Montana Nonpoint Source Program

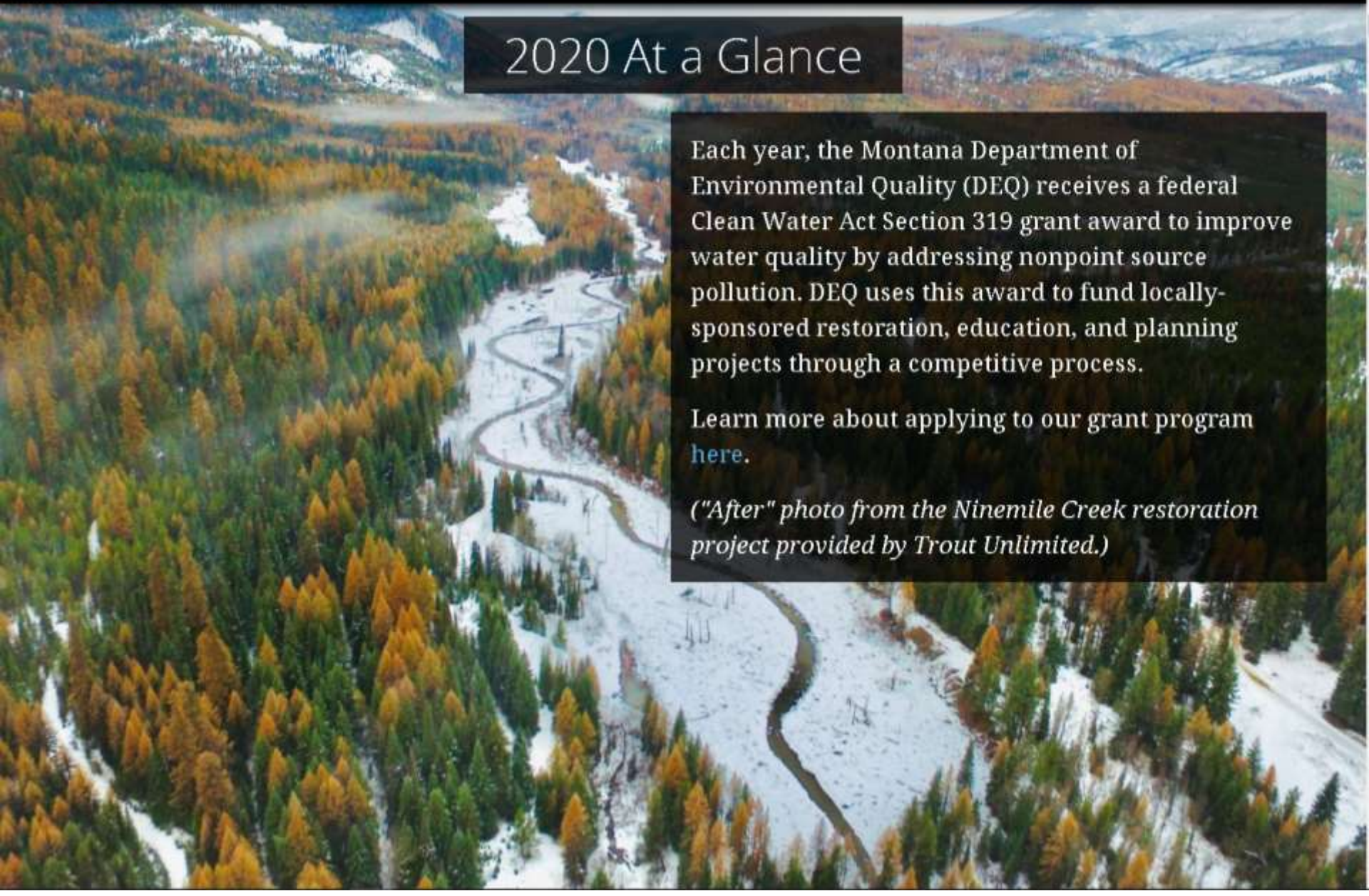
2020 Annual Report

What is "Nonpoint Source"?

