



Montana Stream Gage Network

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Water Policy Interim Committee
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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

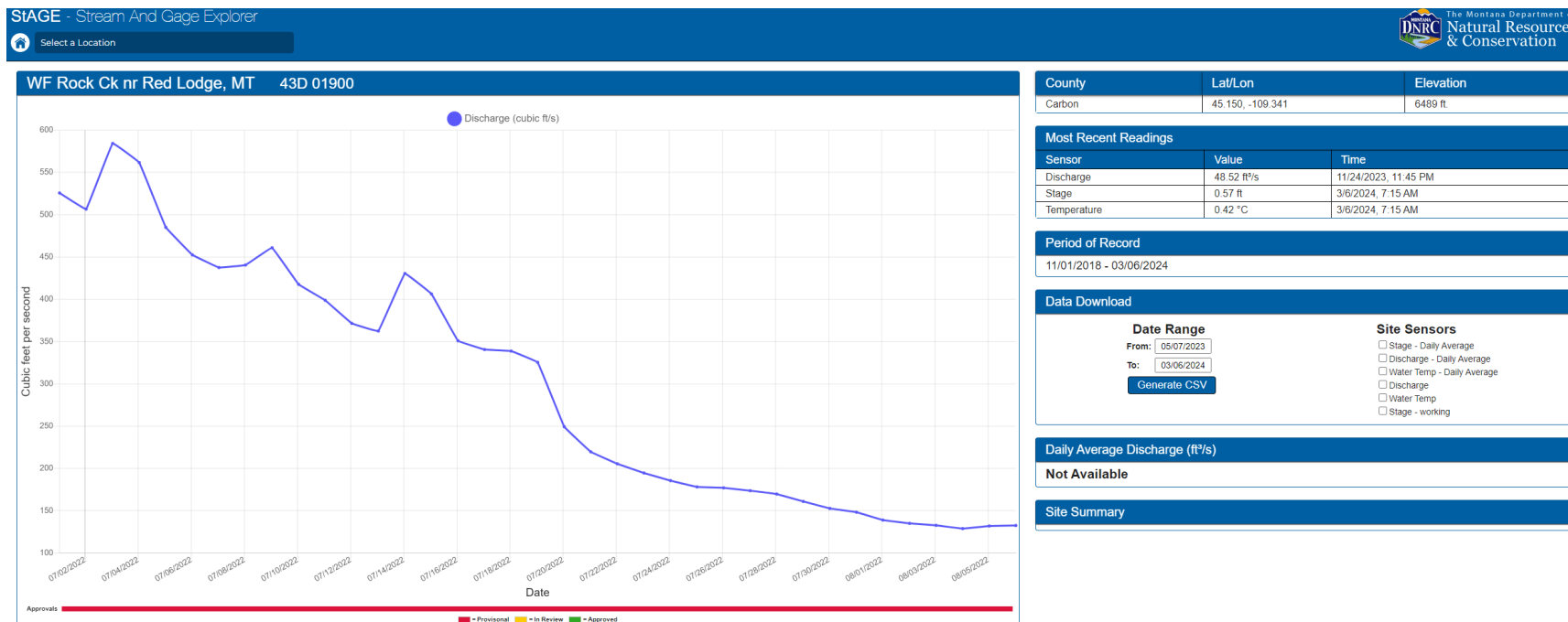
MT DNRC – **42** real-time gages + **34** more on the way, both seasonal and year-round

