

Montana Stream Gage Network

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DNRC Water Sciences Bureau Chief

Drought and Water Supply Advisory

Committee

March 7, 2024



2-15-3308(3) MCA DWSAC- Stream Gage Oversight

(h) coordinate oversight of the statewide stream gauge network identified by the department of natural resources and conservation, including:

(i) an early notification process for the discontinuation of any network gauge;

(ii) an annual review of the funding status and potential alterations to the network; and

(iii) an annual report to the water policy interim committee, in accordance with [5-11-210](#), on the drought and water supply advisory committee's network oversight activities.

Montana Stream Gage Network

USGS – 223 real-time gages, both seasonal and year-round

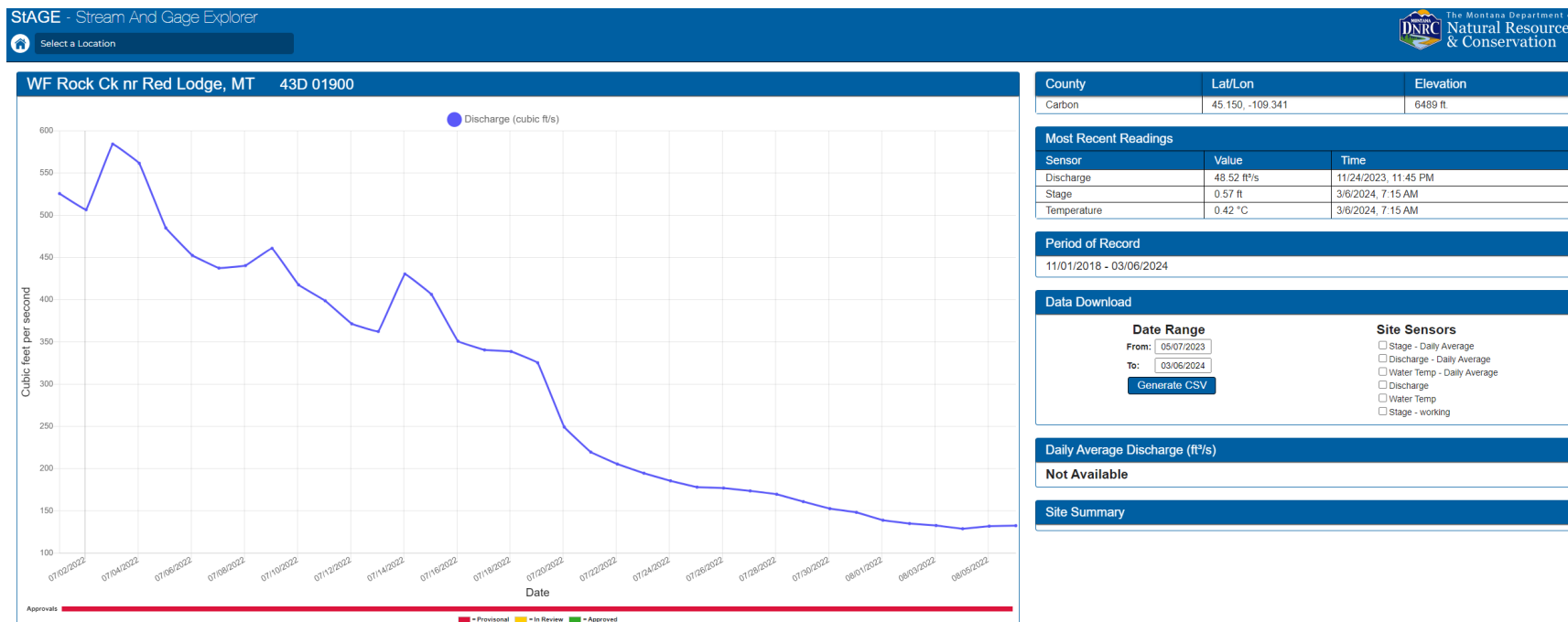
MT DNRC – 42 real-time gages + 34 more on the way, both seasonal and year-round