Nonpoint source pollution (NPS) is Montana's largest source of water quality impairment. Unlike pollution from industrial and sewage treatment plants (point sources), NPS pollution comes from widespread sources and can be generated by most land use activities.

The goal of Montana's NPS Program is to protect and restore water quality from the harmful effects of NPS Pollution.

(Photo from the Flathead Conservation District's rain garden campaign, sponsored by a 2020 education and outreach mini-grant.)

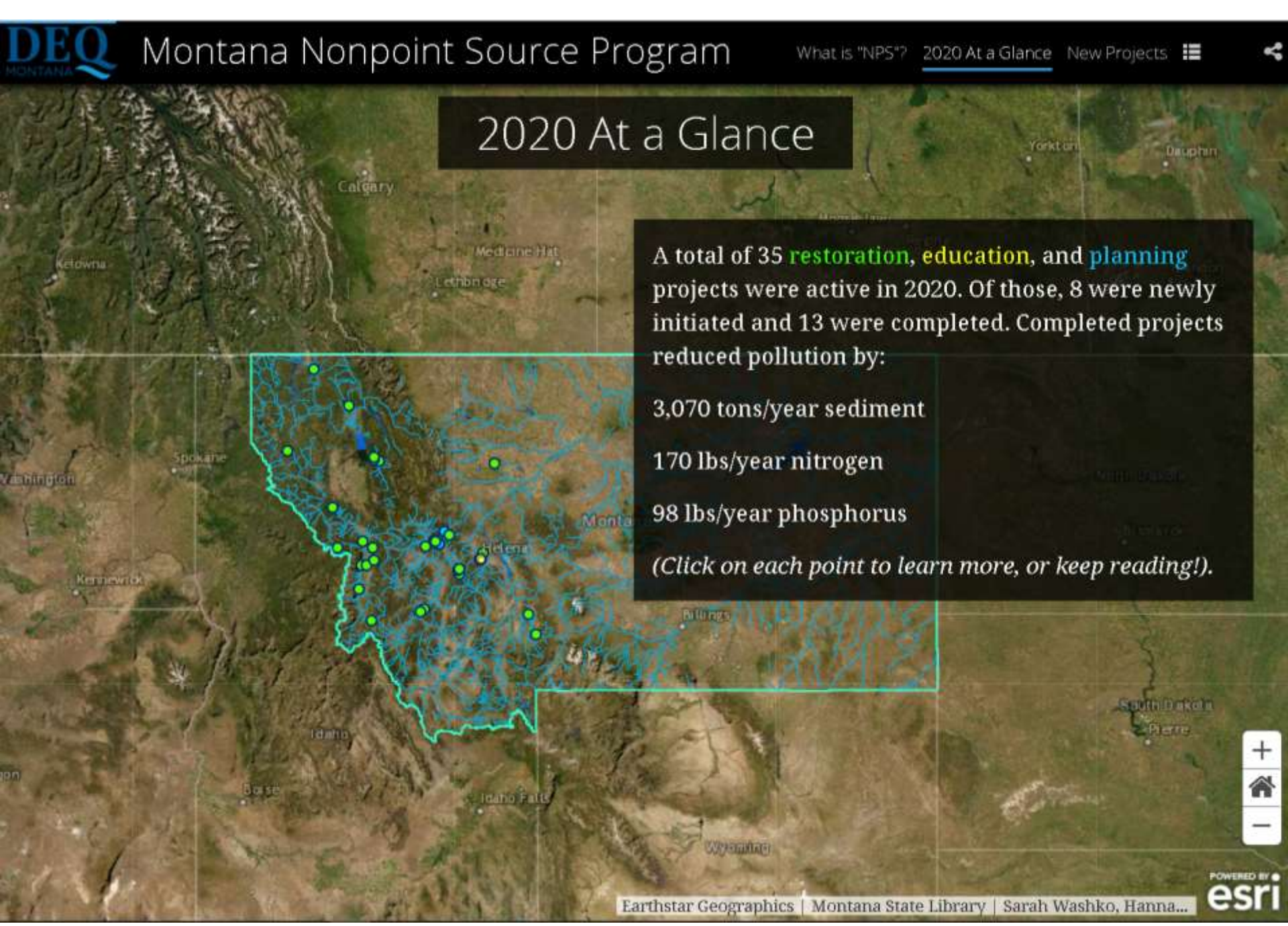


2020 At a Glance

Each year, the Montana Department of Environmental Quality (DEQ) receives a federal Clean Water Act Section 319 grant award to improve water quality by addressing nonpoint source pollution. DEQ uses this award to fund locally-sponsored restoration, education, and planning projects through a competitive process.