Tribal Nations – several networks online throughout the state



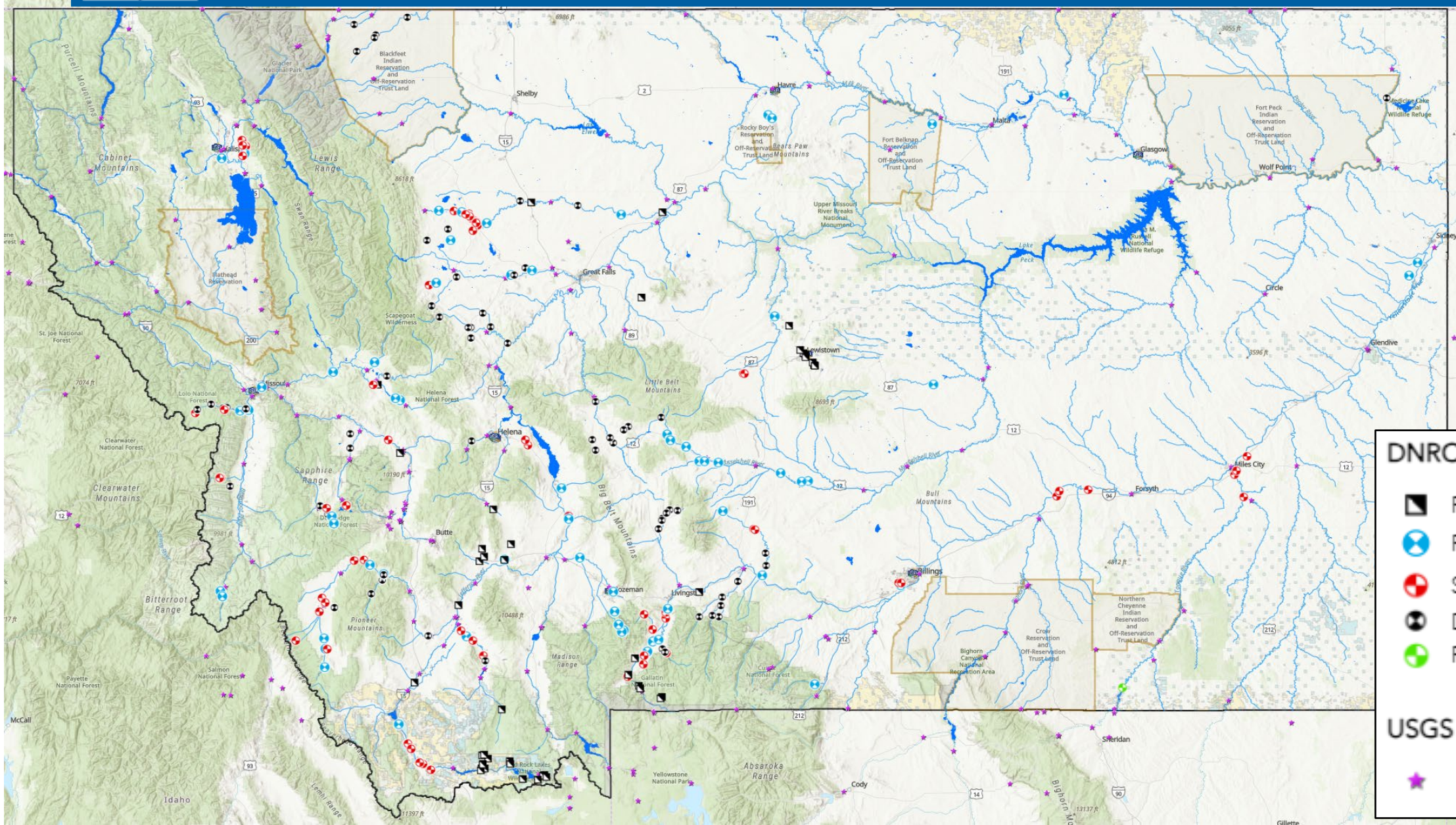
StAGE – Stream And Gage Explorer

- 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/>





StAGE – Stream And Gage Explorer