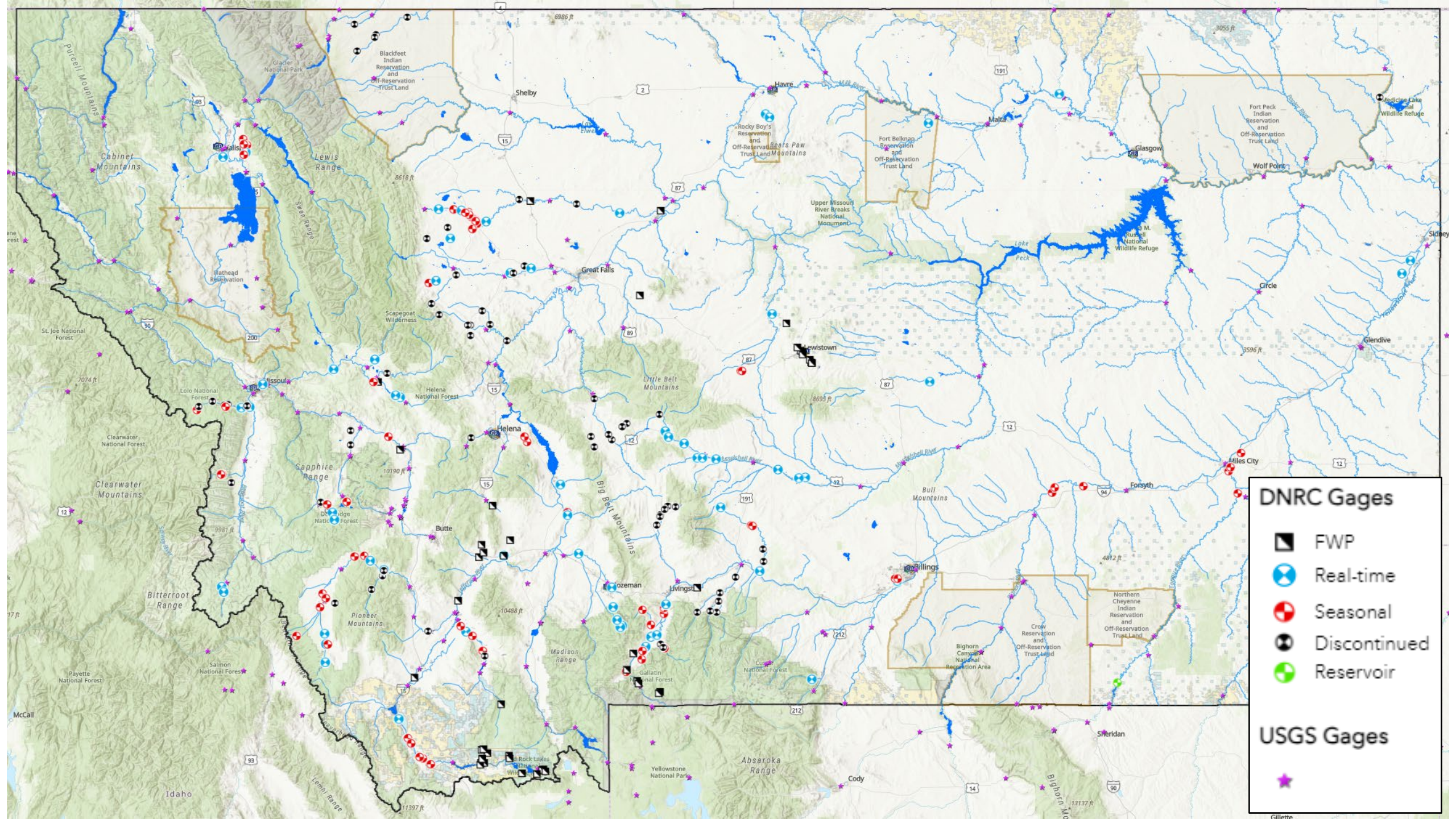
Tribal Nations – several networks online throughout the state



StAGE – Stream And Gage Explorer

- GIS mapping platform to access all real-time and seasonal gage data
- Stream gage, real-time wells, reservoirs, FWP non-real-time, and USGS gages
- Data accessible at: <https://gis.dnrc.mt.gov/apps/StAGE/>