Learn more about applying to our grant program here.

("After" photo from the Ninemile Creek restoration project provided by Trout Unlimited.)


DEQ MONTANA
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New Projects
2020 At a Glance
A total of 35 restoration, education, and planning projects were active in 2020. Of those, 8 were newly initiated and 13 were completed. Completed projects reduced pollution by:
3,070 tons/year sediment
170 lbs/year nitrogen
98 lbs/year phosphorus
(Click on each point to learn more, or keep reading!).
Calgary
Medicine Hat
Lethbridge
Kelowna
Spokane
Kennewick
Helena
Billings
Idaho
Boise
Idaho Falls
Wyoming
Pierre
Dauphin
Earthstar Geographics | Montana State Library | Sarah Washko, Hanna...
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New Restoration Projects in 2020

The Big Blackfoot Chapter of Trout Unlimited received $289,000 to restore 1.5 miles of Nevada Creek by re-creating a meandering channel with well-defined pools, glides and riffles while providing shade and bank stability with native vegetation. This is the fourth phase of continued work on Nevada Creek to help restore native fish habitat while supporting a working landscape.

An example of eroding streambanks with poor riparian vegetation that this project will help remedy. (*Photo provided by Big Blackfoot Chapter of Trout*)

New Restoration Projects in 2020

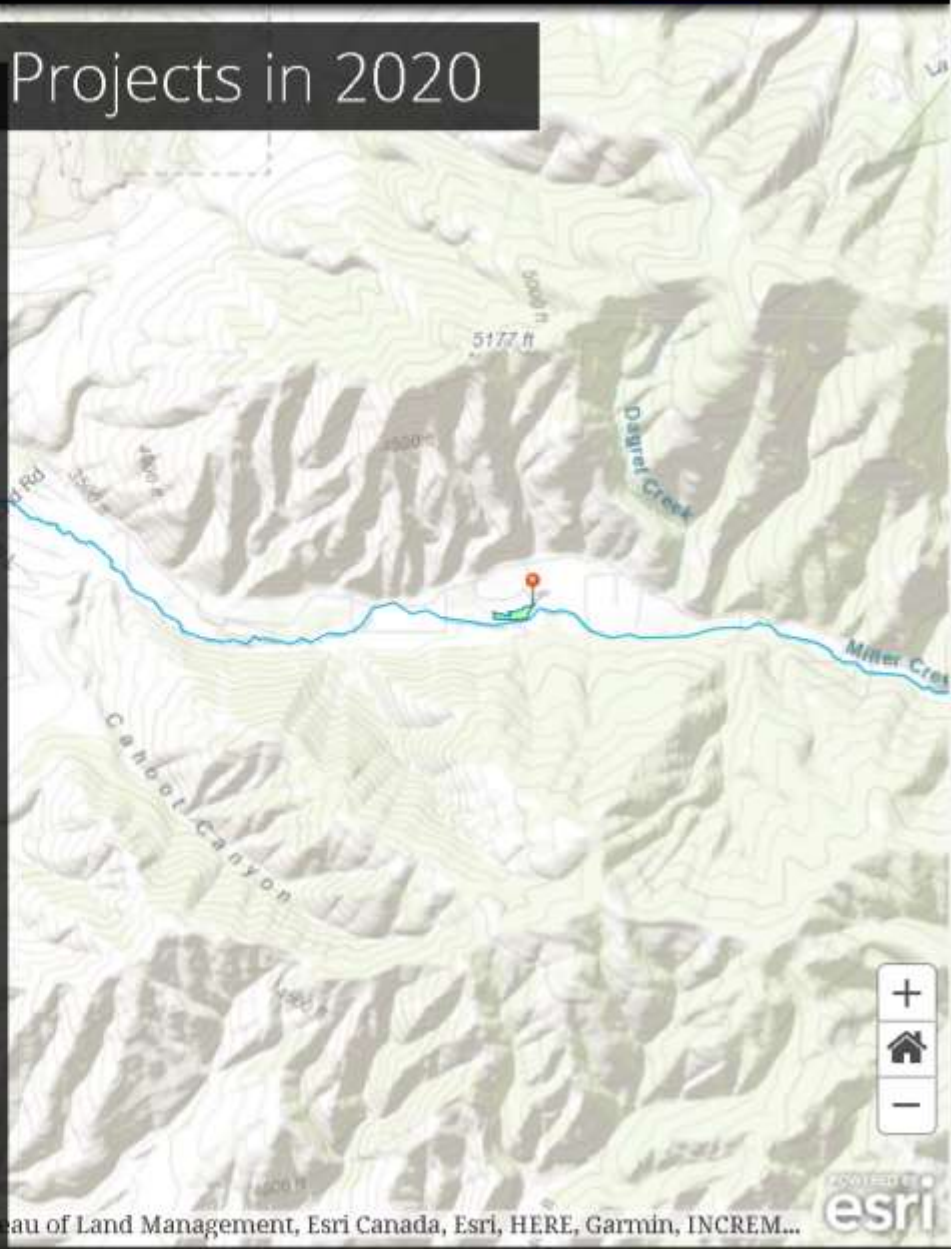
The Clark Fork Coalition received $293,000 improve water quality at 3 different project sites. They will decommission 11 miles of forest roads and remove 25 culverts in the Upper Lolo watershed, design one sediment reduction and riparian improvement project along O'Brien Creek, and restore 2,800 feet of Miller Creek. These projects are in the Bitterroot Focus Watershed.

