685-6983

Soil Surface

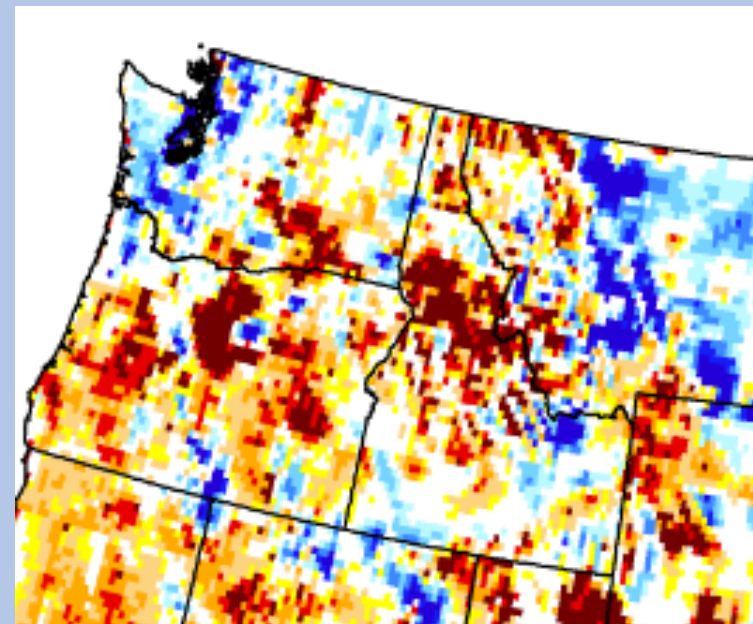
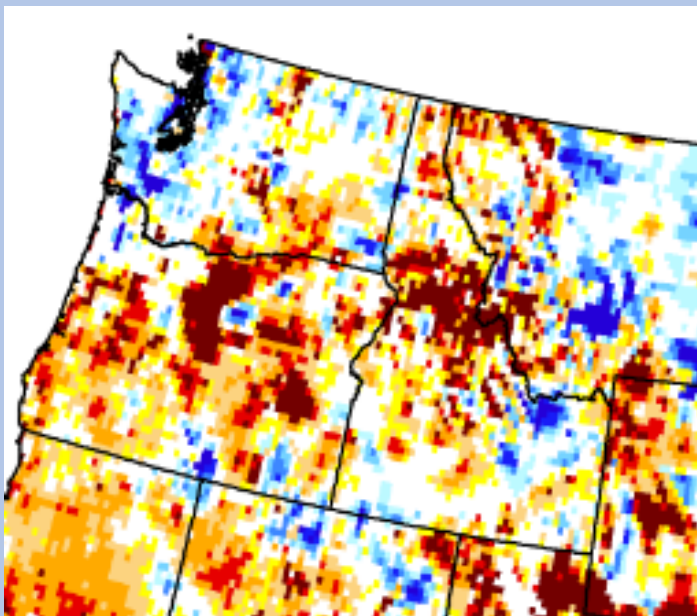
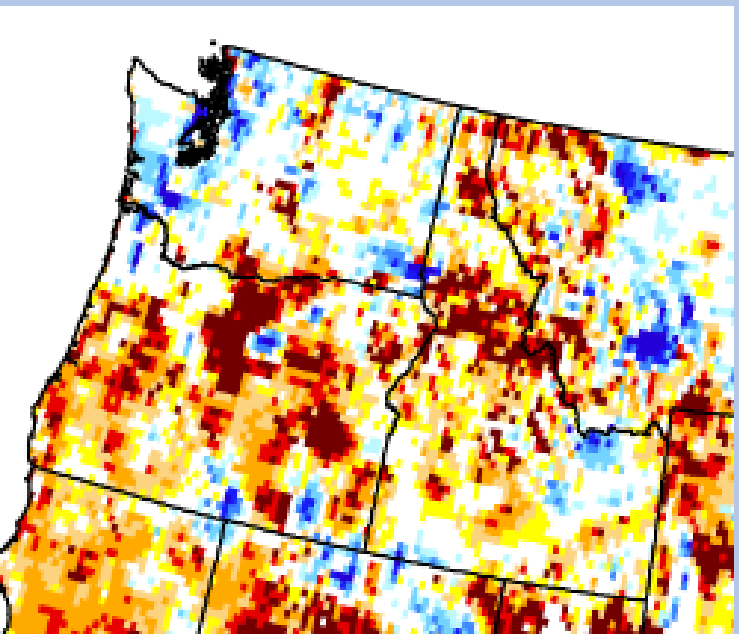
Root Zone

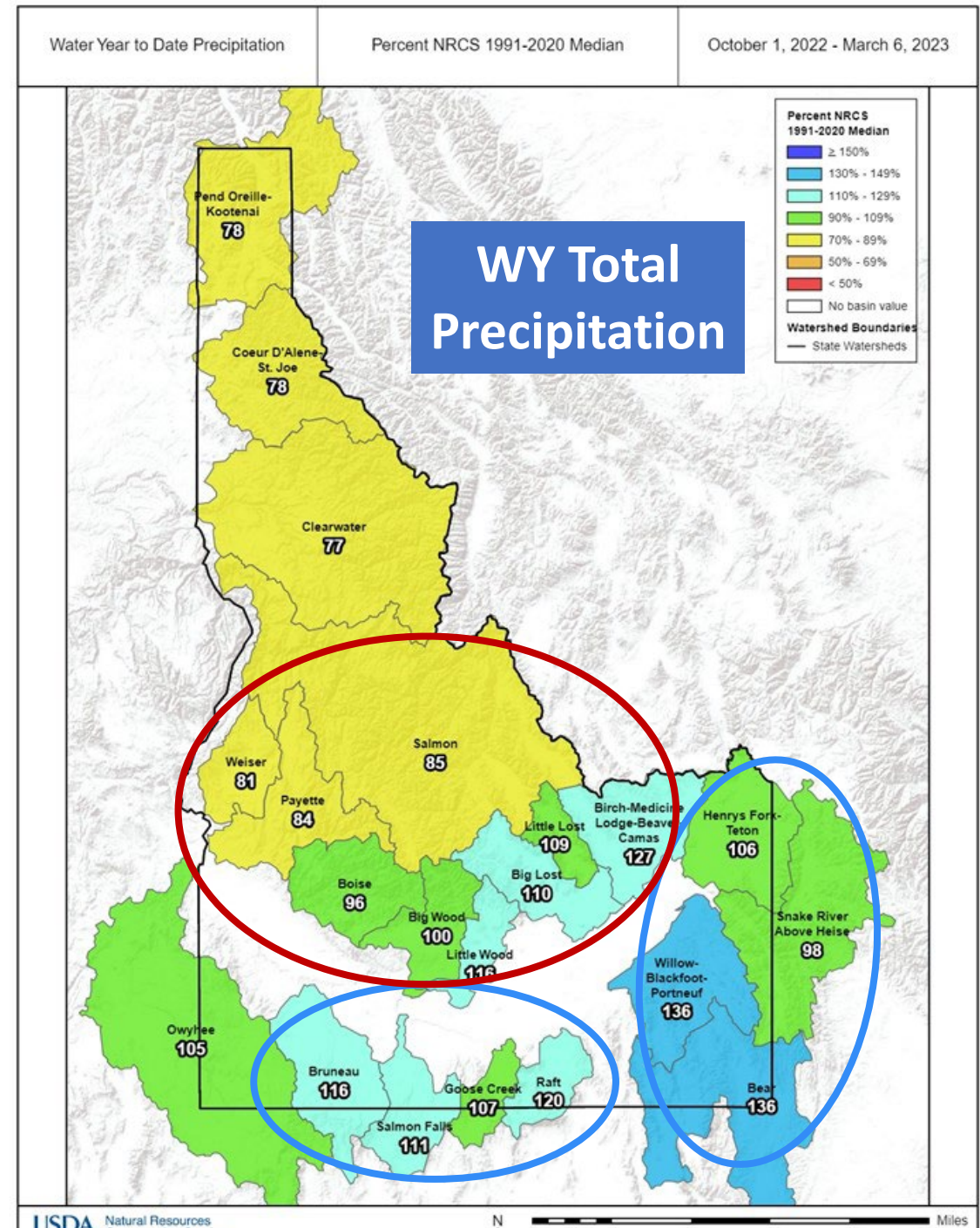
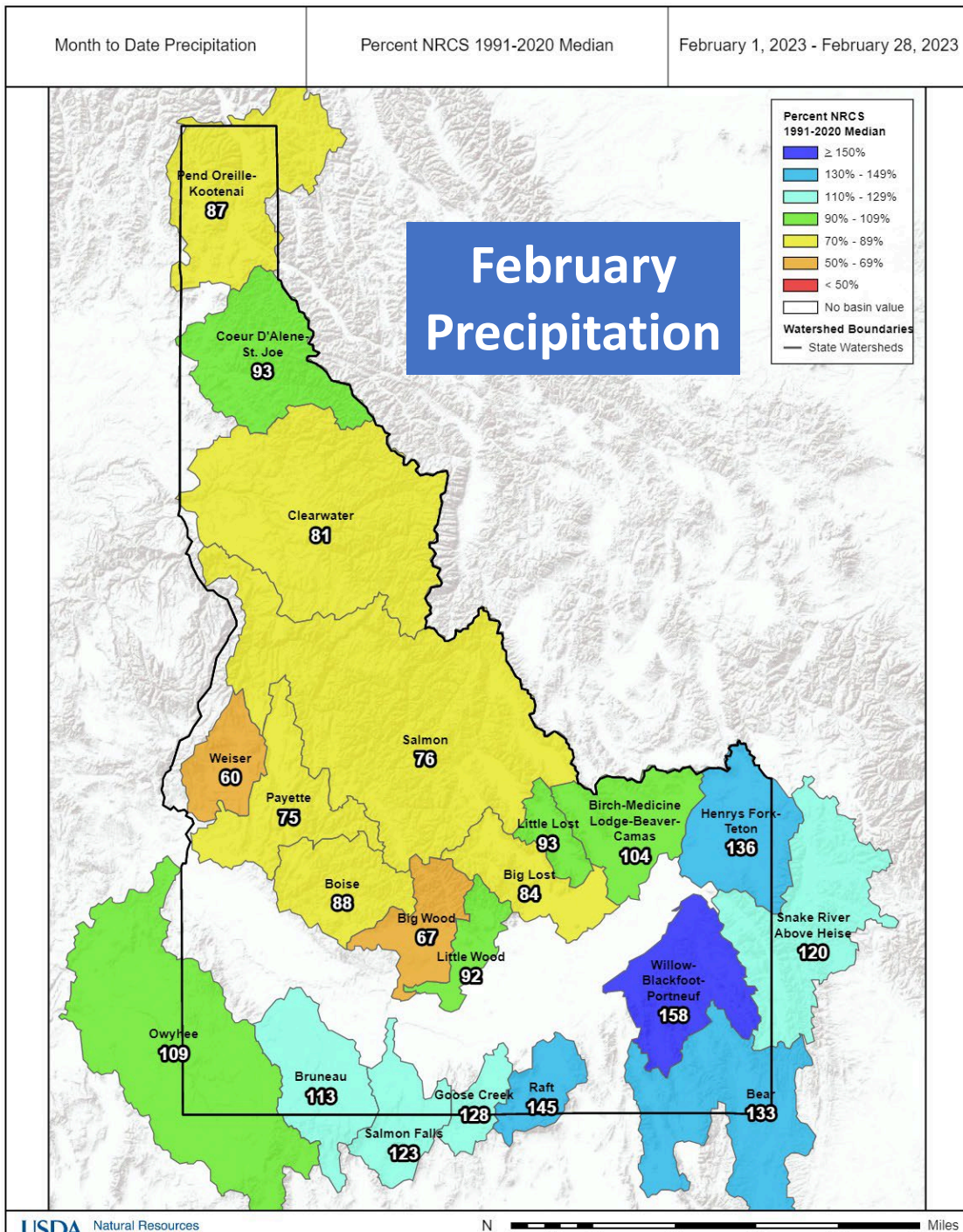
Shallow Groundwater