DNRC Gages

- FWP
- Real-time
- Seasonal
- Discontinued
- Reservoir

USGS Gages

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Alterations to the Network



USGS Network –
unchanged, no
early notification
occurred

DNRC Network –
actively expanding

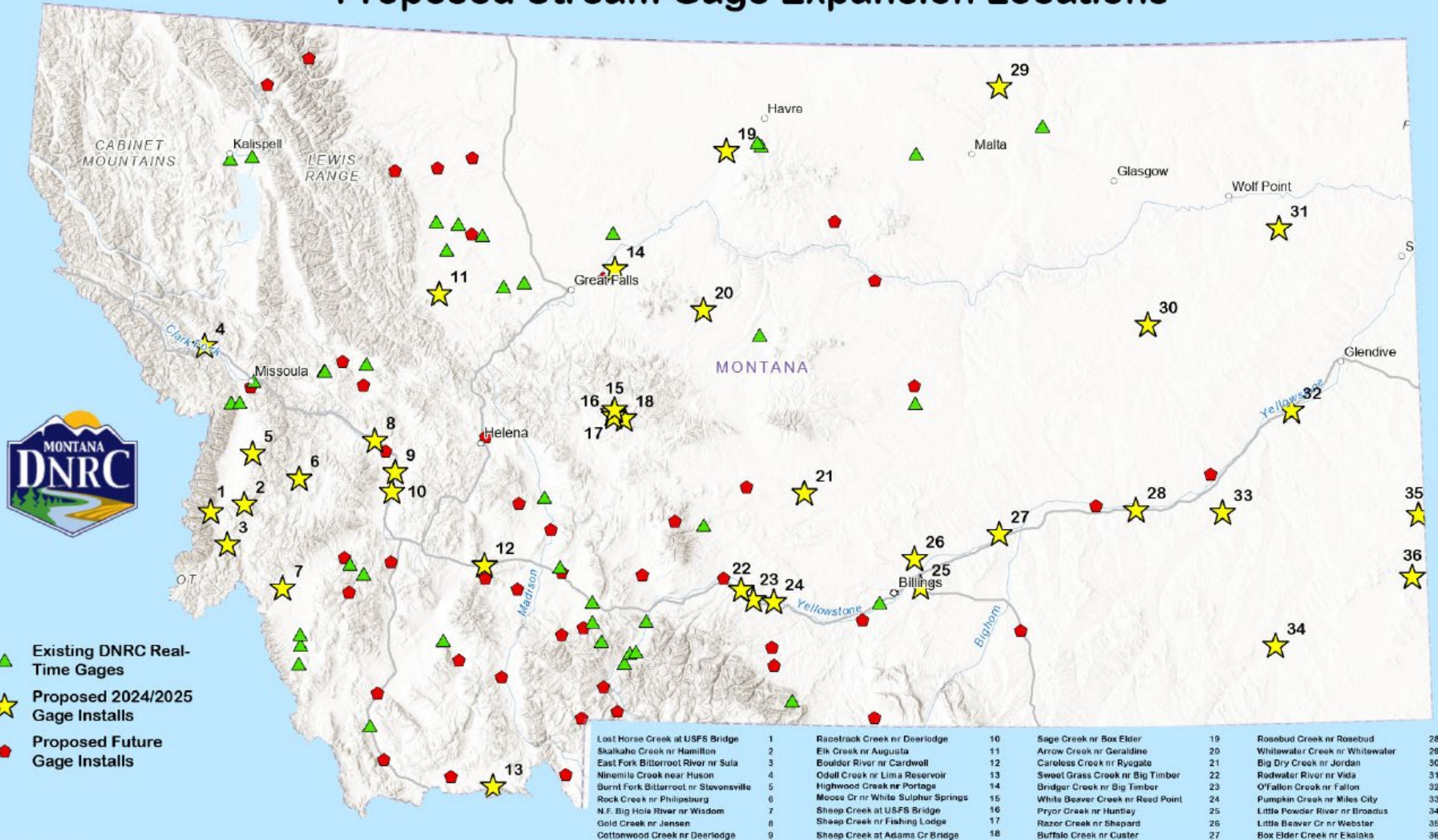


2023 HB2-DP2403 legislation funding to install
32 new stream gages + 4 privately funded


2 Installed in
fall 2023

34 will be
installed in
FY24/25

Proposed Stream Gage Expansion Locations



Criteria for New DNRC Gage Installations

- Locations were nominated by stakeholders
 - Criteria for prioritization included:
 - DNRC administrative need
 - Federal or Tribal Compact administrative need
 - Water distribution project administrative need
 - Stakeholder need: municipals, watershed groups, conservation districts
 - Multi-Agency benefit: e.g., FWP, DEQ, MBMG, MDOT, DNRC, USGS, BOR
 - Public awareness and educational value
 - Support for academic and water resource studies
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DNRC Stream Gage Expansion Outreach