An eroding bank on Miller Creek, one of three project locations that received funding. (Photo provided by Clark Fork Coalition)

New Restoration Projects in 2020

The Missoula Valley Water Quality District received $37,000 to generate final designs for removing Singletree Lane out of the floodplain and replacing an undersized culvert with a bridge. This project, once implemented, will reduce sediment delivery to Miller Creek by restoring the floodplain and riparian area. This project is in the Bitterroot Focus Watershed.

Miller Creek flowing down Singletree Lane. This project will remedy this source of sediment pollution. *(Photo provided by Missoula Valley Water*



New Restoration Projects in 2020

The Lolo Watershed Group received $40,000 to design a project that will restore at least 3,000 feet of Lolo Creek. The project will implement grazing management best practices and increase channel complexity and riparian habitat. This project is in the Bitterroot Focus Watershed.

An example of an over-widened section of stream with eroding banks and poor riparian vegetation that this project will help remedy *(Photo provided by the Lolo Watershed Group)*

New Restoration Projects in 2020

The Sun River Watershed Group received $49,500 to replace a failing stream crossing, implement grazing best management practices, and improve riparian vegetation on Muddy Creek.

The crossing pictured above frequently overtops during high stream flows and causes sediment pollution. *(Photo provided by the Sun River Watershed Group)*

New Restoration Projects in 2020

The Upper Clark Fork Program of Trout Unlimited received $136,344 to restore at least 1,200 feet of Flint Creek by implementing grazing management best practices, revegetation, and stabilizing streambanks.

Pre-project conditions on Flint Creek. Notice the lack of riparian vegetation. *(Photo provided by Trout Unlimited)*

