

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

Water Resources Division

1424 9th Ave, Helena, MT 59601-4503 Phone: (406) 444-6601 Fax: (406) 444-0533



GREGGIANFORTE, GOVERNOR

1539 ELEVENTH AVENUE

STATE OF MONTANA

DIRECTOR'S OFFICE: (406) 444-2074
FAX: (406) 444-2684

PO BOX 201601
HELENA, MONTANA 59620-1601

March 18, 2024

Water Policy Interim Committee

RE: Annual Report on the Drought and Water Supply Advisory Committee (DWSAC) stream gage network oversight

The following information was presented at the March 7, 2024, Drought and Water Supply Advisory Committee (DWSAC) meeting as required under 2-15-3308 (3)(h)(ii), MCA, which requires “an annual review of the funding status and potential alterations to the [State stream gage] network.” This letter also serves as the annual report to the water policy interim committee (WPIC) on DWSAC’s network oversight activities as required under 2-15-3308 (3)(h)(iii), MCA.

Montana Stream Gage Network

Montana’s real-time stream gage network is composed of stream gages operated and maintained by the following entities:

1. The U.S. Geological Survey (USGS) currently operates a network of 223 real-time gages across Montana. These gages are located primarily on Montana’s mainstem rivers and their large tributaries. Streamflow information collected by these gages serves multiple federal, state, tribal, and local objectives.
2. Montana Department of Natural Resources and Conservation (DNRC) operates a network of real-time stream gages that are typically located on smaller streams and tributaries not monitored by the USGS. Streamflow information collected by DNRC serves state-specific water administration, distribution, and management objectives. As of March 7, 2024, DNRC is operating 42 real-time gages, and has funding to install an additional 34 gages by the end of fiscal year 2025 (FY25). The projected number of DNRC gages at the end of FY25 is 76 gages.
3. Several tribal nations in Montana operate stream gage networks to support the administration and distribution of water under tribal jurisdiction.

Funding Status

USGS Montana Stream Gage Network

The State of Montana provides annual O&M funding support for operation of USGS stream gages. Montana sponsored USGS gages are funded through the DNRC Water Sciences Bureau (DNRC WSB) general funds (46 gages), the DNRC Compacts section (9 gages), and the Montana Fish Wildlife and Parks (MT FWP) (47 streamflow and/or temperature monitoring gages). Although FWP and DNRC financially contribute to a portion of the overall USGS gage network, the ability of both agencies to meet their natural resource

management objectives and statutory responsibilities is dependent upon streamflow information generated by all 223 USGS stream gages in the network.

Congressional appropriations to the USGS for operation of the nation’s stream gage network have not kept pace with rising costs. As a result, the USGS is forced to pass cost increases on to other funding partners. For state government, the burden falls almost entirely on DNRC and FWP. For FY25, the increase to DNRC is projected to be 9.6%. An additional challenge faced is a decrease in the USGS cost share that is available for seasonal stream gages. Seasonal gages make up a large portion of the gages that MT FWP supports (14 of 24 streamflow gages) and are mostly associated with drought management.

Table 1: Annual funding associated with the Montana sponsored USGS gages since the last update to this committee in FY22.

| 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 | | \$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 text is incomplete and does not include FY25 costs associated with MT DNRC Compacts supported gages or the USGS cost share of those.

Montana DNRC Stream Gage Network

Under the 2023 HB2-DP2403 legislation, DNRC Water Sciences Bureau received one-time-only funding (\$1,461,051) to install 32 new stream gage sites during FY24-FY25 in support of the State of Montana Water Plan (2015) recommendation of building out the Montana DNRC Stream Gage Network to 100 real-time gages. Long-term O&M funding was not included in this appropriation but will be required to continue the operation of these stations past FY25. Additional one-time-only funding will be required for additional stream gages to meet the full recommendation of the State Water Plan (2015).