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

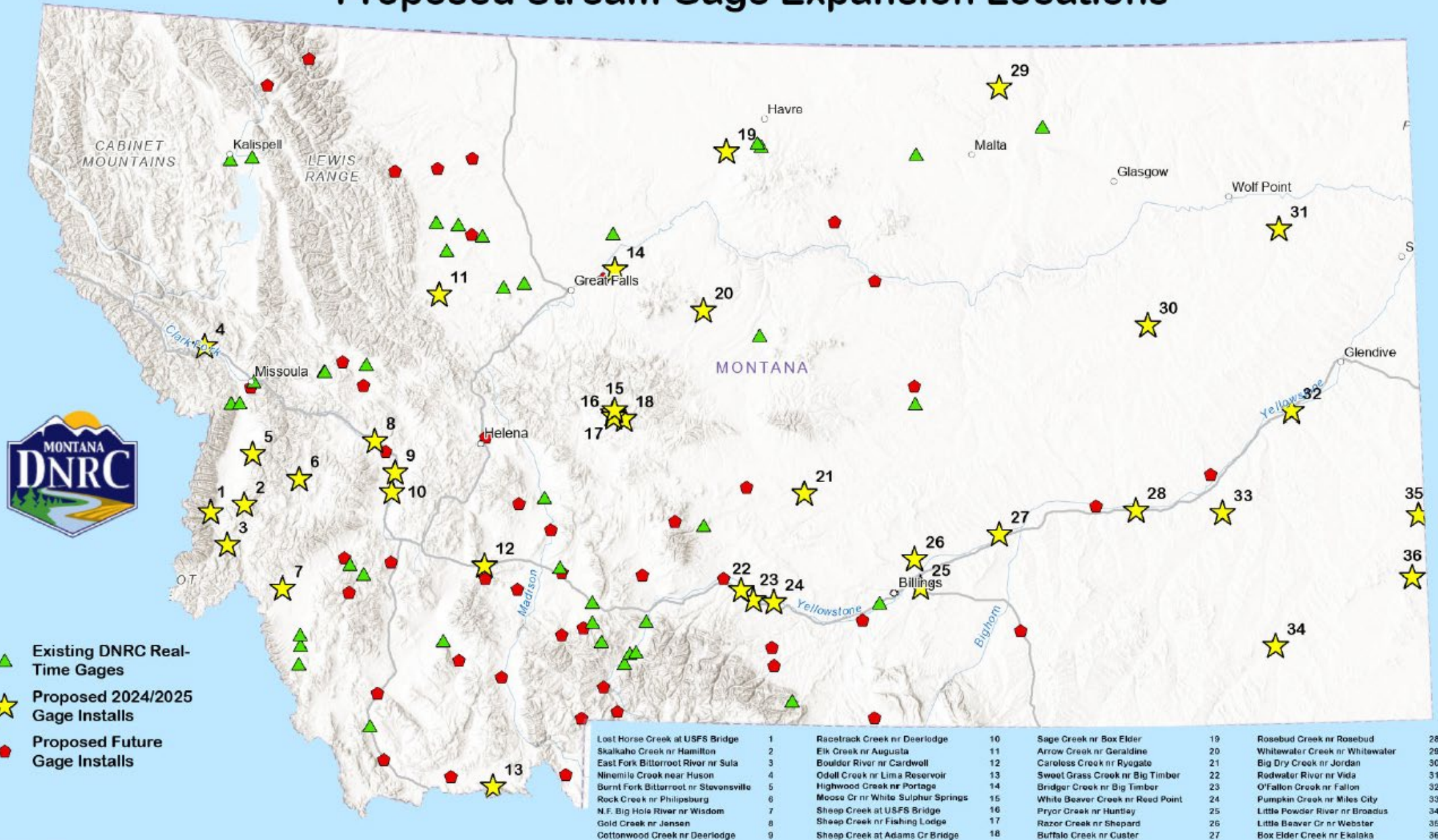


2023 HB2-DP2403 legislation funding to install
32 new stream gages + 4 privately funded

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