Completed Restoration Projects in 2020

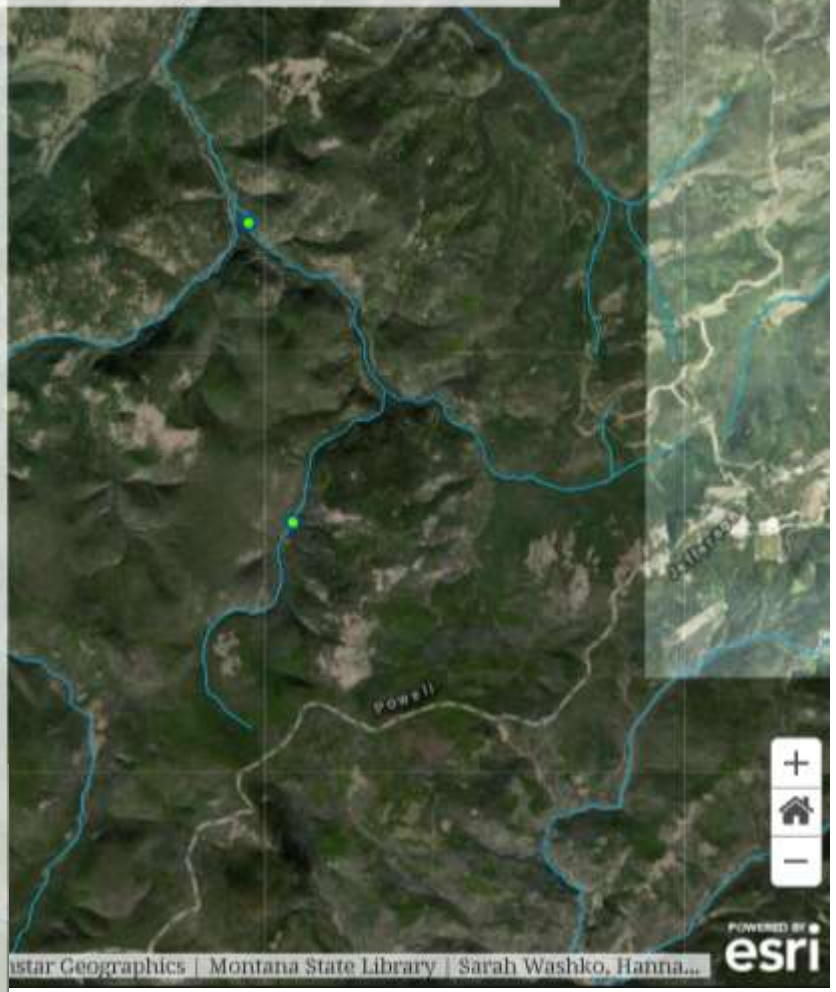
Bozeman School District #7 received $105,258 to engage K-12 students in improving water quality and hydrologic function by revegetating banks and lengthening 334 feet of straightened stream channel by 100 feet.

The completed project. Notice the new meanders and plantings. *(Photo provided by Bozeman School District)*

Completed Restoration Projects in 2020

Helena-Lewis & Clark National Forest received $49,060 to relocate a segment of Forest Service road 123, unauthorized roads, campsites, and fords. The project also re-established main and side channel connectivity in the floodplain, and placed large wood and clump plantings along the banks and floodplain.

