

# CAPITAL PROJECTS UPDATE: MAY 2025



Settle down.

# PRESENTATION OUTLINE

- South Ruckle Construction Update
- Freshet Update
- FMP Costs to Date
- FMP Capital Plan
- Other Major Capital Projects Update
- Valley Heights Electrical Design and Procurement
- East Zone Reservoir Design Update



# STATUS UPDATE BY WORK PACKAGE

## WP3, South Ruckle Dike and Drainage Network

- A. Dike Phase 1 (North of 63<sup>rd</sup> Ave) complete and providing flood protection
- B. New ramps crossing dike at 10<sup>th</sup> St complete; paving tentatively scheduled for May 12<sup>th</sup>
- C. Working to open dike trail to the public from 66<sup>th</sup> Ave to 64<sup>th</sup> Ave
- D. Restoring public and private property impacted by construction
- E. Demobilizing equipment
- F. Negotiating with private property owners regarding Phase 2a (dike South of 63<sup>rd</sup> Ave)
- G. Working on design and budgeting for Phase 2b (drainage network)
- H. Permitting applications underway for Phase 2; construction scheduled to start September 2025 (tentative)



# WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - DIKE CONSTRUCTION



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**WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - RIPRAP BEDDING**





# WP3 - SOUTH RUCKLE DIKE AND DRAINAGE - RIPRAP



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**WP3 – SOUTH RUCKLE DIKE AND DRAINAGE –  
COMMUNITY GARDEN TRAIL FENCE**



# DOWNTOWN DIKE AND PUMP STATION TOUR HUTTON SCHOOL FIELD TRIP

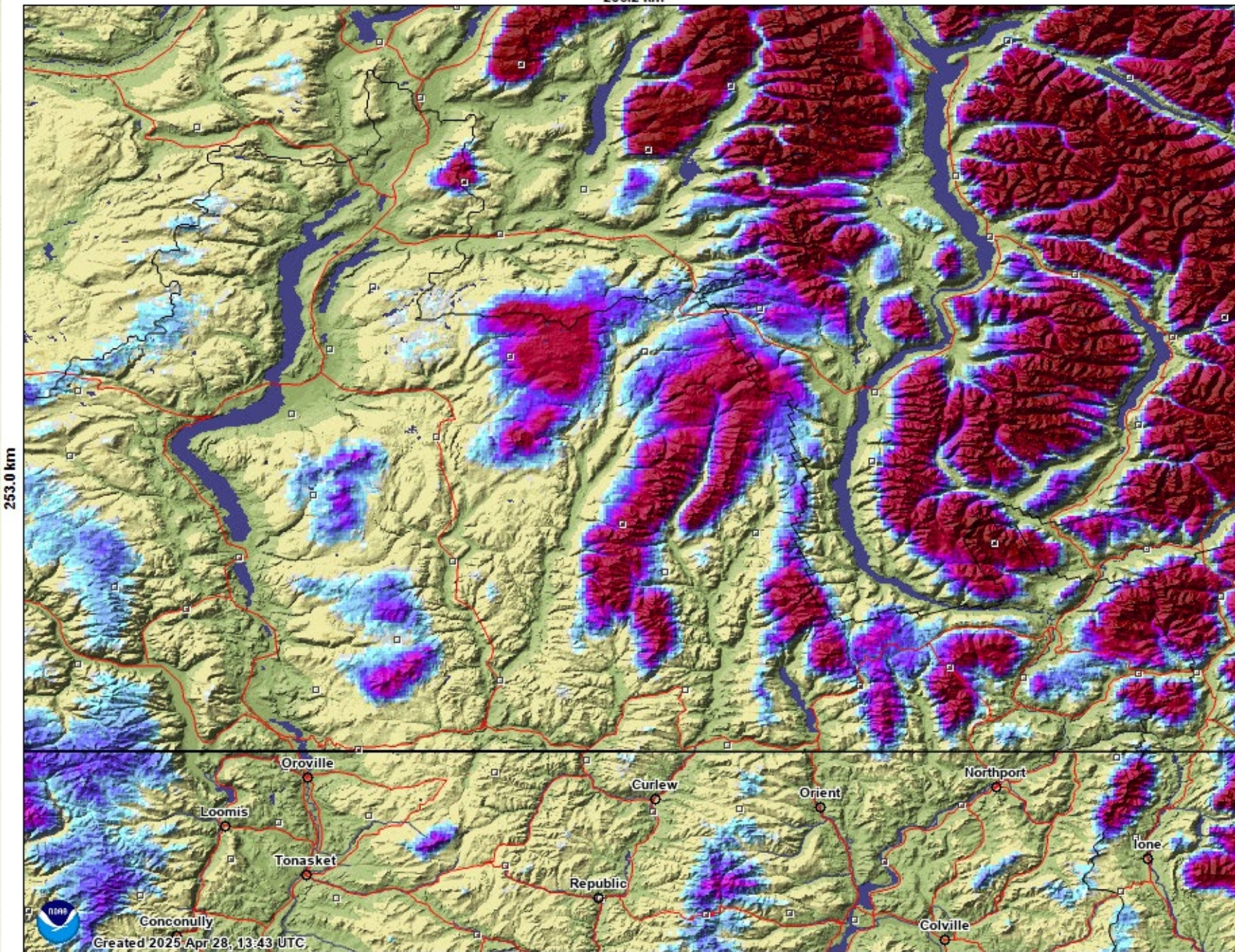
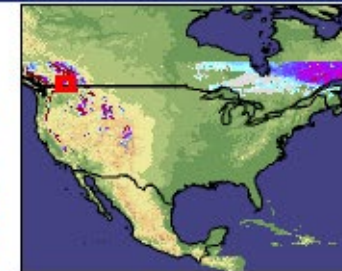