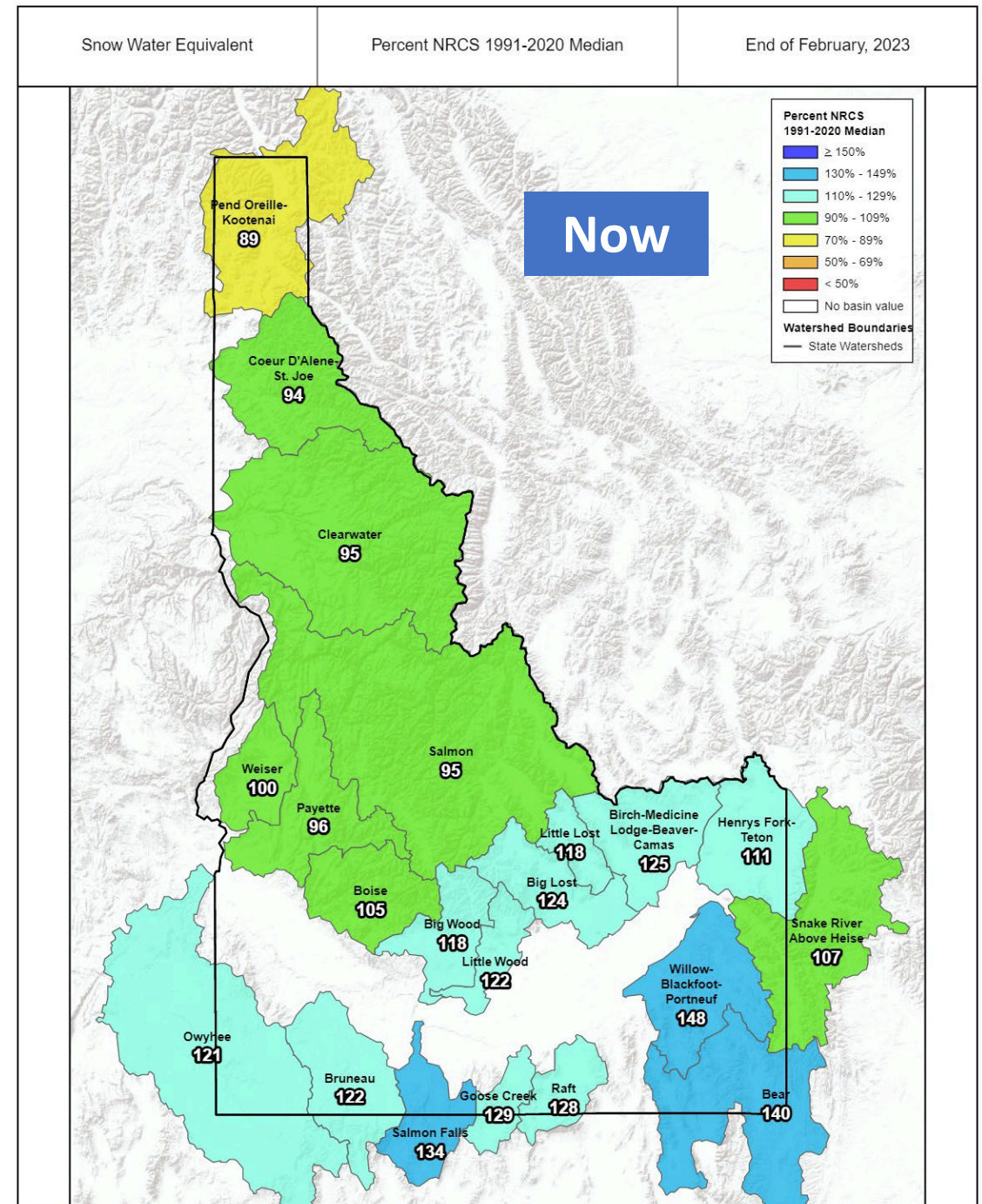
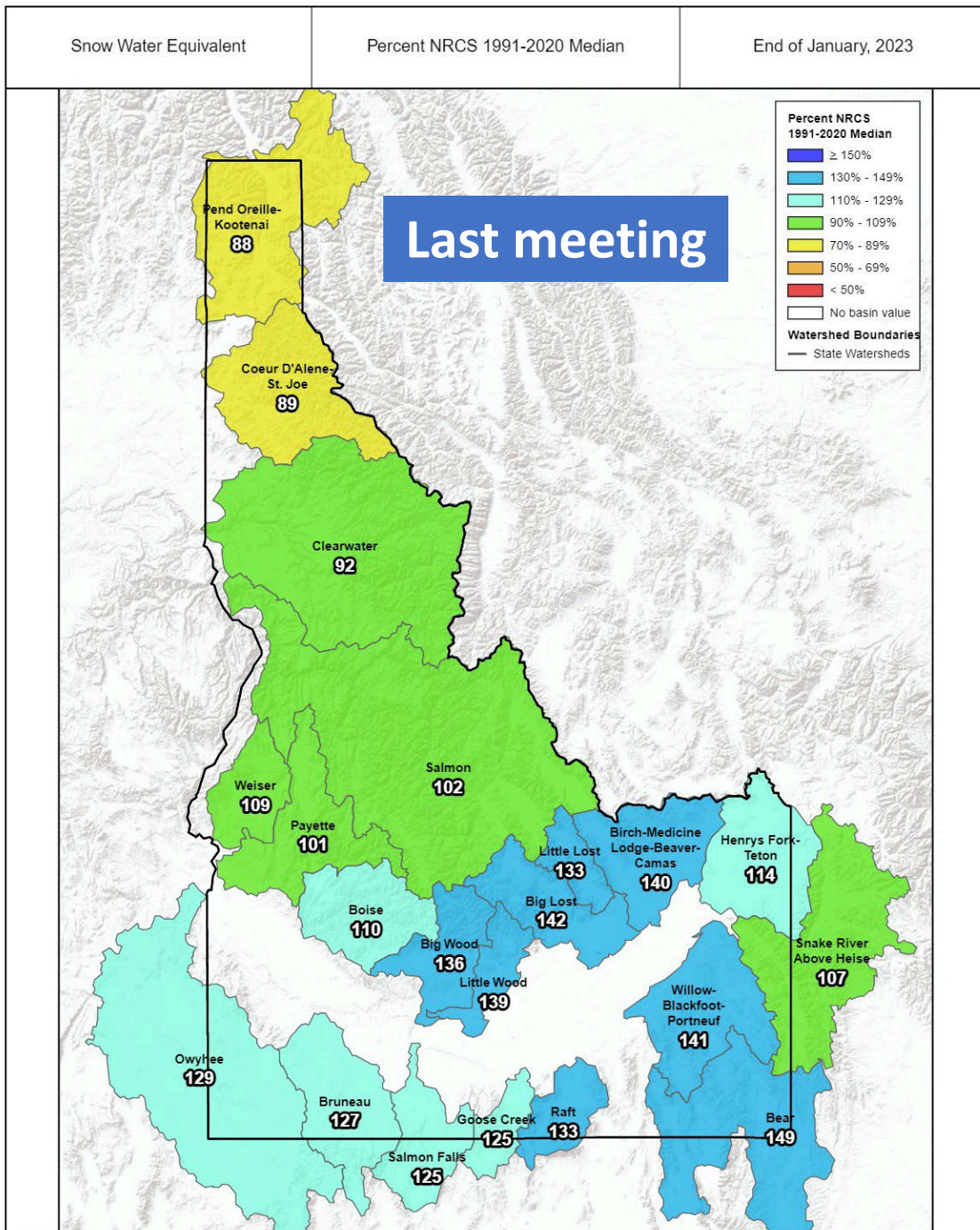
Feb. 2023