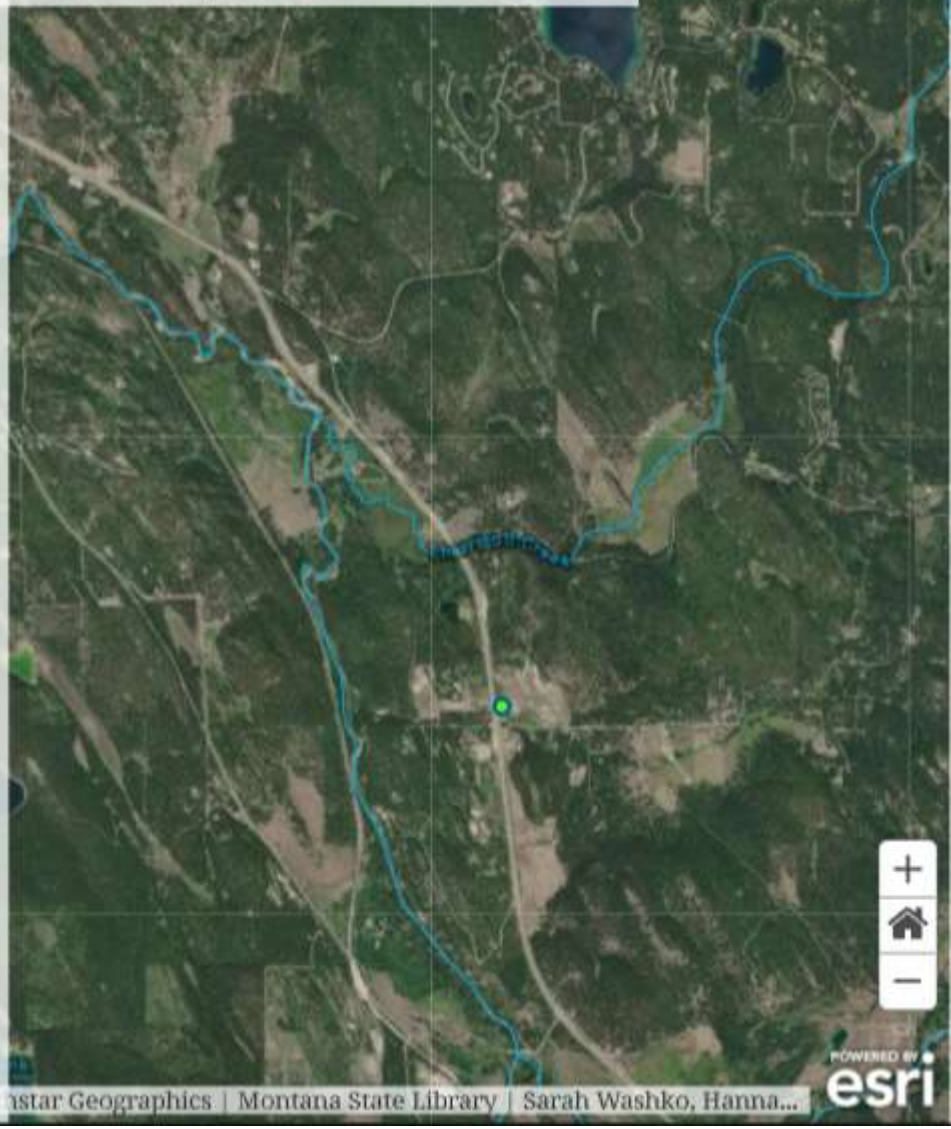
Before and after a FS road was relocated out of the creek's floodplain. (*Photo provided by Helena-Lewis and Clark National Forest*)



Completed Restoration Projects in 2020

Lincoln CD received $117,200 to restore 1/2 mile of Mud Creek. First, historic mill waste used to backfill a cooling pond was removed. The stream channel was then reconstructed with riffle, run, pool and glide habitats. Woody debris matrices were also installed and the streambanks revegetated. Watch this post-restoration flyover of the completed project.

The completed project restored native fish habitat. This barrier was installed at the lower end of the project to ensure non-native pike can no longer move upstream. (*Photo provided by the Lincoln Conservation District*)