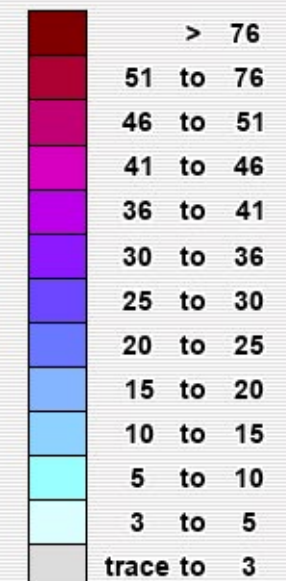
# Modeled Snow Water Equivalent forecast for 2025 May 1, 0:00 UTC

206.2 km

[NOHRSC Interactive Snow Information](#)

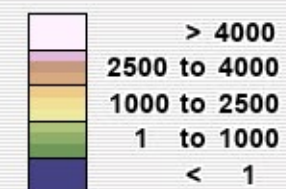


## Centimeters of water equivalent



Not Estimated

## Elevation in meters

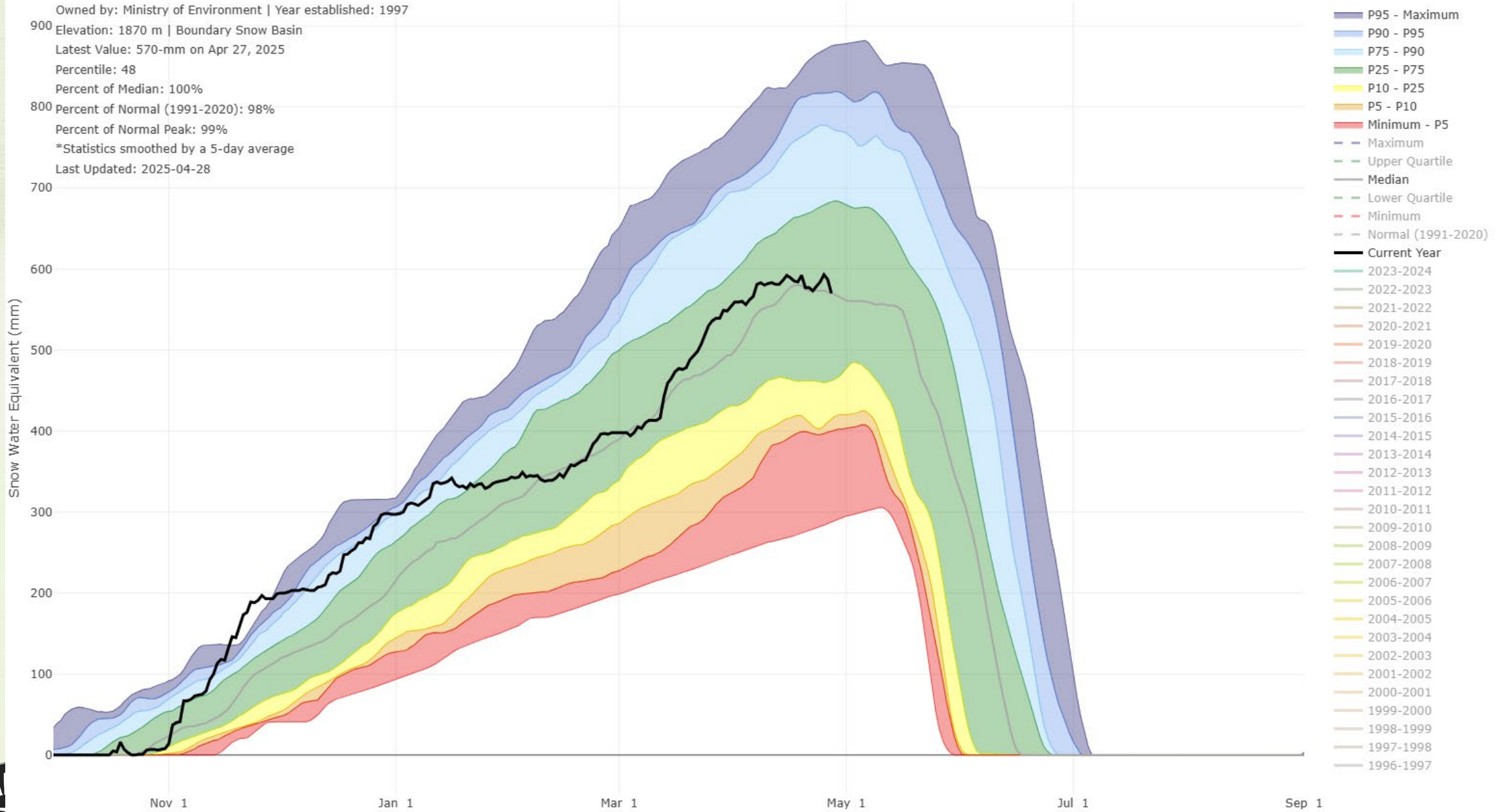


Settle down.