Alterations to the Network

USGS Montana Stream Gage Network

The State of Montana and USGS Gage Notification Plan (Notification Plan) (May 19, 2022) lays out the steps and processes the USGS Wyoming-Montana Water Science Center and the State of Montana will take to ensure the timely exchange of information regarding funding or program changes with the potential to impact the ongoing operation of the USGS stream gage network positively, or negatively in Montana. The early notification process for the discontinuation of any network gages is a requirement of 2-15-3308 (3)(h)(i), MCA.

During FY23 and FY24, no notable changes to the USGS Montana Stream Gage Network were made that required initiation of the Notification Plan.

Montana DNRC Stream Gage Network

During FY23 and FY24 (as of March 7, 2024), two new gages were installed, and zero gages were decommissioned.

As noted previously, 2023 HB2-DP2403 legislation provided funding to install 32 new stream gages throughout Montana. These new gages have started to be installed, and installation will continue through the remainder of FY24 and FY25. DNRC prioritized new gage locations from a list of sites that were nominated by stakeholders. Criteria used to select the new sites included: DNRC administrative need; federal and tribal compact related administrative need; water distribution projects; partner needs from municipal, watershed groups, and conservation districts; multi-agency overlapping benefit; public awareness and education; and support for academic studies and investigations. DNRC will continue to accept nominations for new stream gage sites and will rank and prioritize the nominations if additional funding becomes available.

Table 2: New DNRC stream gage sites that will be installed during the current biennium. 32 sites were funded under 2023 HB2-DP2403 legislation, while four were funded privately.

| No. | Site Name | Basin | No. | Site Name | Basin |
|-----|-----------------------------------|----------------|-----|---------------------------------------|----------------|
| 1 | Sheep Creek at USFS Bridge | Upper Missouri | 19 | O'Fallon Creek nr Fallon | Yellowstone |
| 2 | Sheep Creek at the Lodge | Upper Missouri | 20 | Buffalo Creek nr Custer | Yellowstone |
| 3 | Sheep Creek at Adams Creek Bridge | Upper Missouri | 21 | Highwood Creek nr Highwood | Upper Missouri |
| 4 | Moose Creek abv Sheep Creek | Upper Missouri | 22 | Pumpkin Creek nr Miles City | Yellowstone |
| 5 | Sweet Grass Creek nr Big Timber | Yellowstone | 23 | Redwater River nr Vida | Lower Missouri |
| 6 | Elk Creek nr Augusta | Upper Missouri | 24 | Rosebud Creek nr Rosebud | Lower Missouri |
| 7 | Box Elder Creek nr Ekalaka | Yellowstone | 25 | Big Dry Creek nr Jordan | Yellowstone |
| 8 | Sage Creek nr Kremlin | Lower Missouri | 26 | Razor Creek nr Shepard | Yellowstone |
| 9 | Boulder River nr Cardwell | Upper Missouri | 27 | Cottonwood Creek nr Deer Lodge | Clark Fork |
| 10 | Little Beaver Creek nr Webster | Yellowstone | 28 | N.F. Big Hole River nr Wisdom | Upper Missouri |
| 11 | Little Powder River nr Broadus | Yellowstone | 29 | Gold Creek nr Jens | Clark Fork |
| 12 | Pryor Creek nr Huntly | Lower Missouri | 30 | Racetrack Creek nr Deerlodge | Clark Fork |
| 13 | Whitewater Creek nr Whitewater | Lower Missouri | 31 | Odell Creek nr Lakeview | Upper Missouri |
| 14 | Skalkaho Creek nr Hamilton | Clark Fork | 32 | Rock Creek nr Phillipsburg | Clark Fork |
| 15 | Lost Horse Creek at USFS Bridge | Clark Fork | 33 | East Fork Bitterroot R nr Sula | Clark Fork |
| 16 | Arrow Creek nr Geraldine | Lower Missouri | 34 | Burnt Fork Bitterroot nr Stevensville | Clark Fork |
| 17 | Bridger Creek nr Big Timber | Yellowstone | 35 | Ninemile Creek nr Huson | Clark Fork |
| 18 | Careless Creek nr Ryegate | Upper Missouri | 36 | White Beaver Creek nr Reed Point | Yellowstone |