DNRC Stream Gage Expansion Outreach



Collaboration with USGS
stream gage program

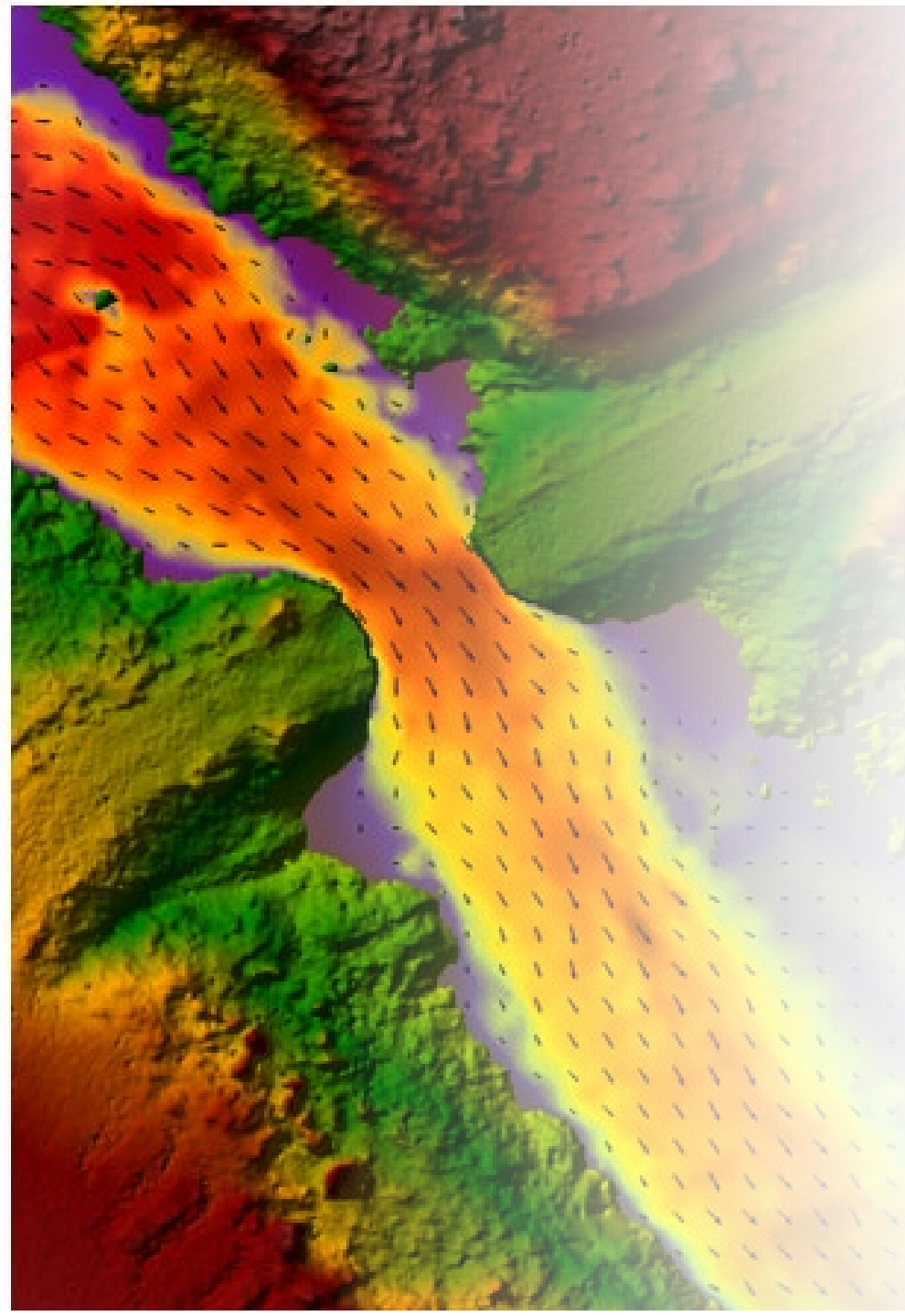


Over 100 other stream
gage stakeholders were
engaged with FY24-FY25
build out plan, and
solicitation of additional
needs