Created 2025 Apr 28, 13:43 UTC

# Snow Water Equivalent (SWE) for Grano Creek (2E07P)

Owned by: Ministry of Environment | Year established: 1997  
 Elevation: 1870 m | Boundary Snow Basin  
 Latest Value: 570-mm on Apr 27, 2025  
 Percentile: 48  
 Percent of Median: 100%  
 Percent of Normal (1991-2020): 98%  
 Percent of Normal Peak: 99%  
 \*Statistics smoothed by a 5-day average  
 Last Updated: 2025-04-28

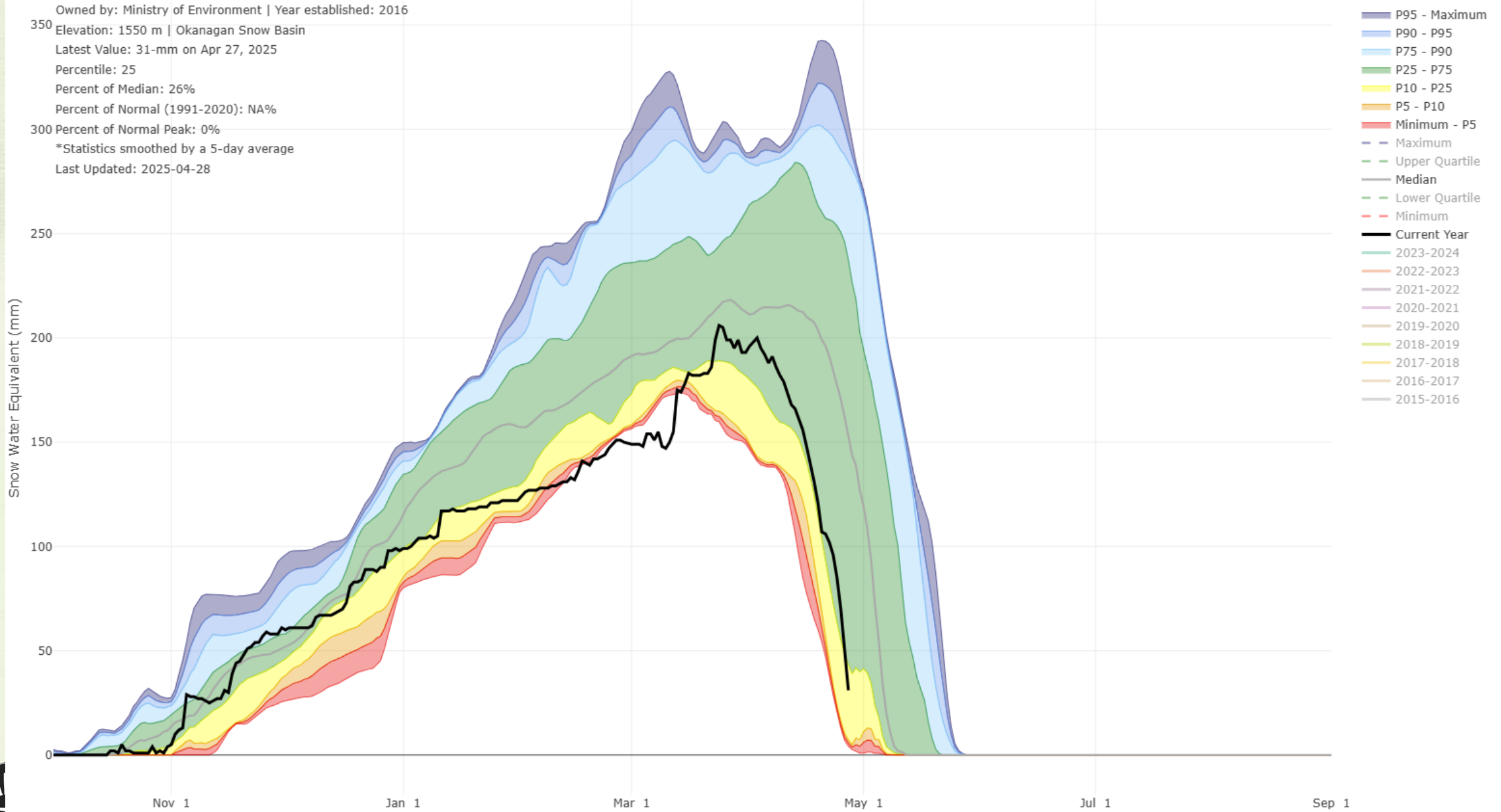


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# Snow Water Equivalent (SWE) for Greyback Reservoir (2F08P)

Owned by: Ministry of Environment | Year established: 2016  
 Elevation: 1550 m | Okanagan Snow Basin  
 Latest Value: 31-mm on Apr 27, 2025  
 Percentile: 25  
 Percent of Median: 26%  
 Percent of Normal (1991-2020): NA%  
 300 Percent of Normal Peak: 0%  
 \*Statistics smoothed by a 5-day average  
 Last Updated: 2025-04-28