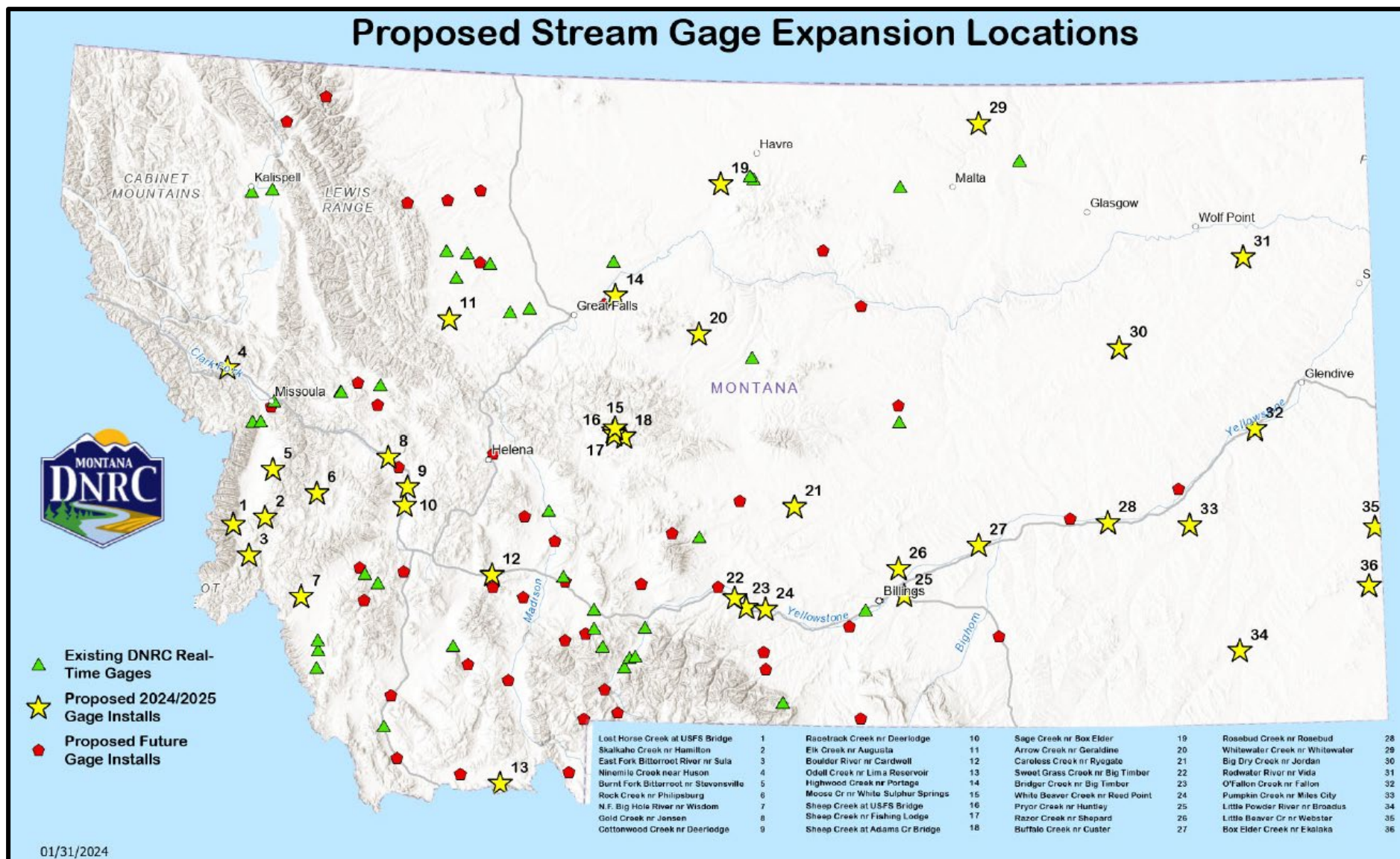


Figure 1: Location map of new DNRC stream gage sites to be installed in FY24-FY25.