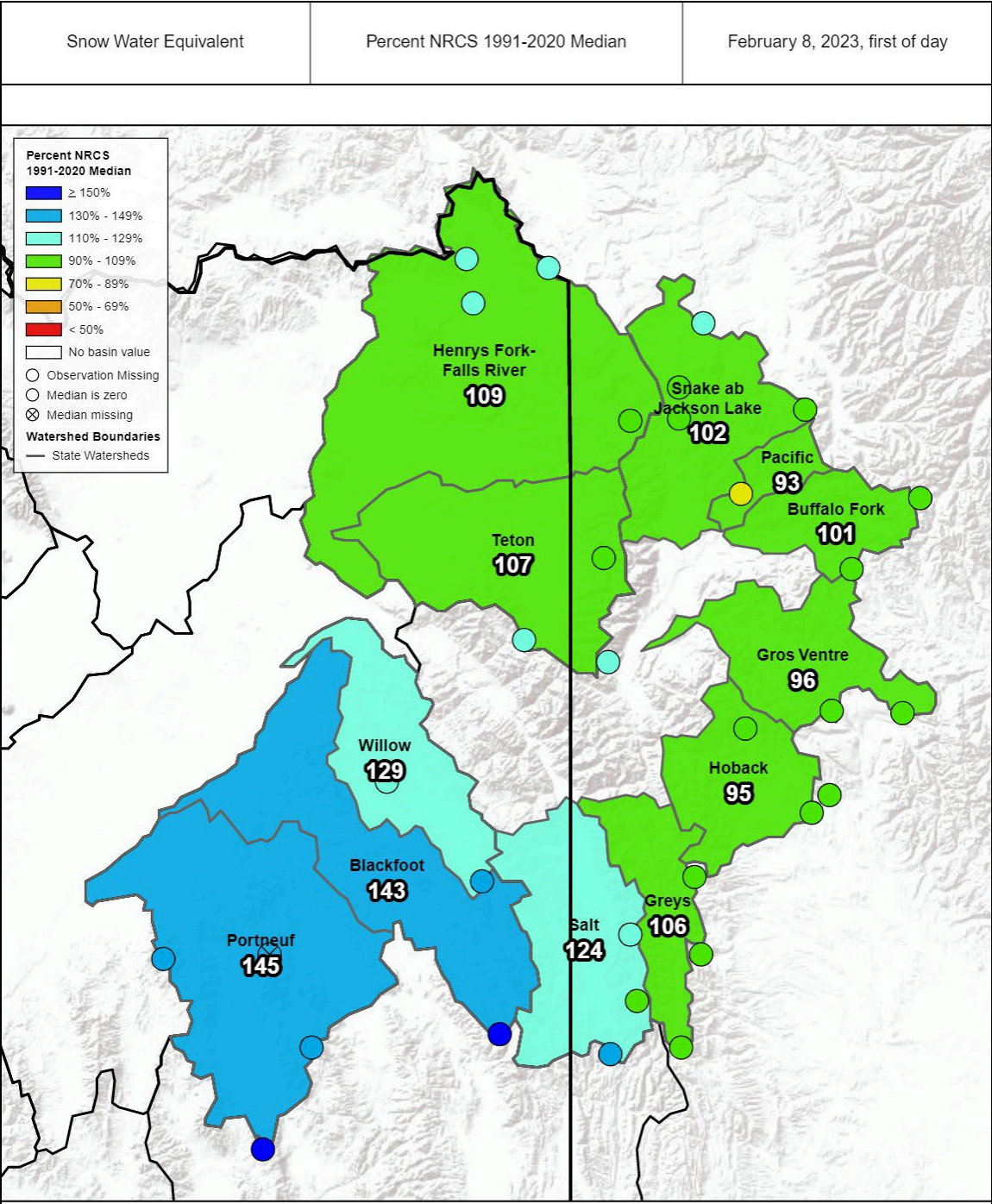
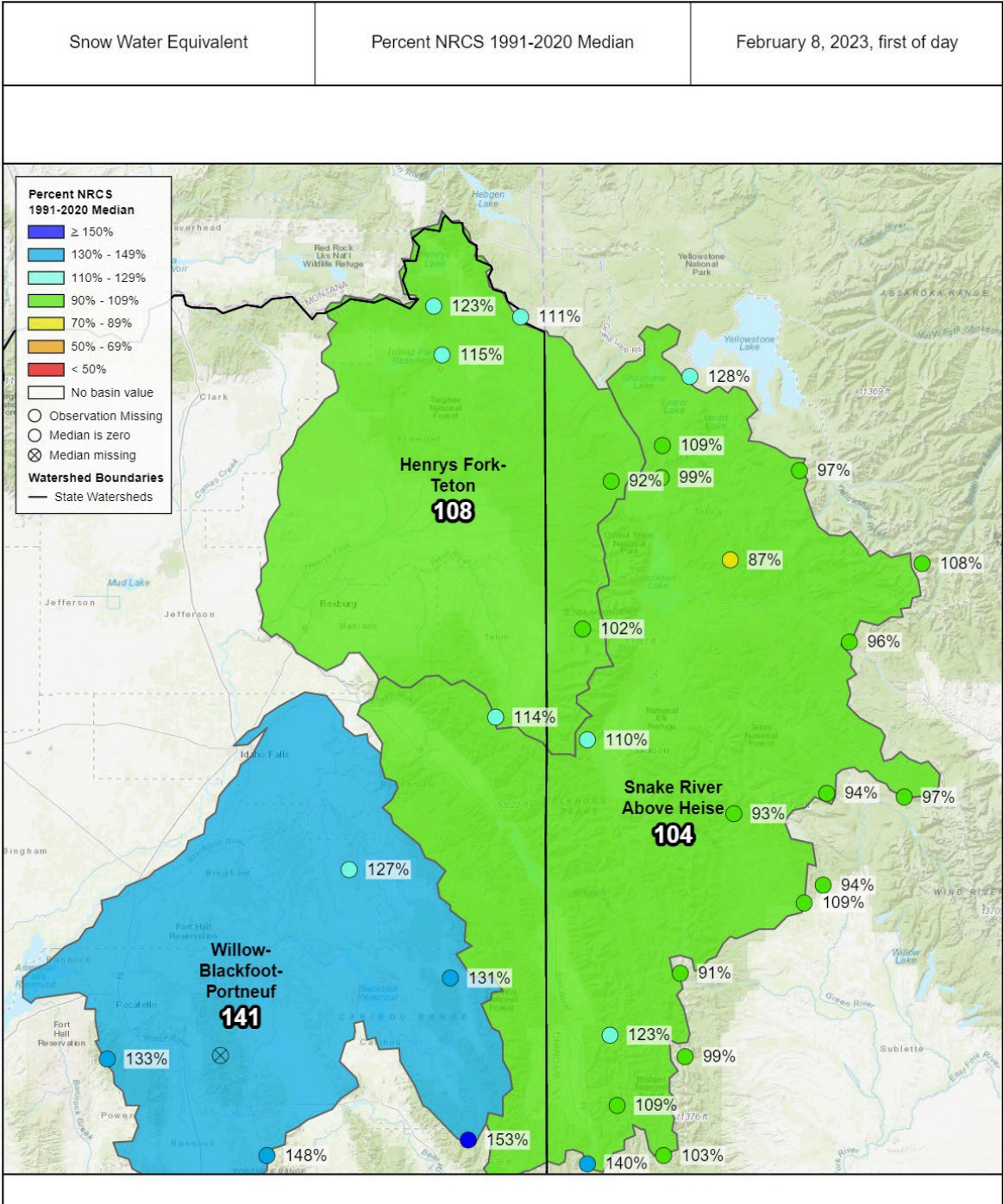


Feb. 2021











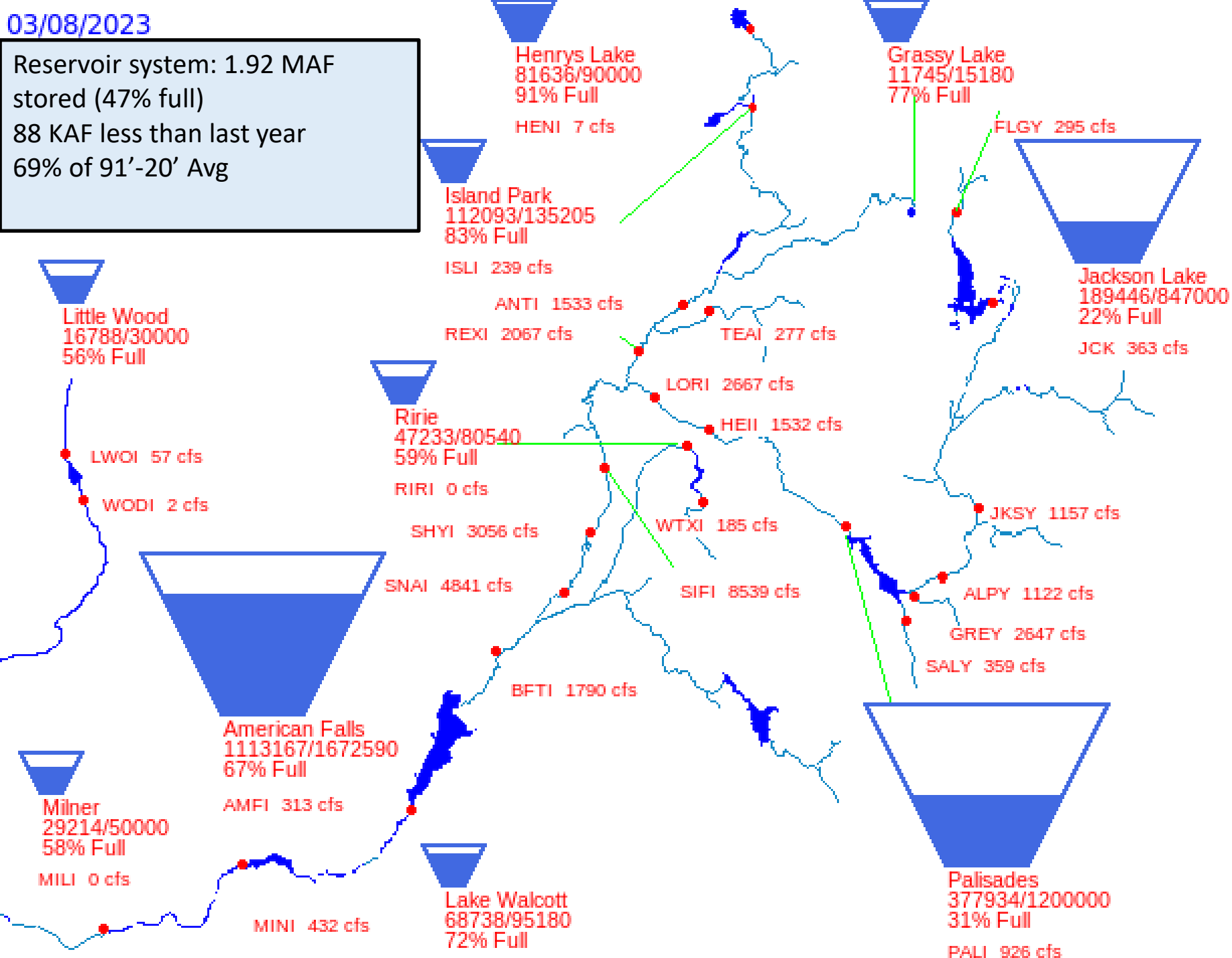
— BUREAU OF —
RECLAMATION

Upper Snake Advisory Committee Meeting March 9, 2023

Upper Snake Reservoir Operations

03/08/2023

Reservoir system: 1.92 MAF
stored (47% full)
88 KAF less than last year
69% of 91'-20' Avg



CURRENT MONTHLY FORECAST SUMMARY
MAR 1, 2023

March

FORECAST POINT	FORECAST PERIOD	1991-2020 AVERAGE (KAF)	FORECAST (KAF)	PERCENT NORMAL
*** HEISE	MAR-JUL	3517	3430	98%
JACKSON LAKE	MAR-JUL	804	786	98%
ISLAND PARK	MAR-JUL	230	231	101%
TETON	MAR-JUL	379	379	100%
*** RIRIE	MAR-JUN	60	75	124%
*** LITTLE WOOD	MAR-JUL	82	90	110%