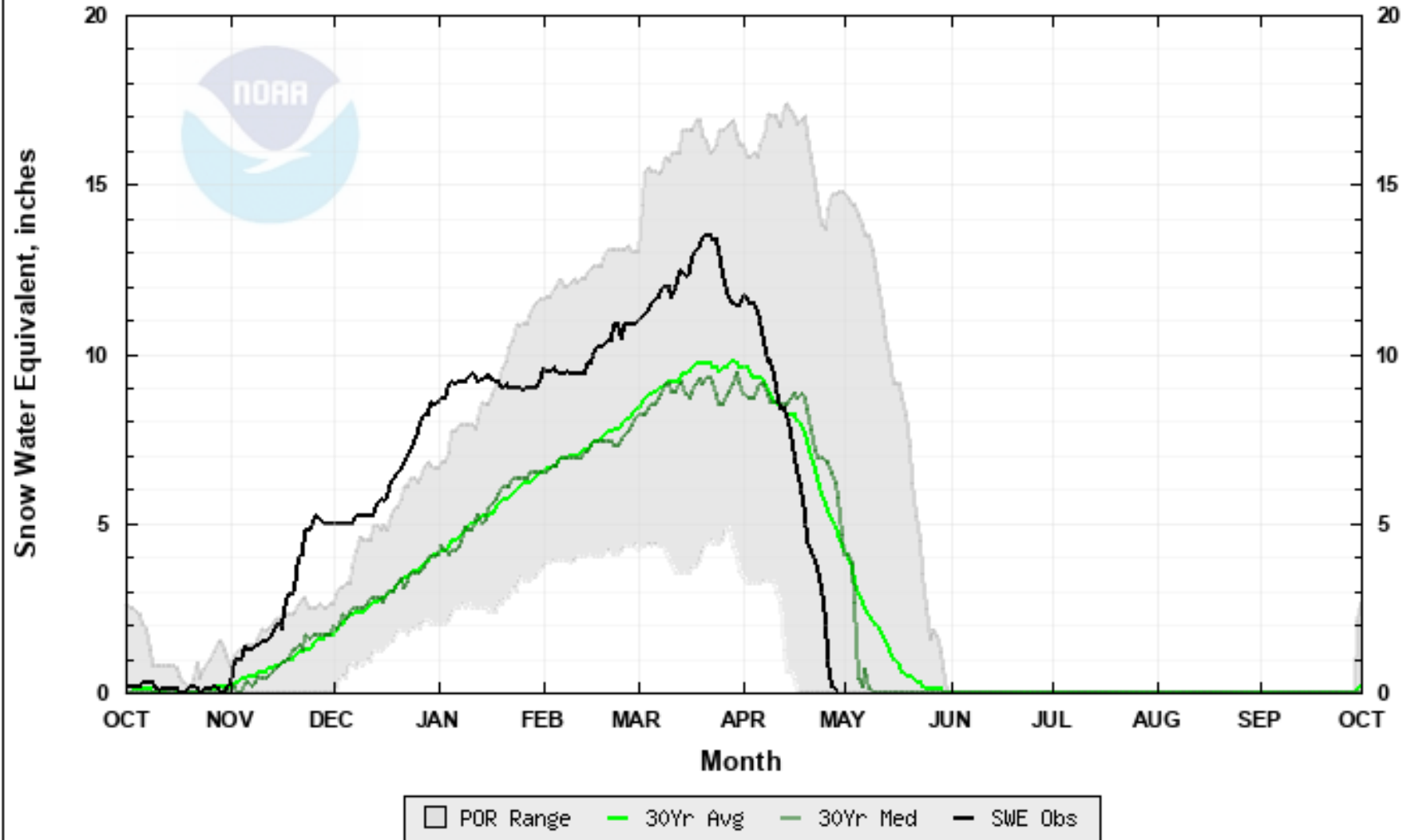
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# Snow Water Equivalent