Other DNRC Stream Gage Network Improvements

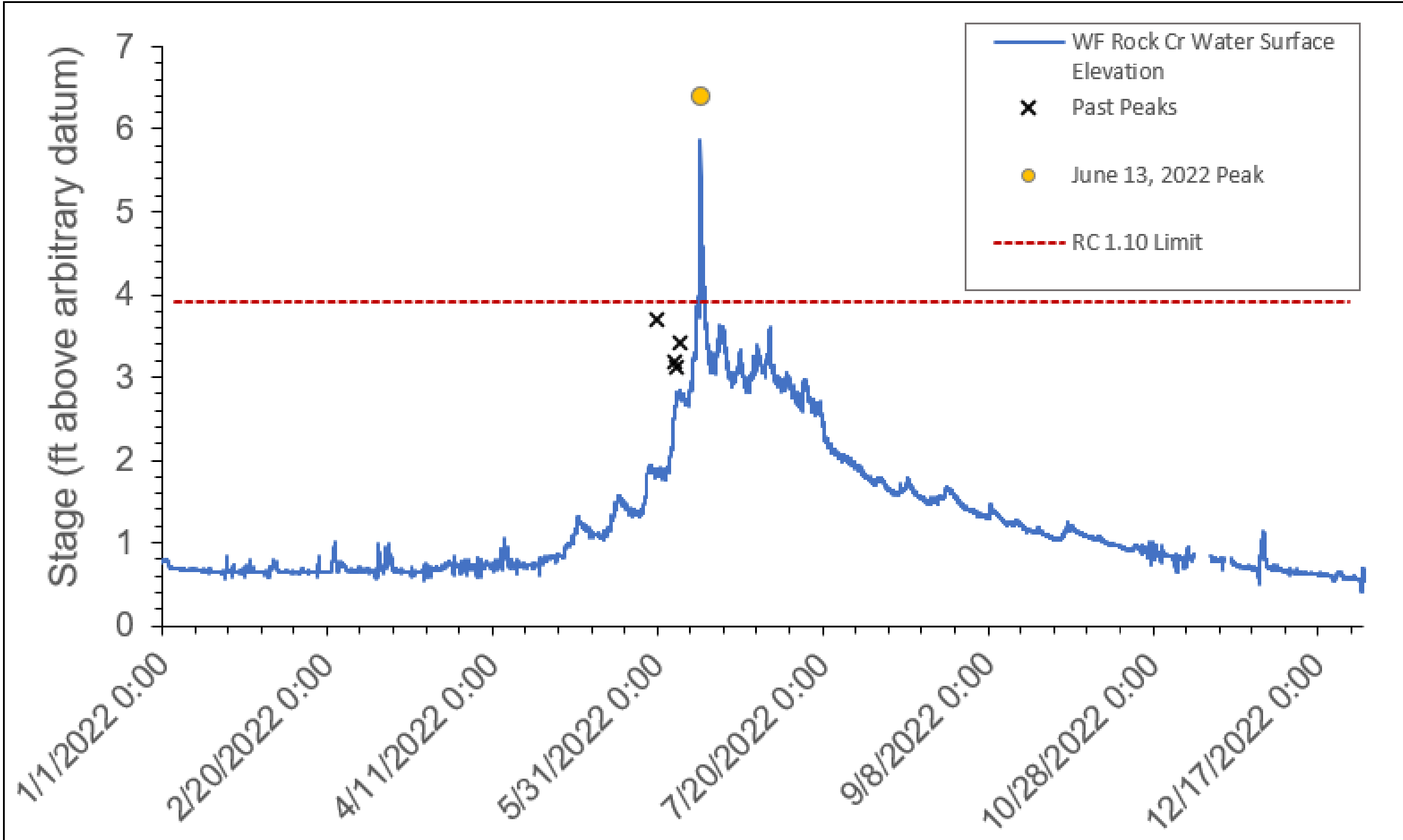
- New staff to conduct and model drone LiDAR flights at gage sites
- StAGE + MIHMS integration
 - StAGE database is moving to the cloud
 - **Montana Integrated Hydrologic Modeling System** - water availability and forecasting functionality will be integrated into the StAGE platform





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)



USGS FY25 Stream Gage Appropriations Request

- Federal Priority Stream gages - \$33.0M (+1M from FY24)
 - **Cooperative Matching Funds Program** - \$68M (includes \$33M stream gage support)
 - Next Generation Water Observing System (NGWOS)/Data modernization - \$35M
 - DNRC, FWP, DEQ among coalition of supporters
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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



85-2-154-
155, MCA

154 & 155 were 2019 statutes generally supporting stream gaging. Both were terminated June 30, 2023

154 – **Policy consideration** statute recognizing that real-time stream gaging is critical for the effective management and distribution of water

155 – **Intent** statute recognizing the importance of streamflow measurement and providing legislative support for stream gaging