* Coordinated with USACE

CURRENT MONTHLY FORECAST SUMMARY
FEB 1, 2023

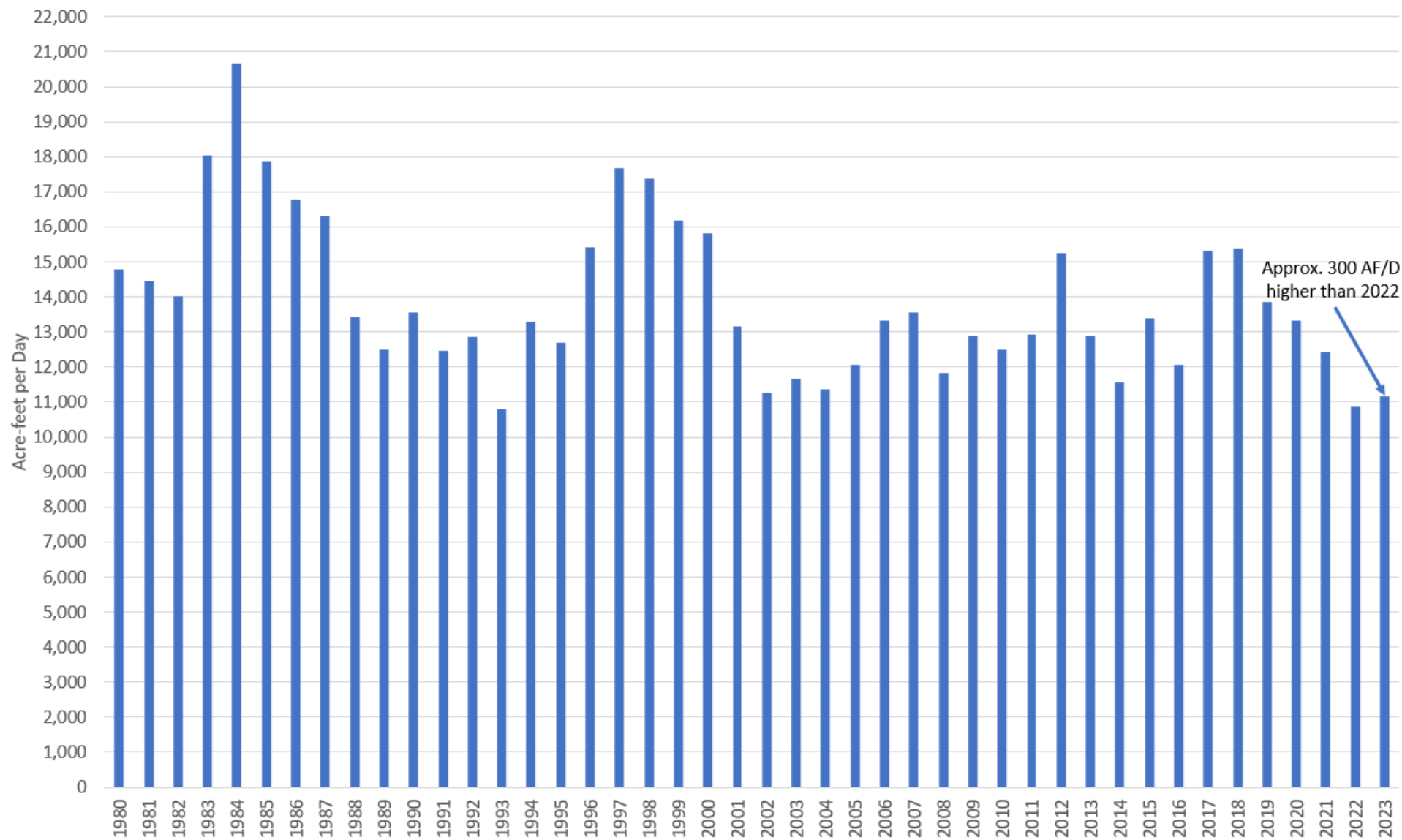
February

FORECAST POINT	FORECAST PERIOD	1991-2020 AVERAGE (KAF)	FORECAST (KAF)	PERCENT NORMAL
*** HEISE	FEB-JUL	3681	3600	98%
JACKSON LAKE	FEB-JUL	834	788	94%
ISLAND PARK	FEB-JUL	256	241	94%
TETON	FEB-JUL	401	360	90%
*** RIRIE	FEB-JUN	63	81	128%
*** LITTLE WOOD	FEB-JUL	85	110	129%

* Coordinated with USACE



Baseflow Conditions, Average Daily Flow Filling the Reservoir System (in acre-feet per day) Nov 1-Feb28
(Any Flow Passing Minidoka Dam Dam Added Back In)



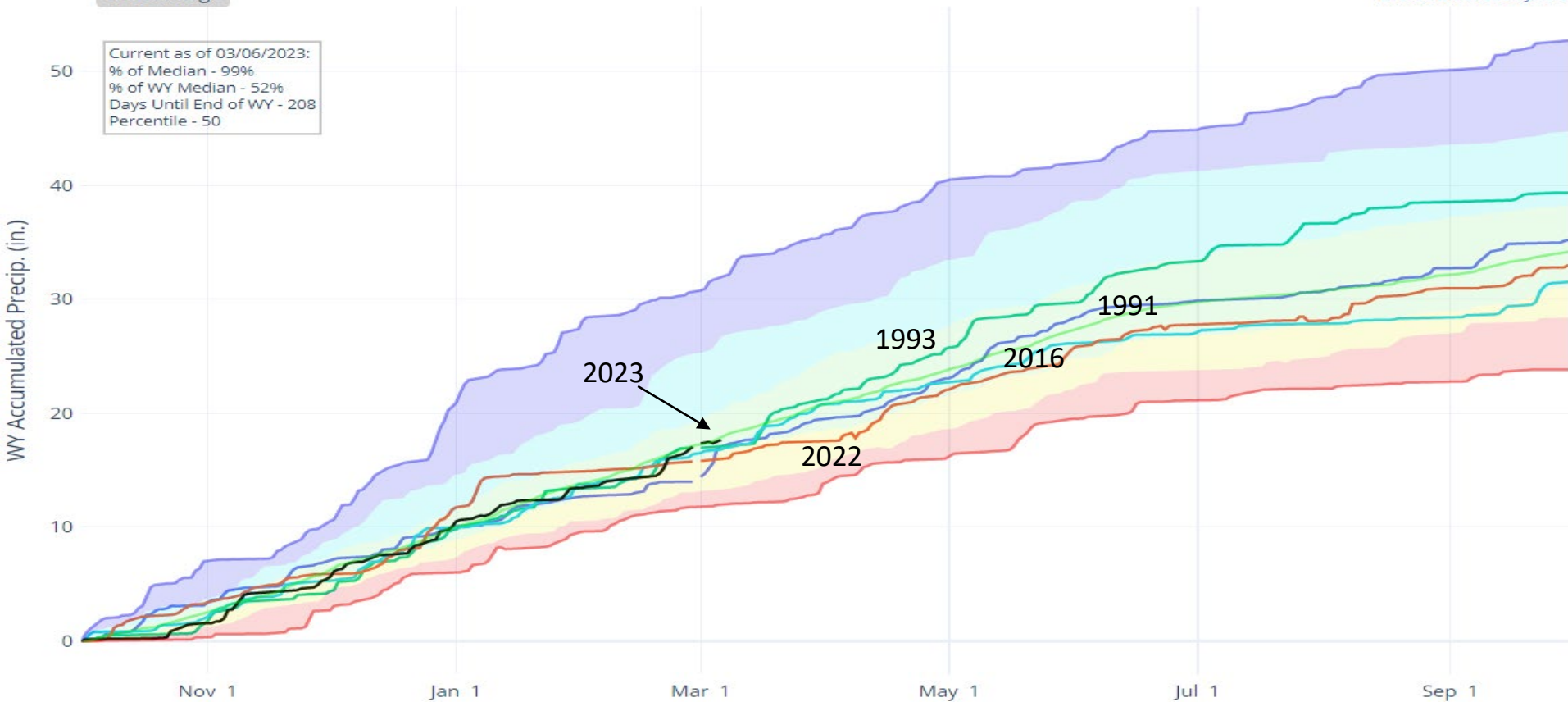
Precipitation Comparison

PRECIPITATION IN SNAKE HEADWATERS

Reset Range

[Link to data: CSV / JSON](#)

Current as of 03/06/2023:
% of Median - 99%
% of WY Median - 52%
Days Until End of WY - 208
Percentile - 50

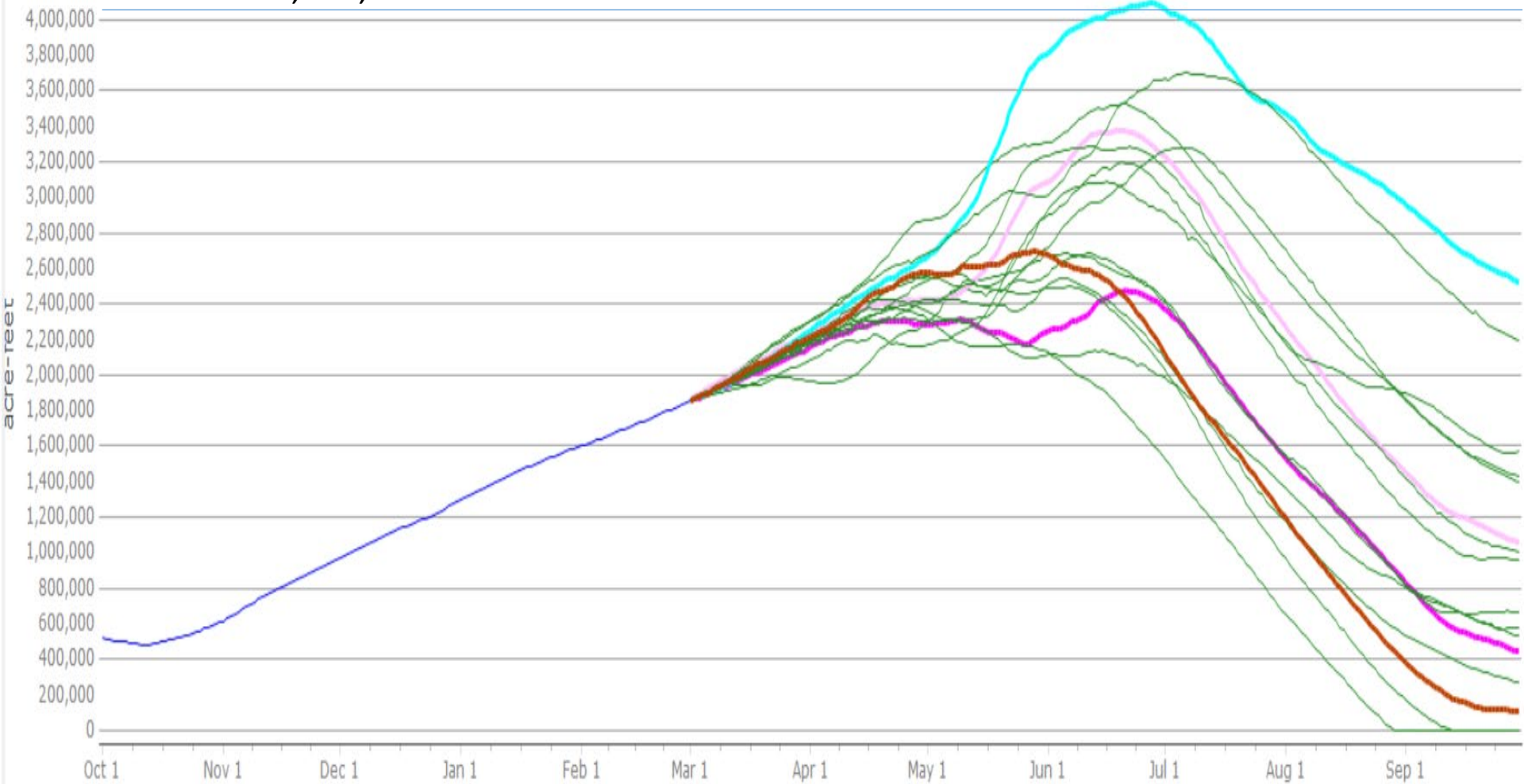


1993 deltas -04-24 2574368.62

Total System Storage (SNASYS) Projections

- snasys af 2023
- 2022 deltas
- 1985 deltas
- 1988 deltas
- 1989 deltas
- 1991 deltas
- 1993 deltas
- 1995 deltas
- 2002 deltas
- 2003 deltas
- 2004 deltas
- 2005 deltas
- 2006 deltas
- 2008 deltas
- 2013 deltas
- 2014 deltas
- 2016 deltas