## SENTINEL BUTTE SNOTEL

Water Year 2025 - Elevation 4920 feet



Plot Created: 04/28/2025 9:05am PDT

Observations Provided by NRCS

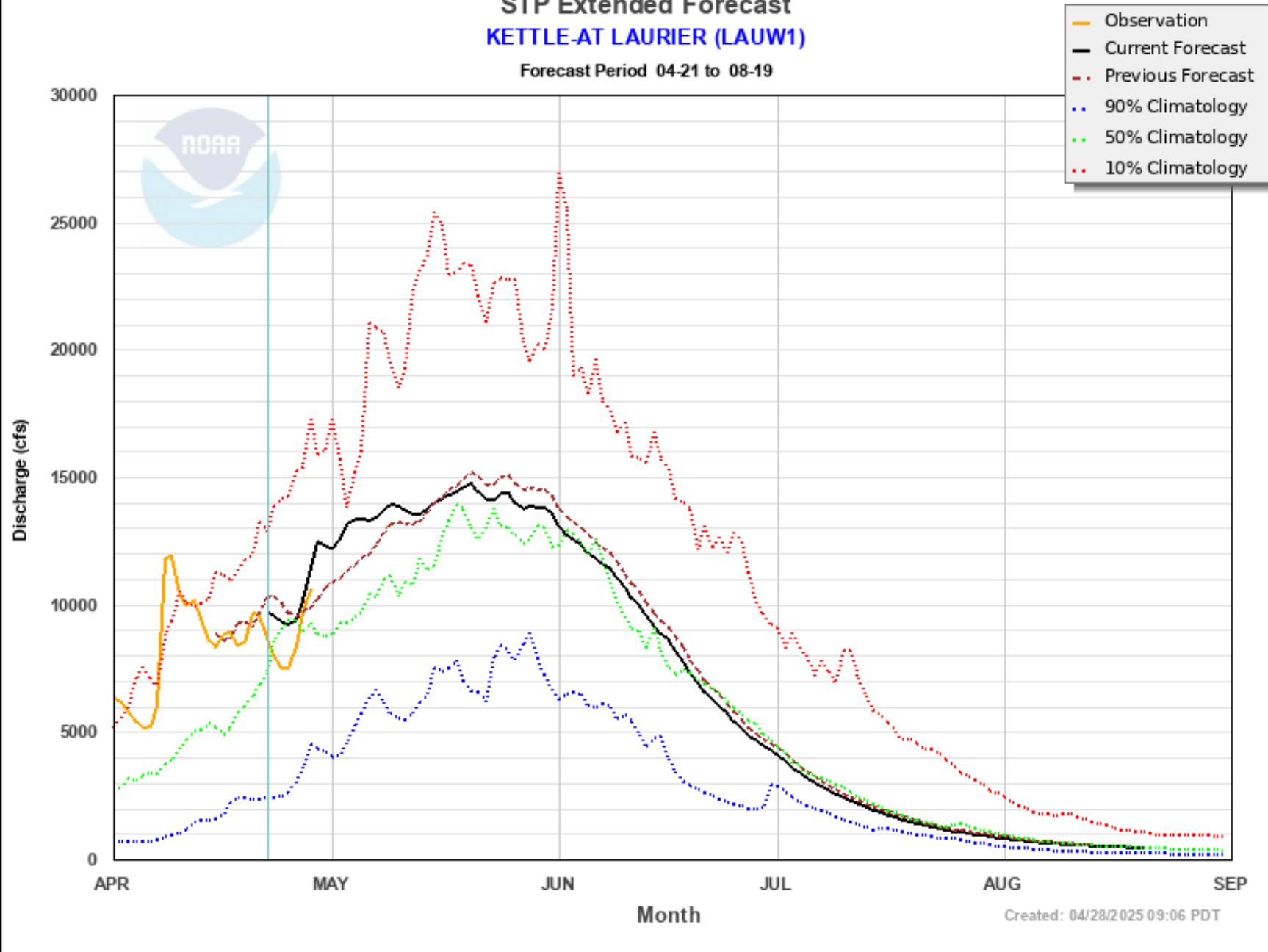


Settle down.

<https://www.nwrfc.noaa.gov/snow/snowplot.cgi?SENW1>

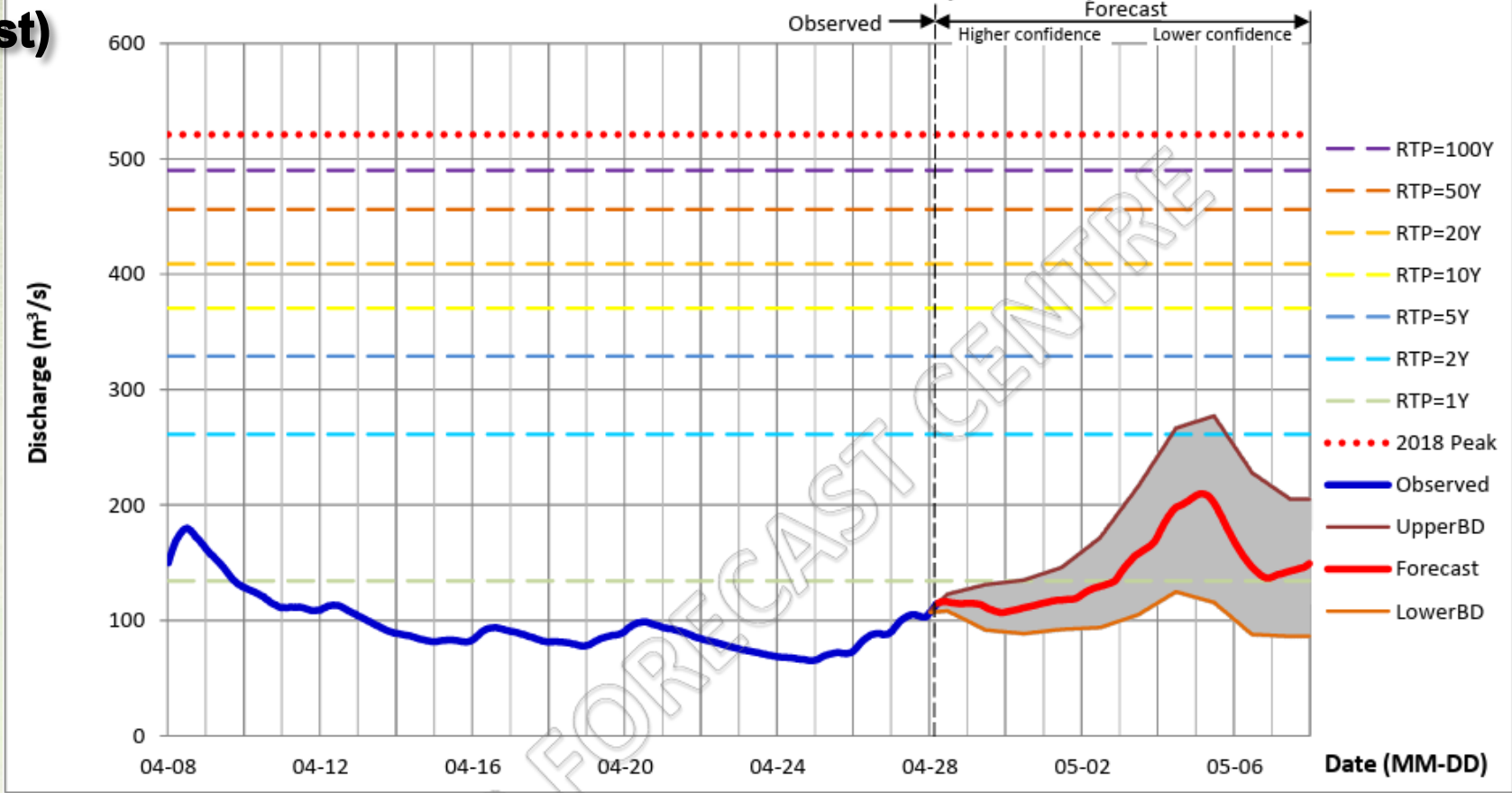
# STP Extended Forecast KETTLE-AT LAURIER (LAUW1)

