IDWR State Water Supply Meeting
May 8, 2024

This talk will be posted and more at:
https://snowweatherandflow.blog/

Topics:

- El Nino temperature impacts on river ice and early Upper Salmon River Steelhead Run
- Low snow in Lochsa and Selway basin
- Middle Fork Salmon River Blowouts impacts on River Runners and Outfitters as they wait to see how peak flows impact new rapid.

Ron Abramovich
Mostly Retired...

Looking back at 2023 - Here we come 2024

From Bill Bernt
Aggipah River Trips

Last summer (2022) the dominant news was the mudslide/log jam that blocked the upper Middle Fork in August. We worried all winter about whether it would clear out in June's high water, or whether we would have to fly all of our 2023 Middle Fork trips into Indian Creek to start. It did flush out—but in August 2023 another slide occurred, and the river again was blocked again. So we will fret again through the winter about whether this one will flush during the high water next June. After the slide all trips had to fly in to Indian Creek, but the river was low by then anyway, and most passengers were being flown in. We were lucky enough with our schedule to not be caught in that mess—and hope for an open river next summer.

Log jam on upper Middle Fork
photo by USFS

Sulphur Slide after the mud slide *photo by USFS*

From IDF&G
Steelhead Fishing Report

Upper Salmon River Steelhead Fishing Report (02-20-2024)

Home — Press Releases and Articles

idfg-bbeller
Tuesday, February 20, 2024 - 8:51 AM MST

Hi everyone, this is the Upper Salmon River steelhead fishing report for February 20, 2024. The data discussed in this report was collected between Tuesday, February 13th and Sunday, February 19th.

As mentioned in last week's river condition report, the spring steelhead fishery on the Upper Salmon River is off to an early start in 2024. The Deadwater ice jam opened on February 7th, and we started to see catch rates really pick up downstream of Deadwater as soon as the river's visibility improved. The timing of the ice jam opening was a full month and a half ahead of last year and a month ahead of other recent years.

Steelhead Fishing

Related Content

Signs & Impacts of El Nino's warmer temps:

Less river ice resulting in early ice off and earlier arrival of Steelhead in Upper Salmon Basin.

Fall 2023 river flows were above average and opposite of Fall 2022 river flows.

Deadwood Ice Jam Break Up

2024 Steelhead Fishery was off to an early start in Upper Salmon River.

2024 Feb 7
One of the earliest ice off

Feb 7 2024

Mar 23 2023

Temperature, water, degrees Celsius
Most recent instantaneous value: 10.8 04-24-2024 22:30 MDT

2023 March 23
One of the latest ice off
Cool, wet winter extended into Spring

SNOW WATER EQUIVALENT IN LOCHSA

2024 Lochsa Snow similar to 2016, 2015 and 2001.

LOLO PASS, ID (588) SNOW WATER EQUIVAL

LOCSHA RIVER AND LOLO PASS SNOTEL

On average, peak streamflow for the Lochsa River near Lowell, Idaho occurs when Lolo Pass SNOTEL is between **55 and 80%** melted.

Summary of years using only "snowmelt peak" and categorized by max SWE magnitude.

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	**Average percent melted at time of peak streamflow**
Below average	<22	7	**78**
Average	21 – 34	13	**80**
Above average	>33	7	**55**

The average percent melted for the full 32-year period of record is 77% melted.

2024 Lolo Pass SWE similar to 2016, 2015 and 2001.

2024 Lolo Pass SWE peaked at 18.8" on Apr 10 and is at 10.1" today. In Below Average years, the snowmelt peak flows occurs when the site is 78% melted, when 4.1" remains this year.

Runoff for similar snow years:
2024 May-Jul forecast is for 790 KAF:

2015 May-Jul volume was 525 KAF

2016 May-Jul volume was 755 KAF

2001 May-Jul volume was 826 KAF

TWIN LAKES, MT (836) SNOW WATER EQUIV

SELWAY RIVER AND TWIN LAKES SNOTELSITE

On average, peak streamflow for the Selway River near Lowell, Idaho occurs when Twin Lakes SNOTEL is between **26 and 33%** melted.

Summary of all years by max SWE magnitude

Max SWE Category	Range of Max SWE Magnitude (inches)	Number of Years in Analysis	**Average percent melted at time of peak streamflow**
Below average	<35	11	**33**
Average	34 – 49	25	**33**
Above average	>48	12	**26**

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

The average percent melted for the full 48-year period of record is 33% melted.

2024 Twin Lakes SWE is similar to 2001 and 1977 which were some of the lowest SWE years since daily data starts in 1968.

2024 Twin Lakes SWE peaked at 26.6" on Apr 11 and is at 21.8 today. In below average years, the snowmelt peak flows occurs when the site is 33% melted, which is when 17.8" remains this year.

Runoff for similar snow years:
2024 May-Jul forecast is for 1250 KAF:

2001 May-Jul volume was 1131 KAF

1977 May-Jul volume was 860 KAF

2015 May-Jul volume was 916 KAF

These years were low. Future spring weather will determine how low the flow is this year. Additional rain and cool weather in May would help delay snowmelt and keep recession flows higher longer.

SNOW WATER EQUIVALENT IN MIDDLE FORK SALMON

2024 MF Basin Snow similar to 2021, 2020 and 2013.

USDA

BANNER SUMMIT, ID (312) SNOW WATER EQUIVALENT

2024 Banner Summit SWE similar to 2021, 2020 and 2013.

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<21	9	90
Average	20 – 31	16	61
Above average	>30	9	66

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

Using DISCHARGE ONLY years, on average, peak streamflow for the MF Salmon at MF Lodge near Yellow Pine Idaho occurs when Banner Summit SNOTEL is between **64 and 81%** melted.

Summary of DISCHARGE ONLY years categorized by max SWE magnitude.

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	MEDIAN percent melted at time of peak streamflow
Below average	<21	5	81
Average	20 – 30	8	71
Above average	>29	5	64

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

2024 Banner Summit peaked at 21.2" on Apr 11 and is at 13.5" today. On average, the snowmelt peak occurs when the site is 61% (or 71%), which is when 10.4" remains this year.

MF Salmon River Runoff for similar snow years: 2024 May-Jul forecast is for 495 KAF:

2021 May-Jul volume was 353 KAF

2020 May-Jul Volume was 580 KAF.

Future spring weather will determine magnitude and duration of higher flows.

Additional rain and cool weather in May would help delay snowmelt and keep recession flows higher longer.

Keep in mind the Banner Summit Snow2Flow Relationship is based on snow and snowmelt relationship with peak flows.

Any given day with rain can generate additional peaks or a higher peak for the season.

Middle Fork Salmon River Velvet Rapid

Before the Blowouts

Middle Fork Salmon River

Log Jam
August 16, 2023

August 2022 Middle Fork Salmon River Velvet Rapid August 2023

Photos of new rapid around April 24, 2024 from

Aaron Lieberman - Executive Director
Idaho Outfitters & Guides Association

Flow

Flow

Flow