Full at 4,045,695 AF



Upper Snake Flow Augmentation Outlook

Rainbow Chart/
Common Pool

2023 Carryover
728 KAF
(includes 20 KAF
rented to
supplemental pool
In WY 2020)

TABLE 1: Water District 1 Flow Augmentation Rental Chart						
October 31st Midnight Carryover 1000s AF	April 1 to Sept 30 Heise Forecast (1000s AF)					
	0	2,920	3,450	4,208	5,042	
	to	to	to	to	or	
	2,919	3,449	4,207	5,041	greater	
0 - 599	0	0	0	150000	185000	
600 - 899	0	0	60000	150000	185000	
900 - 1499	0	60000	60000	150000	185000	
1500 - 2099	0	100000	150000	185000	185000	
2100 - 2599	0	100000	150000	205000	205000	
2600 - 2999	0	185000	185000	205000	205000	
3000 - 3199	60000	185000	185000	205000	205000	
> 3199	100000	185000	185000	205000	205000	

Potential for Rainbow Chart Rentals

0 KAF – approximately 30% chance of occurring

60 KAF - approximately 70% chance of occurring

150 KAF - approximately 10% chance of occurring

185 KAF – approximately 1% chance of occurring



Winter Operational Outlook

- Jackson - 280 cfs
- Palisades - 900 cfs
- Island Park - ~230 cfs
- American Falls: ~310 cfs
- Minidoka - ~427 cfs
- Upcoming Meetings
 - April 5 — River and Reservoir Operations Subcommittee Meeting, Water District 1 Office
 - May 18-19 — Jackson Lake Public Information Meeting and Windshield Snow Survey, Contact Darrin Fredrickson for more information



For More Information

Snake River Area Office

- Lanie Paquin - Area Manager
208-383-2246
mpaquin@usbr.gov

Upper Snake Field Office

- Mike Hilliard – Assistant Area Manager
208-678-0461 (x34)
mhilliard@usbr.gov
- Brian Stevens – Water Operations Supervisory Civil Engineer (x24)
bstevens@usbr.gov
- Jeremy Dalling - Water Operations Civil Engineer (x25)
jdalling@usbr.gov
- Darrin Fredrickson - Staff Assistant (x17)
dfredrickson@usbr.gov

Snake River Operations Web Sites

- Upper Snake water information site -
<http://www.usbr.gov/pn/hydromet/uppersnake/index.html>
- USBR HydroMet - <http://www.usbr.gov/pn/hydromet/>
- Northwest River Forecast Center - <http://www.nwrfc.noaa.gov/rfc/>
- NRCS SNOTEL Data - <http://www.id.nrcs.usda.gov/snow/>





IWRB Managed Recharge Program

Upper Snake River Advisory Committee Meeting

Neal Farmer

Recharge Program

March 9, 2023

Total Natural Flow Water Recharged

108,497 af (provisional)

IWRB Recharge - Oct 15 to March 6

Diversion Rate

Median: 350 cfs

Max: 661 cfs

AFRD2

72,404 AF
381 cfs

Twin Falls

NSCC

10,656 AF

TFCC

13,365 AF
34 cfs

SWID

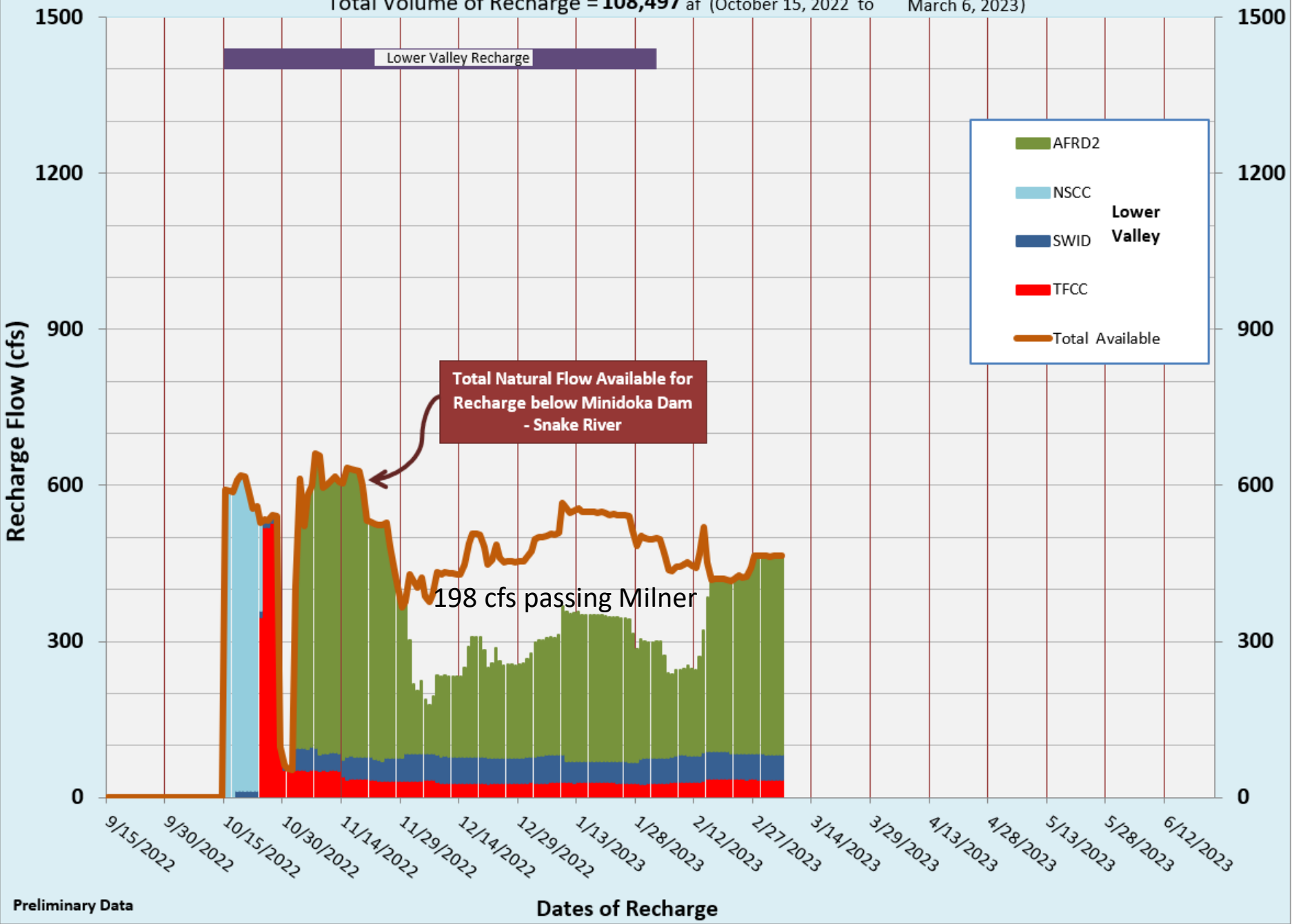
12,071 AF
~50 cfs



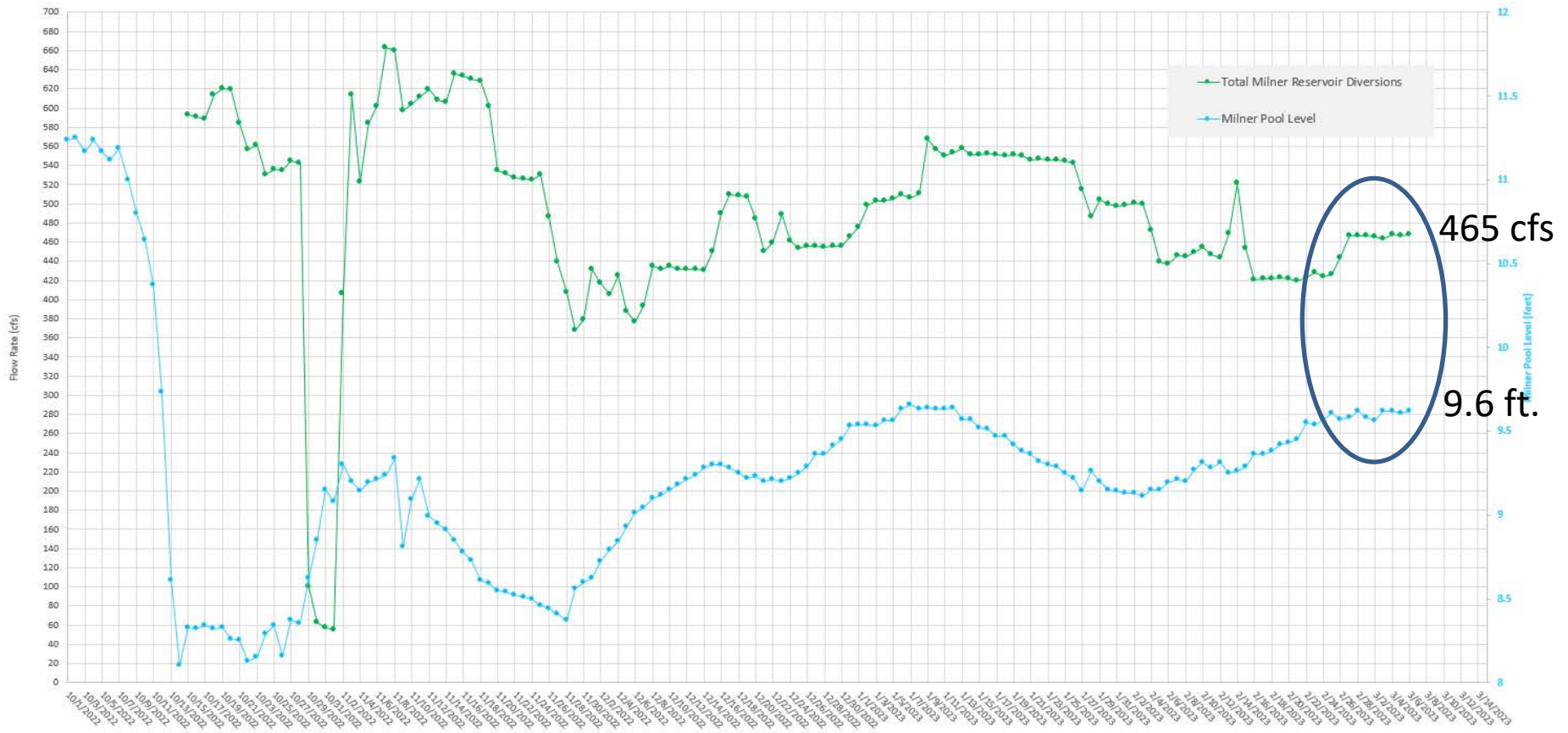
0 5 10 Miles

IWRB Natural Flow Recharge - 2022/2023 Season

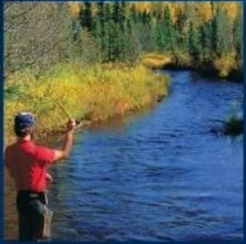
Total Volume of Recharge = **108,497** af (October 15, 2022 to March 6, 2023)