Forecast Period 04-21 to 08-19



# (April 28 Forecast)

## GRANBY RIVER NEAR GRAND FORKS (08NN002)



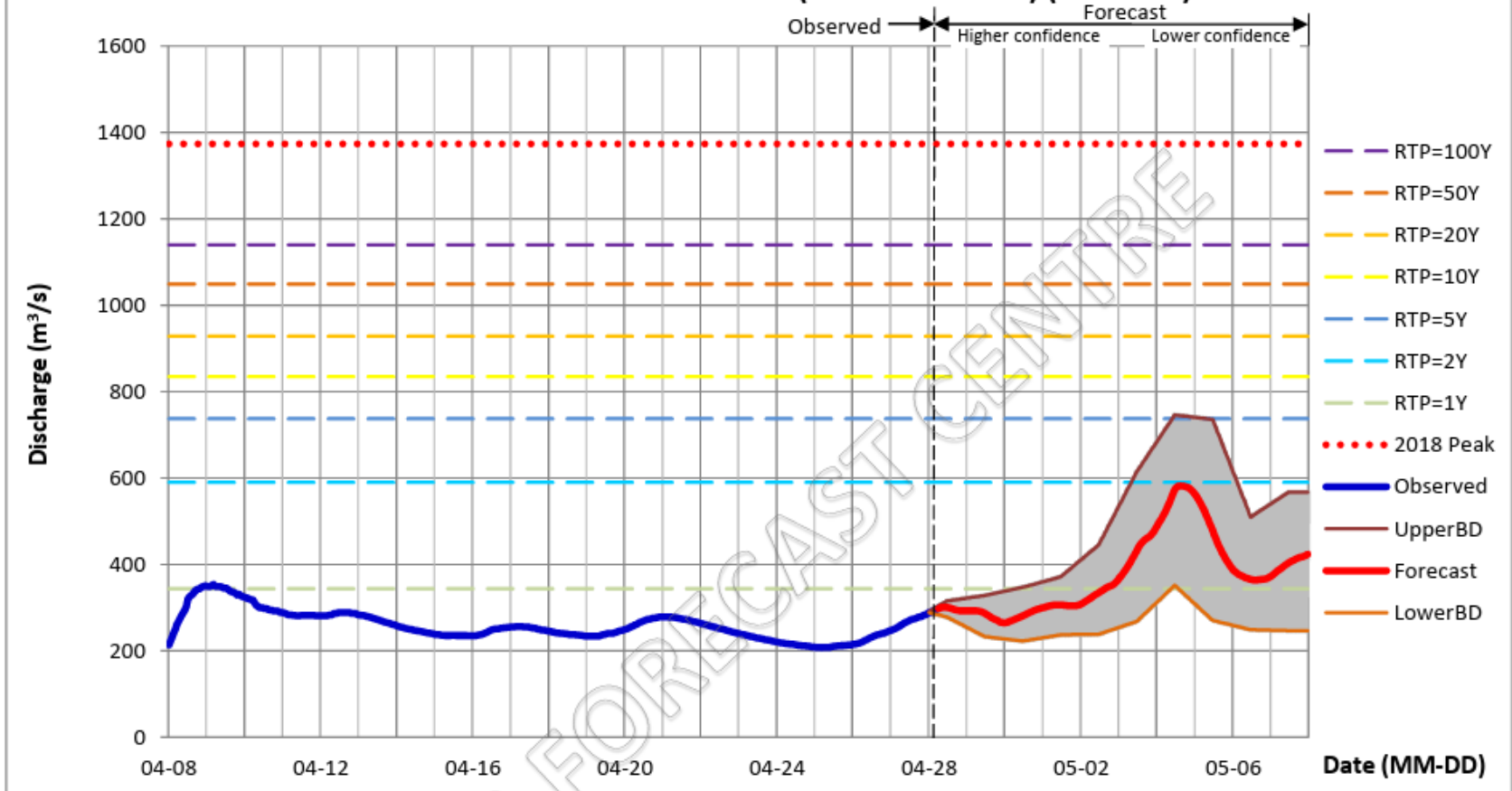
Reading at 06 AM (m³/s)	Forecast Daily Discharge (m³/s): AVERAGE									
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
2025-04-28	2025-04-28	2025-04-29	2025-04-30	2025-05-01	2025-05-02	2025-05-03	2025-05-04	2025-05-05	2025-05-06	2025-05-07
115.0	122.7	130.9	134.8	145.8	171.4	215.7	266.6	277.1	227.8	205.0
	108.3	111.1	111.0	117.8	129.7	157.1	195.2	196.3	147.8	143.0
		91.8	88.6	92.4	93.8	104.9	124.9	115.6	87.9	86.4

Color Scheme for Return Periods:	RTP=1Y	RTP=2Y	RTP=5Y	RTP=10Y	RTP=20Y	RTP=50Y	RTP=100Y	2018 Peak
	134.3	261.3	328.9	370.6	408.9	456.2	490.1	521.0 (m³/s)



<https://bcrfc.env.gov.bc.ca/freshet/clever/08NN002.PDF>

# KETTLE RIVER NEAR LAURIER WA (USGS 12404500) (124045U)



Reading at 07 AM (m³/s) Mon	Forecast Daily Discharge (m³/s): AVERAGE									
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
2025-04-28	2025-04-28	2025-04-29	2025-04-30	2025-05-01	2025-05-02	2025-05-03	2025-05-04	2025-05-05	2025-05-06	2025-05-07
297.3	314.9	327.8	346.6	371.0	445.1	614.0	745.9	735.4	509.3	567.4
	<b>296.4</b>	<b>282.3</b>	<b>281.8</b>	<b>304.5</b>	<b>334.9</b>	<b>429.0</b>	<b>552.7</b>	<b>474.7</b>	<b>369.9</b>	<b>401.8</b>
	278.6	233.0	222.6	236.9	238.3	267.8	351.6	270.3	248.7	246.7