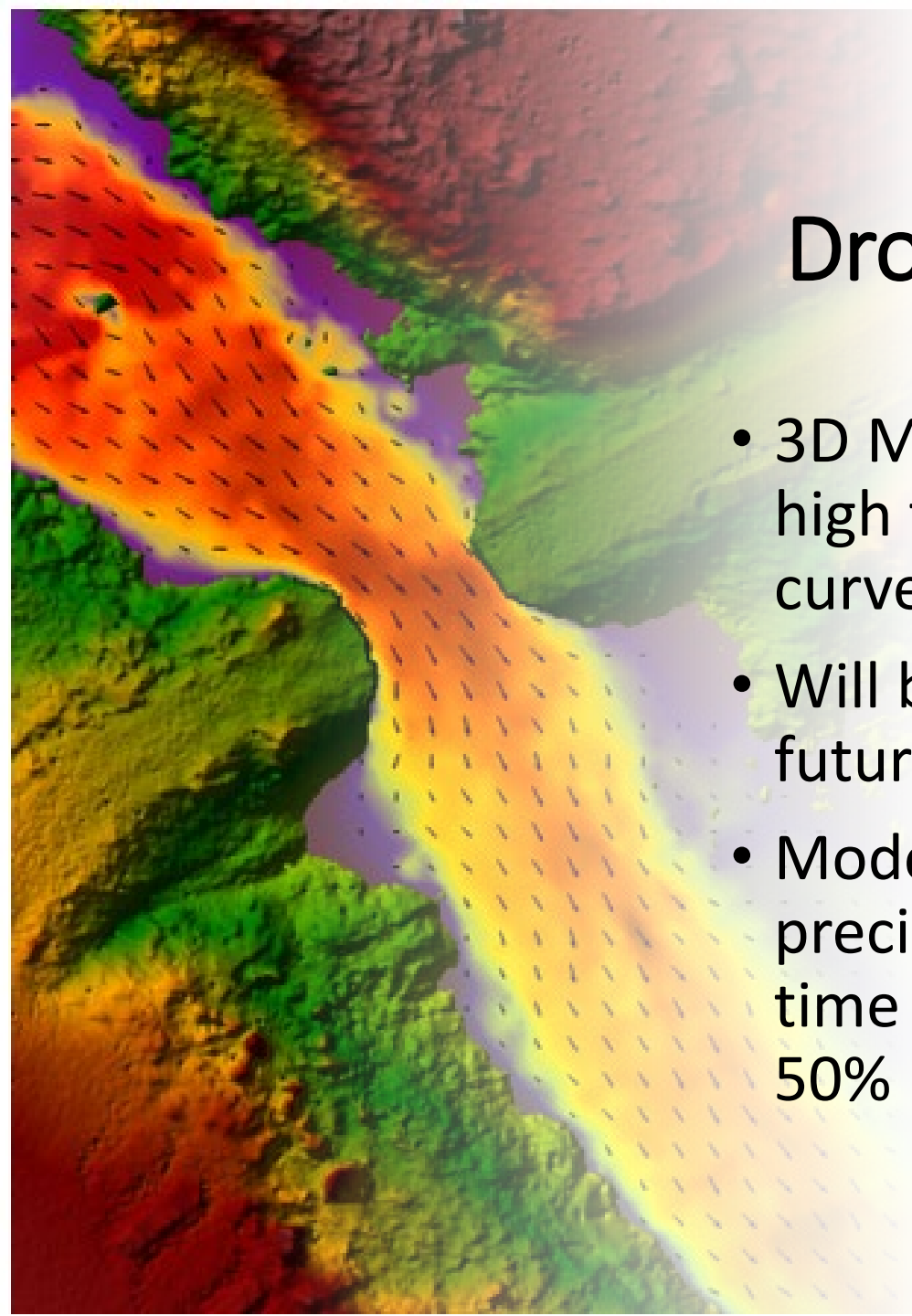
**Friday March 15 @ 11:00-12:00 Zoom
Webinar**

[https://mt-
gov.zoom.us/webinar/register/WN_obNXFF
33RrGnDcakbiFymA](https://mt.gov.zoom.us/webinar/register/WN_obNXFF33RrGnDcakbiFymA)