Milner



Questions





IWRB Managed Recharge Program

Drain and Stream Gains in the Minidoka to Milner Reach

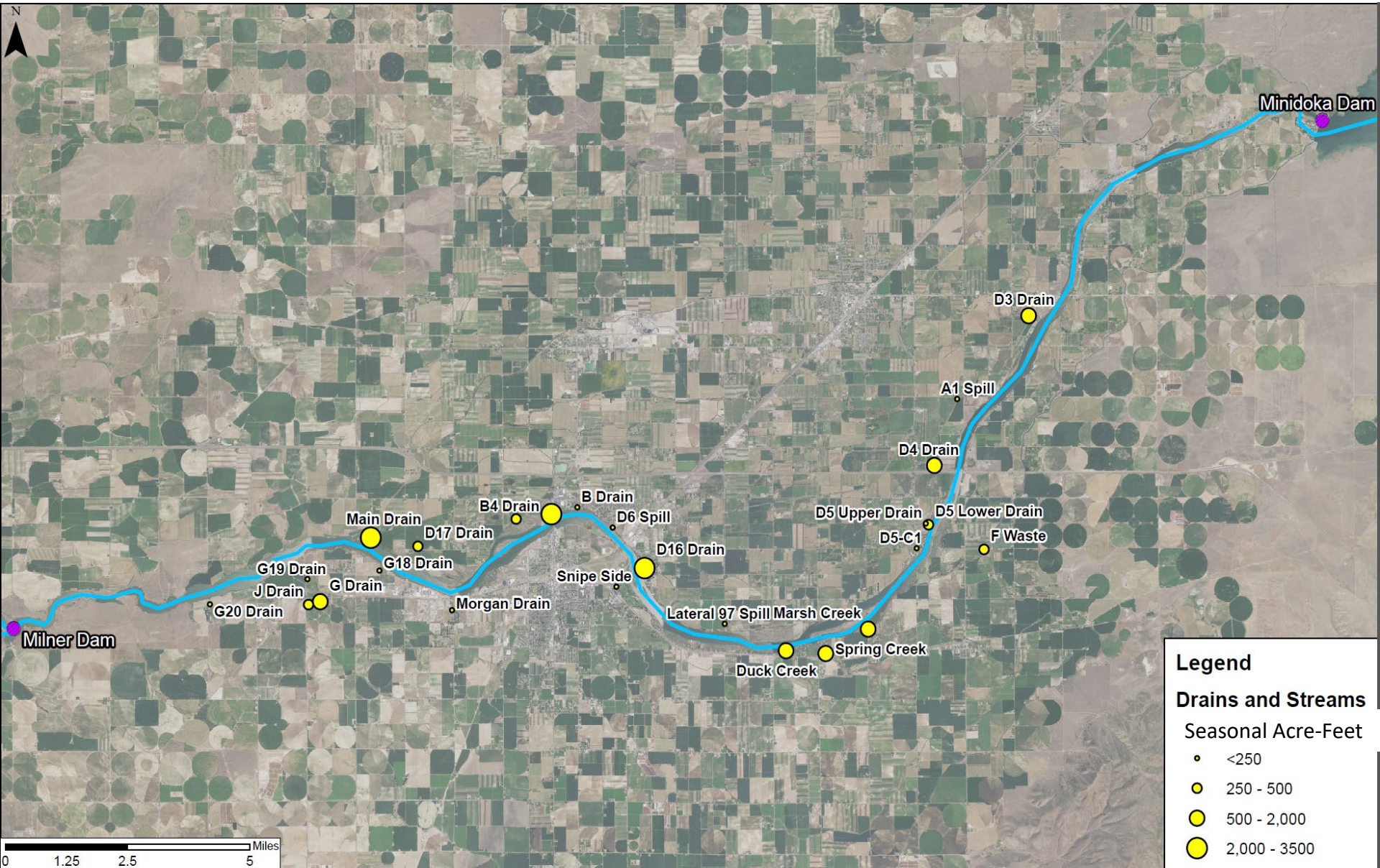
Heather Neace

Neal Farmer

Recharge Program

March 9, 2023

Drain Locations



IDAHO DEPARTMENT OF WATER RESOURCES

[Water Rights](#) ▾ [Wells](#) ▾ [Streams/Dams/Floods](#) ▾ [Forms](#) ▾ [Water Data](#) ▾ [Maps/Spatial Data](#) ▾ [Legal](#) ▾ [Board](#) ▾ [About IDWR](#) ▾

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[Water Data Overview](#)

[Drought Declarations](#)

[Groundwater Levels](#) ▾

[Groundwater Quality](#) ▾

[Hydrologic Projects](#) ▾

[Technical Publications](#)

[Water Measurement](#) ▾

[Water Rights Accounting](#) ▾

[Water Supply](#) ▾

Water Measurement Research and Maps

Water Diversion Measurement Network

The Water Diversion Measurement Network provides public access to flow measurement data associated with various locations monitored or managed by IDWR. Recorded data can be viewed or downloaded at a variety of time scales ranging from 15-minute averages to annual volumes depending on how the data was collected. [Click here to find your location of interest and access the related flow measurement data.](#)

Daily Time Series (Water District Diversion Database)

View and print data and graphs for points of diversion including daily diversion records for certain surface water diversions and some groundwater diversions for which regular flow rate measurements are taken.

Telemetric Time Series (Aqua Info)

Chart or download flow measurements in 15 minute and average daily time series. Water measurement data are transmitted using telemetry equipment. ALL DATA ARE PROVISIONAL AND SUBJECT TO CHANGE.

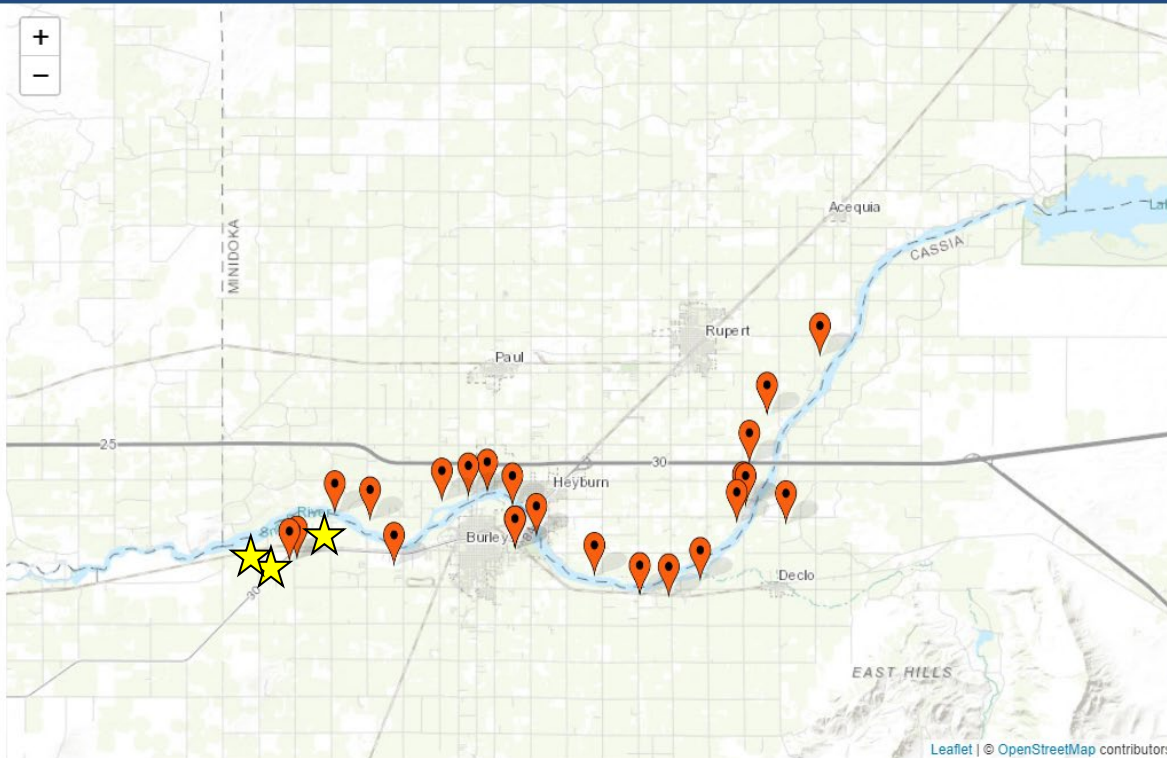
Annual Time Series (WMIS)

Research water delivery measurements and estimations of annual water usage including information related to irrigation wells on the Eastern Snake River Plain Aquifer and other ground and surface water points of diversion for which annual delivery totals are recorded.

<https://research.idwr.idaho.gov/apps/hydrologic/aquainfo/>



DEPARTMENT OF WATER RESOURCES Aqua Info



★ Drains not available on Aqua Info:

1. G18
2. G19
3. G20

Site Type:

Site Type

Measurement Site:

Data Frequency:

From:

February 6, 2023

To:

March 8, 2023

Create:

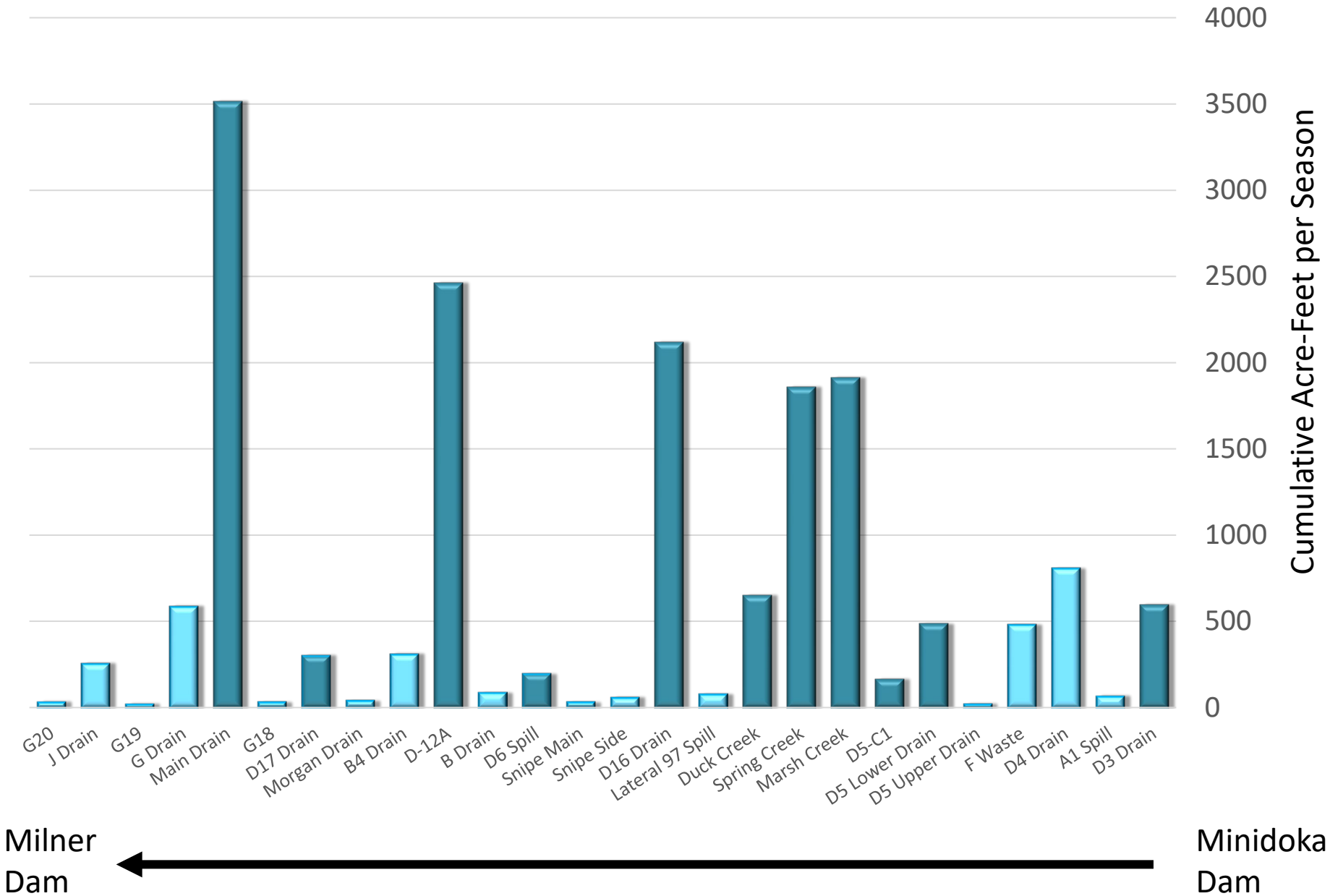
Chart

CSV

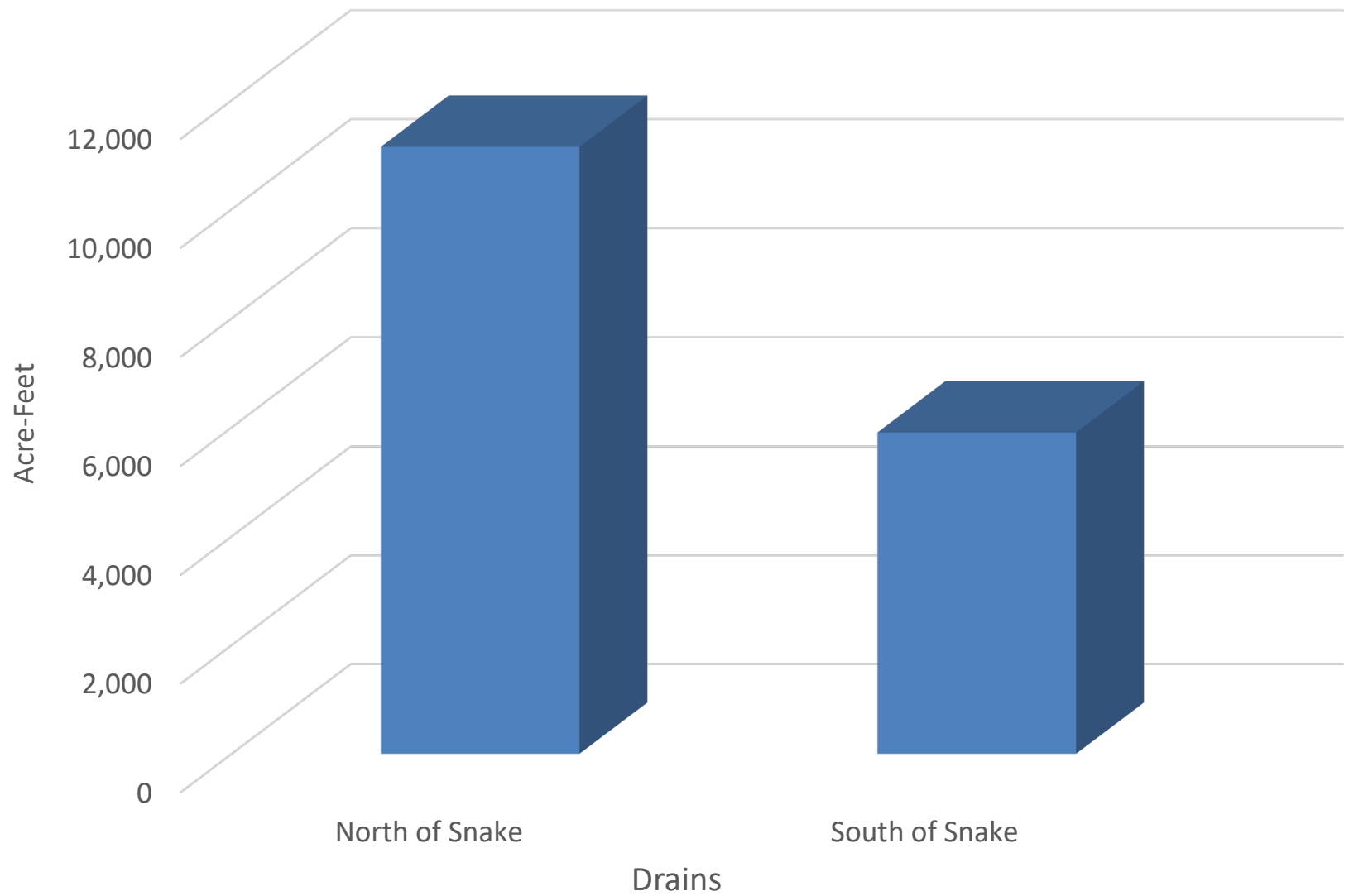
All data are provisional and subject to change

Please direct questions and concerns to Webmaster@idwr.idaho.gov

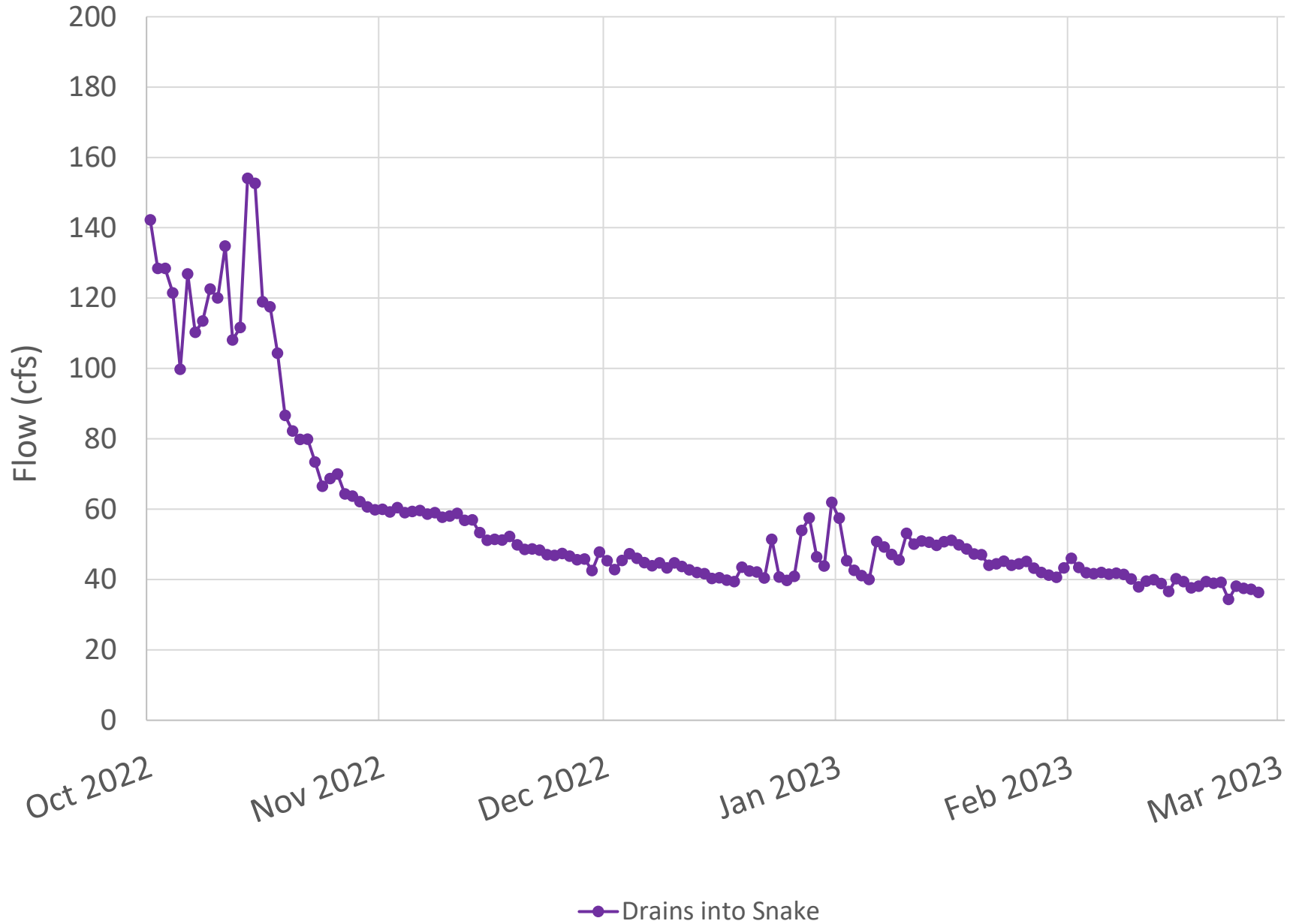
Total 2022-2023 Winter Season Drain Contribution in Acre-Feet