Color Scheme for Return Periods:	RTP=1Y	RTP=2Y	RTP=5Y	RTP=10Y	RTP=20Y	RTP=50Y	RTP=100Y	2018 Peak
	343.6	589.8	737.1	834.5	928.0	1049.1	1139.8	1373.4



<https://bcrfc.env.gov.bc.ca/freshet/clever/124045U.PDF>

# Seven-Day Streamflow for KETTLE RIVER NEAR LAURIER, WA (USGS 12404500) (124045U)

\*Graph statistics based on historic data (1929 to 2024), data after this is provisional and subject to change; latest values below are based on all years and may not align precisely with historic statistics.

1000 Latest Value = 239.683 cms on Apr 27, 2025

Percentile = 57.9

Percent of Median = 114%

Percent of Mean Annual Discharge = 321.1%

Regulation Status: Natural

Last Updated: 2025-04-28

[https://bcrcfbc.env.gov.bc.ca/lowflow/drought\\_interactive/124045U.html](https://bcrcfbc.env.gov.bc.ca/lowflow/drought_interactive/124045U.html)

Discharge (m<sup>3</sup>/s)

800

600

400

200

0

Jan 1

Mar 1

May 1

Jul 1

Sep 1

Nov 1

- P95 - Maximum
- P90 - P95
- P75 - P90
- P25 - P75
- P10 - P25
- P5 - P10
- Minimum - P5
- Maximum
- Upper Quartile
- Median
- Lower Quartile
- Minimum
- Current Year Daily Flows
- Current Year
- 2024
- 2023
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012
- 2011
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- 1999
- 1998

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Linear Scale ◀

# River Forecast Information Sources

- Summary information at Regional District of Kootenay Boundary
  - [Current Freshet Conditions](#) resource page
  - [BoundaryFreshetDashboard.pdf](#) updated weekly or more as freshet progresses
- Snowpack
  - Area summary showing at “High Resolution Maps” at <https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water/drought-flooding-dikes-dams/river-forecast-centre/snow-survey-water-supply-bulletin>
  - Map: [Snow Survey Stations Interactive Map](#)
  - Grano Creek (up Christian Valley)
    - [Snow.2E07P.Automated Snow Weather Station Graph.Automated Snow Weather Station Graph.2025040207500178.PDF](#) or interactive at [Daily SWE 2E07P](#)
    - US Sno-Tel [Snow Station Information - GRANO CREEK](#)
  - Greyback Reservoir (headwaters of Penticton Creek northwest of Carmi)  
[Snow.2F08P.Automated Snow Weather Station Graph.Automated Snow Weather Station Graph.2025040207400700.PDF](#); interactive at [Daily SWE 2F08P](#)
  - Sentinel Butte (south of border, upstream of Grand Forks)
    - US Sno-Tel [nwrfc.noaa.gov/snow/snowplot.cgi?SENW1](http://nwrfc.noaa.gov/snow/snowplot.cgi?SENW1)
  - Satellite + modelling estimates of snow cover basin wide [NOHRSC Interactive Snow Information](#)

## River

- 120 day river forecast (Laurier, downstream)
  - US NOAA [Extended 45 to 120 Day Forecast](#) - model updated weekly and tracking against river flows; provides typical low (10%), median and high (90%) flows.
- Short term forecast and current flows
  - Ferry (Washington downstream of Midway)
    - BC CLEVER [124015U.PDF](#)
    - interactive current flow [124015U KETTLE RIVER NEAR FERRY, WA \(USGS 12401500\) - Seven-Day Flow](#)
    - US - [Northwest River Forecast Center](#) and click on Ferry station, text here: [KETTLE--NEAR FERRY \(FRYW1\) -- Text Summary Page](#)
  - Intl border (upstream of Grand Forks)
    - CLEVER [08NN02R.PDF](#) - estimated model station
  - Granby River (up Riverside Drive)
    - CLEVER [08NN002.PDF](#)
    - Interactive current flow [08NN002 GRANBY RIVER AT GRAND FORKS - Seven-Day Flow](#)
  - Laurier (downstream of Christina Lake)
    - CLEVER [124045U.PDF](#)
    - interactive current flow [124045U KETTLE RIVER NEAR LAURIER, WA \(USGS 12404500\) - Seven-Day Flow](#)
    - US - [Northwest River Forecast Center](#) and click on Laurier station, text here: [KETTLE--AT LAURIER \(LAUW1\) -- Text Summary Page](#)



# WP3 PERMITTING UPDATE

Permit Name	South Ruckle Dike (North of 63 <sup>rd</sup> Ave)	South Ruckle Dike (South of 63 <sup>rd</sup> Ave)
Heritage Inspection Permit (HIP)	In Hand	In Hand
Archeological Impact Assessment (AIA)	Complete	Initial assessment complete. Construction phase monitoring required.
Site Alteration Permit (SAP)	Confirmed as Not Required	Not Required unless a discovery is made
Dike Maintenance Act Permit (DMA)	Complete	First Nations consultation completed. Formal application submitted (preliminary)
Letter of Advice (LOA) from Fisheries	Received. Extended to 2026.	On hold pending final design
Fish Act Authorization (FAA)	Not Required	Assumed not required
Fish Collection Permit	Not Required	Assumed not required
Species at Risk Act (SARA) Permit	Covered by LOA	Awaiting LOA. On hold pending final design
Water Sustainability Act (WSA) Permission	S11 not required for dike. Confirmed also not required for outfalls.	S11 not expected to be required. Pending final design
License of Occupation (LOO)	No longer the preferred mechanism by Province for dikes	No longer the preferred mechanism by Province for dikes
Statutory Right-Of-Way over Crown Land	In Hand	In Hand
Interfor, Grand Forks Rail, TSBC, Rail tie-in Approval	Complete	Not required