Other DNRC Stream Gage Network Improvements

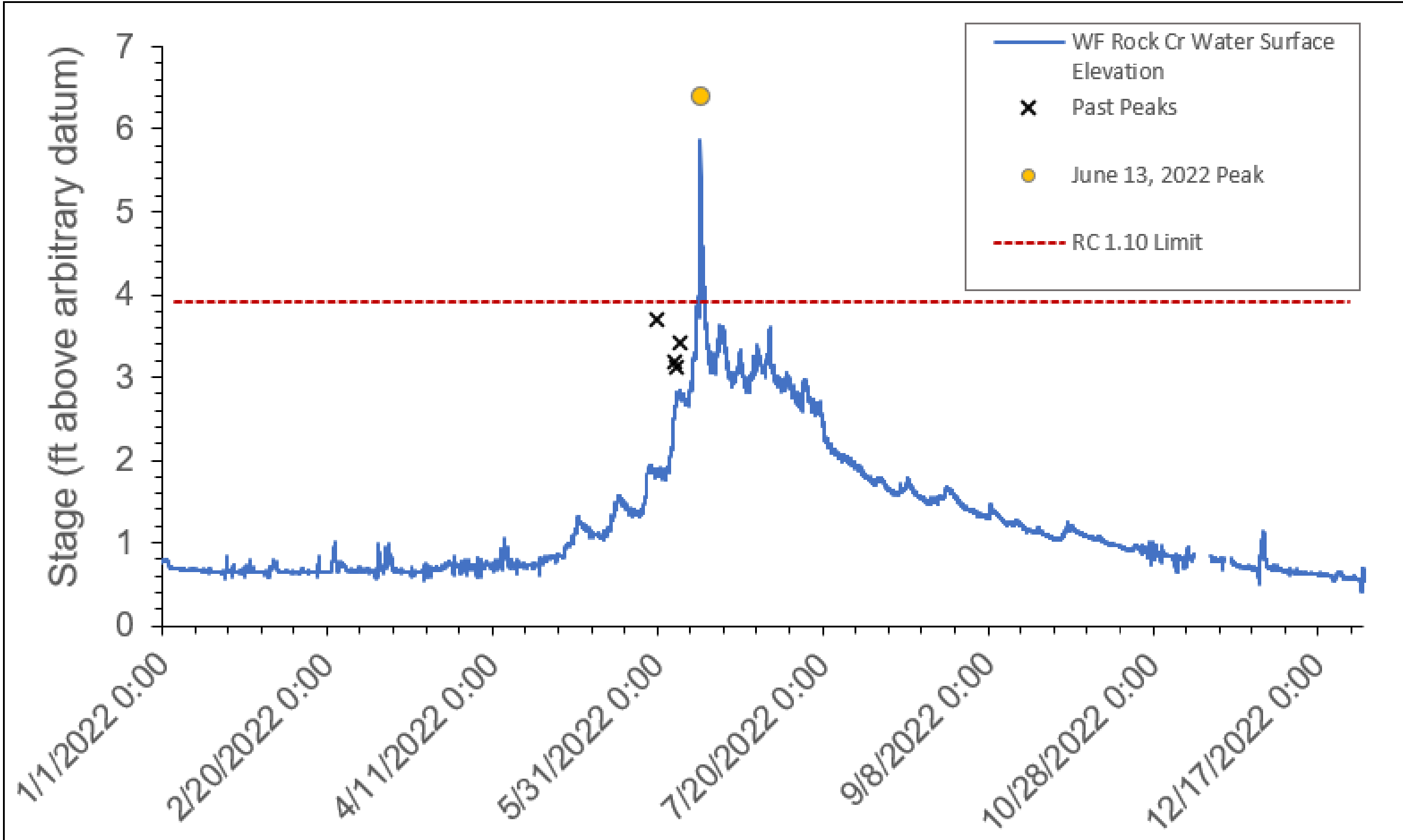
- New staff to conduct and model drone LiDAR flights at gage sites
- StAGE + MIHMS integration
 - StAGE database is moving to the cloud
 - **Montana Integrated Hydrologic Modeling System** - water availability and forecasting functionality will be integrated into the StAGE platform





Drone based LiDAR

- 3D Modeling to establish high flow indirect rating curve
- Will be a key component of future flood forecasting work
- Modern methods increase precision and reduce field time investment by roughly 50%



Funding Status of State Funds to Support USGS Gages

Fiscal Year	DNRC WSB	DNRC WSB change	DNRC Compacts	DNRC Compacts change	FWP	FWP change	MT total	USGS Cost Share	Total
FY25*	\$390,605	+9.6%	TBD	TBD	\$287,602	+7.7%	\$678,207	\$383,937	\$1,062,144
FY24	\$356,422	+7.3%	\$77,331	+5.6%	\$267,000	+12.4%	\$700,753	\$395,645	\$1,096,398
FY23	\$332,084	+6.2%	\$73,262	+1.5%	\$237,630	+10.9%	\$642,976	\$396,907	\$1,039,883
FY22	\$312,560	+2.3%	\$72,199		\$214,226		\$598,985	\$371,814	\$970,799

*Projected based on draft MOU

Red Totals are incomplete

Funding Challenges USGS Network



Federal budget remains flat



All cost increases fall to State
(DNRC & FWP)



Seasonal gage USGS cost share
has decreased, compounding
cost share burden to State
(mainly FWP)

Funding Challenges DNRC Network



O&M funding is needed to maintain network past FY25



New OTO funding needed to fulfill 2015 State Water Plan recommendation of 100 real-time gages