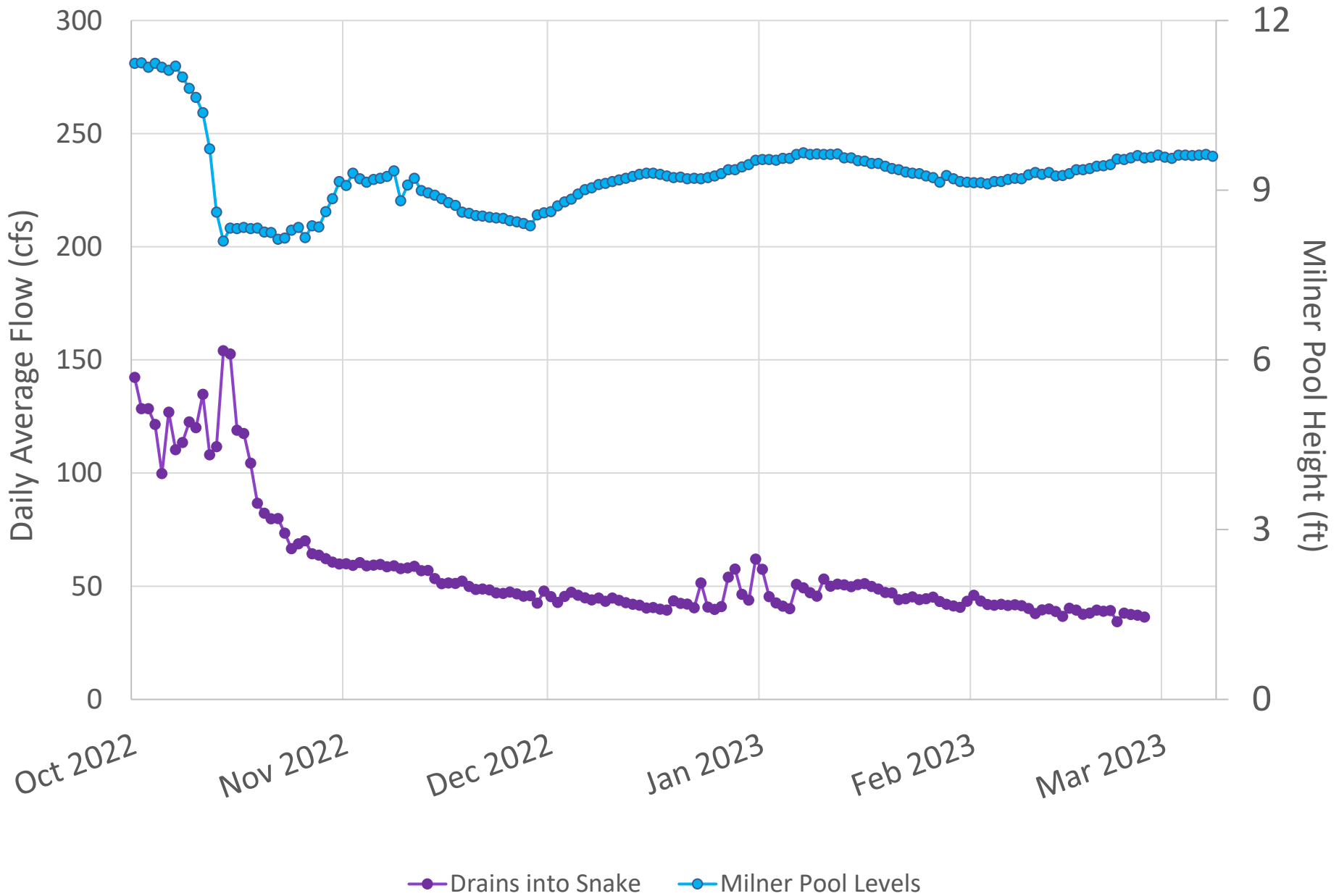
Contribution of Drains by Side of the Snake River



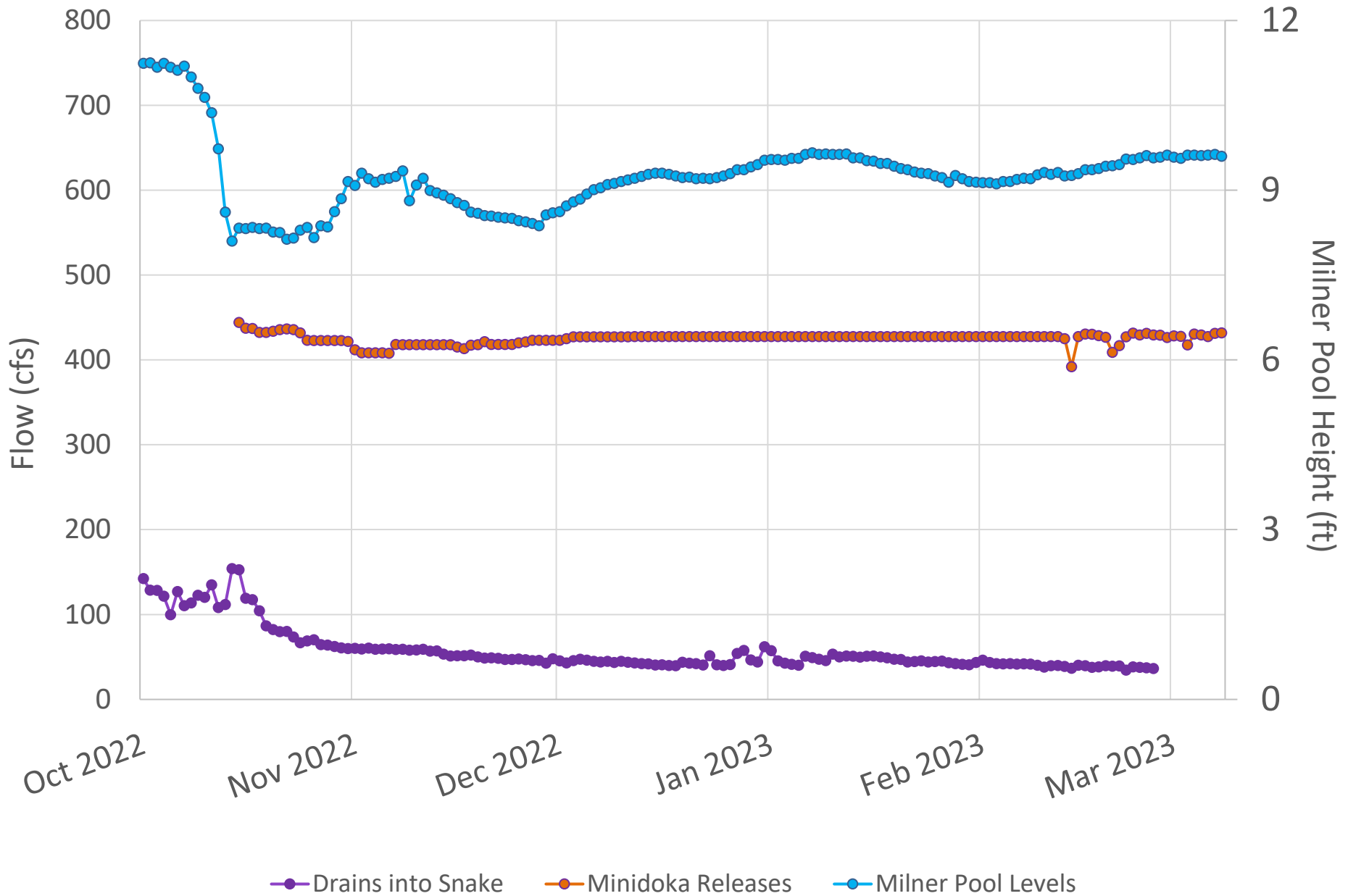
Drain and Stream Gains from Minidoka to Milner



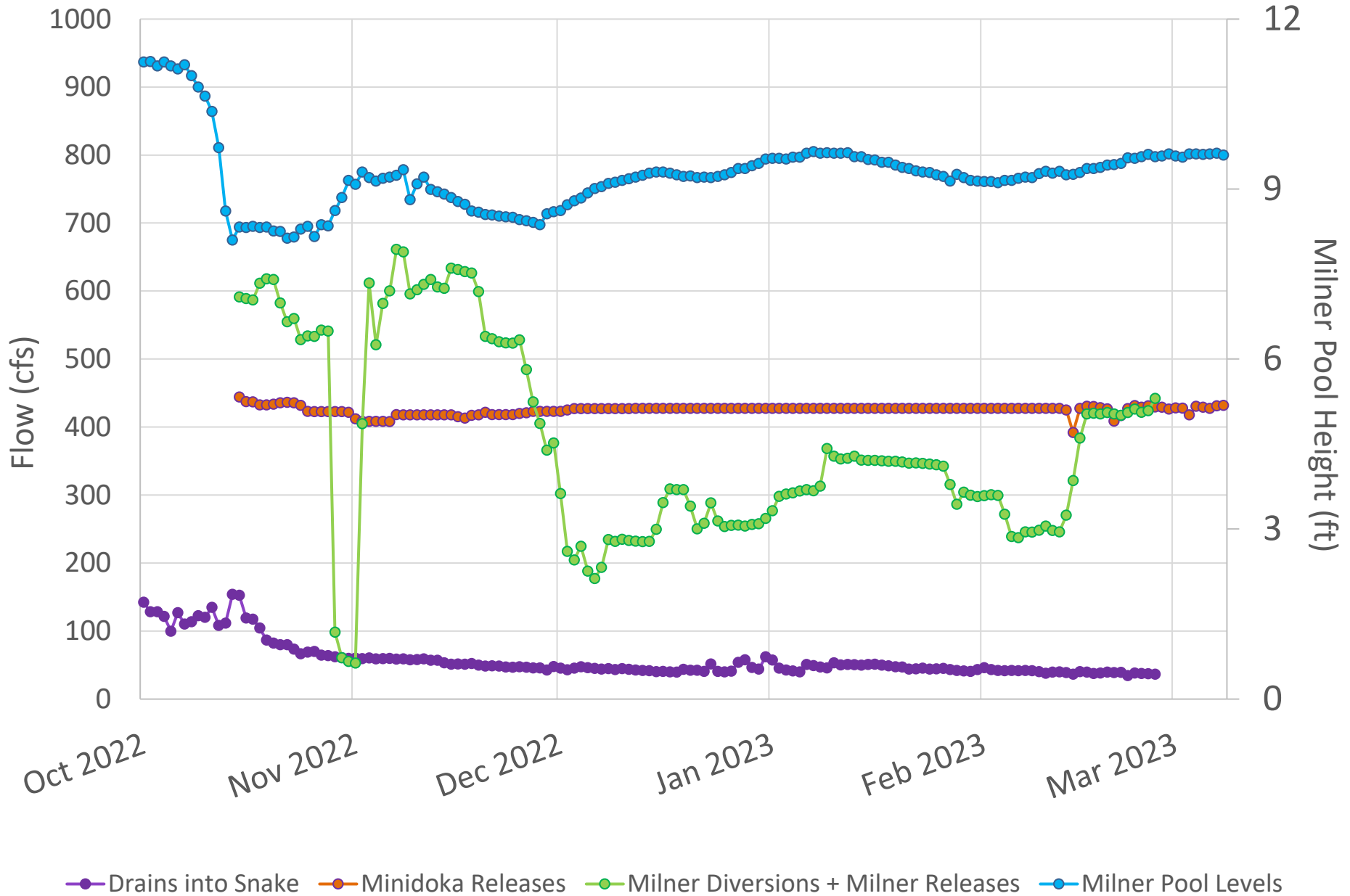
Milner Pool Height with Diversions and Drain Data



Milner Pool Height with Diversions and Drain Data



Milner Pool Height with Diversions and Drain Data





Questions?