# FLOOD MITIGATION PROGRAM COSTS TO DATE

Scope	Actuals to April 30th, 2025 (preliminary)
WP1 - Downtown	\$ 23,338,860
Riverside Drive Stormwater Interceptor	\$ 4,742,080
WP2 a&b - North Ruckle	\$ 8,400,452
WP2c - Rockwool	\$ 5,006,060
WP3 – South Ruckle	\$ 3,212,201
WP 5 - Johnson Flats	\$ 1,850,019
WP 6 – Rural Erosion (Phase 1), by RDKB	\$ 384,591
WP 7 - Floodplain Restoration	\$ 2,109,036
Haz-mat Assessments	\$ 70,311
Demolition	\$ 1,326,080
<b>Capital Projects Subtotal</b>	<b>\$ 50,489,690</b>
Property (land)	\$ 6,662,181
Property (improvements)	\$ 7,392,035
Add. City Contributions (LAP)	\$ 3,466,064
<b>Property Subtotal</b>	<b>\$ 17,520,280</b>
Additional City Contributions (non-LAP)	\$ 1,321,167
<b>Grand Total</b>	<b>\$ 69,331,138</b>

# CURRENT FLOOD MITIGATION CAPITAL PLAN

Project	Scope	April 2024 Reforecast (BAC)	Actual Costs (AC) to April 30th, 2025 (preliminary)	Estimate to Complete (ETC)	Estimate at Completion (EAC) = AC + ETC	Variance at Completion (VAC) = BAC - EAC	Percent Complete
WP1	Program Wide Schematic Design; Downtown Dikes and Pump Stations	\$ 23,591,822	\$ 23,388,860	\$ 202,961	\$ 23,591,822	\$ -	99.1%
WP1	Riverside Drive Stormwater Interceptor	\$ 4,761,540	\$ 4,742,080	\$ 19,461	\$ 4,761,540	\$ -	99.6%
WP2 a&b	North Ruckle Trail Dike	\$ 8,439,271	\$ 8,400,452	\$ 38,819	\$ 8,439,271	\$ -	99.5%
WP2c	Rockwool Trail Dike	\$ 5,683,726	\$ 5,006,060	\$ 411,055	\$ 5,417,115	\$ 266,611	92.4%
WP3	South Ruckle Dike and Drainage Network	\$ 5,509,846	\$ 3,212,201	\$ 2,297,646	\$ 5,509,846	\$ -	58.3%
WP5	Johnson Flats Erosion Protection	\$ 1,850,019	\$ 1,850,019	\$ -	\$ 1,850,019	\$ -	100.0%
WP6	Rural Erosion Protection (Phase 1), by RDKB	\$ 814,992	\$ 384,591	\$ 430,401	\$ 814,992	\$ -	47.2%
WP7	Floodplain Naturalization and Habitat Offsetting	\$ 2,130,999	\$ 2,109,036	\$ 21,963	\$ 2,130,999	\$ -	99.0%
All	Haz-mat Assessments	\$ 70,311	\$ 70,311	\$ -	\$ 70,311	\$ -	100.0%
All	Demolition	\$ 1,328,080	\$ 1,326,080	\$ -	\$ 1,326,080	\$ 2,000	100.0%
	<b>Totals</b>	<b>\$ 54,180,607</b>	<b>\$ 50,489,690</b>	<b>\$ 3,422,305</b>	<b>\$ 53,911,995</b>	<b>\$ 268,611</b>	<b>93.7%</b>



# UPDATE ON OTHER MAJOR CAPITAL PROJECTS (NON FMP)

Project	Status	Next Update	Remarks
<b>Valley Heights Electrical</b>	Contractor procurement x2	June 2025	Detailed design complete. Civil RFP closes May 1 <sup>st</sup> . Electrical RFP closes May 15th. Purchase of owner supplied materials complete. Public engagement ongoing.
<b>East Zone Water Reservoir (and Well Improvements)</b>	Design and tank procurement	June 2025	Detailed design underway, including for well improvements and reservoir site works. Tank RFP scheduled for May. Site works RFP scheduled for June Updated cost estimate scheduled for mid June.
<b>Sewer Modeling</b>	RFP Development	June 2025	RFP for consultant under development.
<b>68<sup>th</sup> Ave Trunk Sewer</b>	Pending	June 2025	On hold pending further sewer modeling. West End developments proceeding.
<b>Downtown Stormwater</b>	Planning	June 2025	To be revisited in 2026 per Council's strategic plan. Staff engaging with funders regarding scope options.
<b>Utility Upgrades - Central Ave</b>	Planning. Advocating with Province.	June 2025	Details outlined in Council's 2025 / 26 strategic plan.



# VALLEY HEIGHTS ELECTRICAL PROPONENTS SITE WALK





Settle down.

# VALLEY HEIGHTS ELECTRICAL PROPONENTS SITE WALK

EAST ZONE  
RESERVOIR  
LOCATION  
(APPROX.)



reolink



**THANK YOU**

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