DEQ MONTANA Montana Nonpoint Source Program

What is "NPS"? 2020 At a Glance New Projects

Completed Restoration Projects in 2020

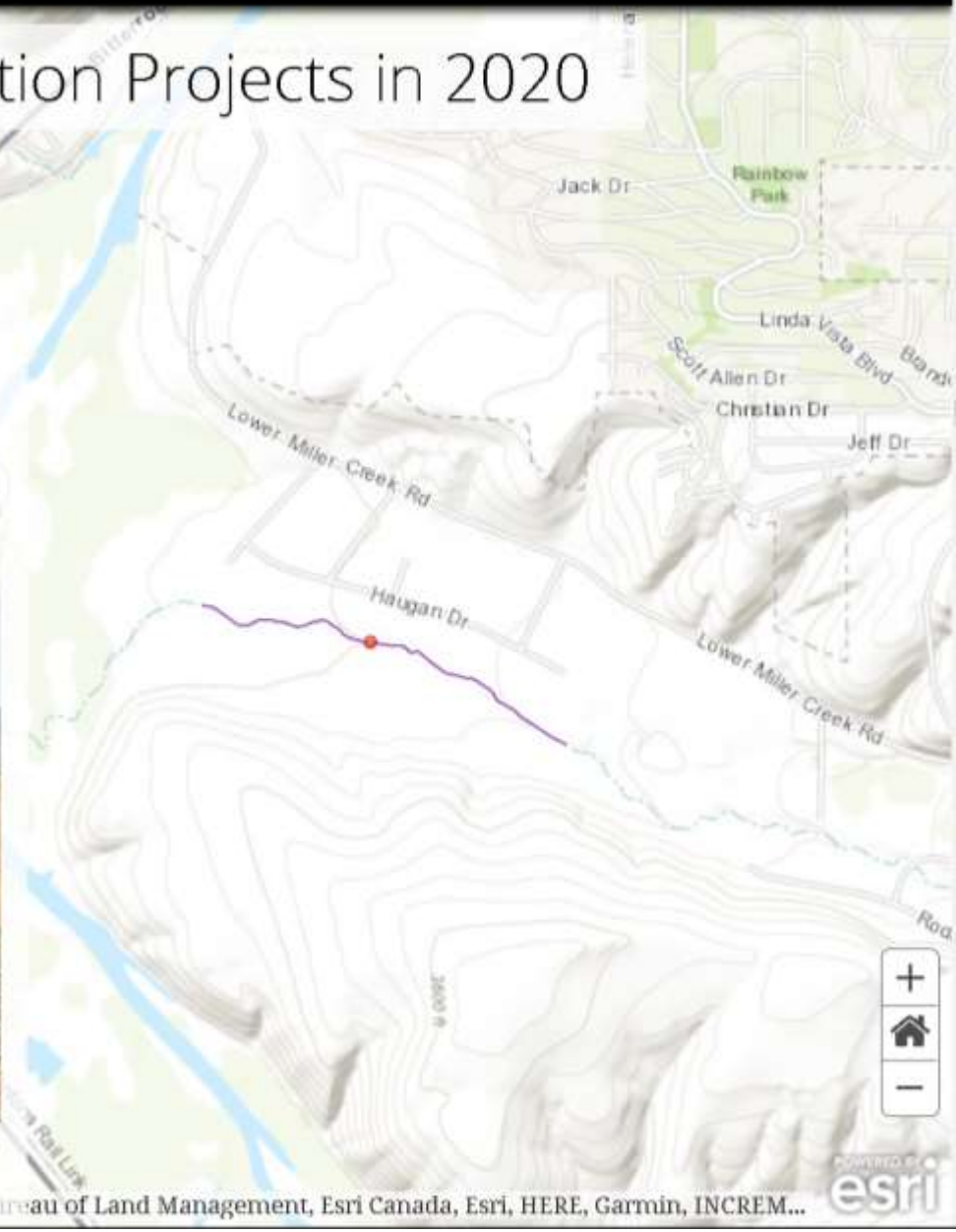
The Blackfoot Challenge received $110,605 to implement 3 distinct projects. On Nevada Creek, 3,700 feet of stream channel and riparian area were restored by implementing grazing management, stabilizing stream banks, revegetating, and installing riparian fencing. On Poorman Creek, 1,000 feet was restored from the historic impacts of placer mining. On Chimney Creek, beaver mimicry structures were constructed along 1,000 feet of stream.

Before and after photopoint from Poorman Creek. Notice how the stream can access its floodplain now that the placer pile on the right has been removed. *(Photos provided by the Blackfoot Challenge)*

Completed Restoration Projects in 2020

The Bitter Root Water Forum received $48,250 to revegetate approximately 1 mile of Miller Creek. Exclosure fencing will protect the new vegetation.

One of the constructed exclosures along Miller Creek. (*Photo provided by the Bitter Root Water Forum*)



Completed Restoration Projects in 2020

The Big Hole Watershed Committee received $290,000 to relocate 2,700 feet of stream channel away from a high, eroding bank. The project reconnected the stream channel to its floodplain and a network of wetlands.

A photo of the completed project. Notice how the stream is moved away from the high, eroding hillslope, and wetlands remain. (*Photo provided by the Big Hole Watershed Committee*)

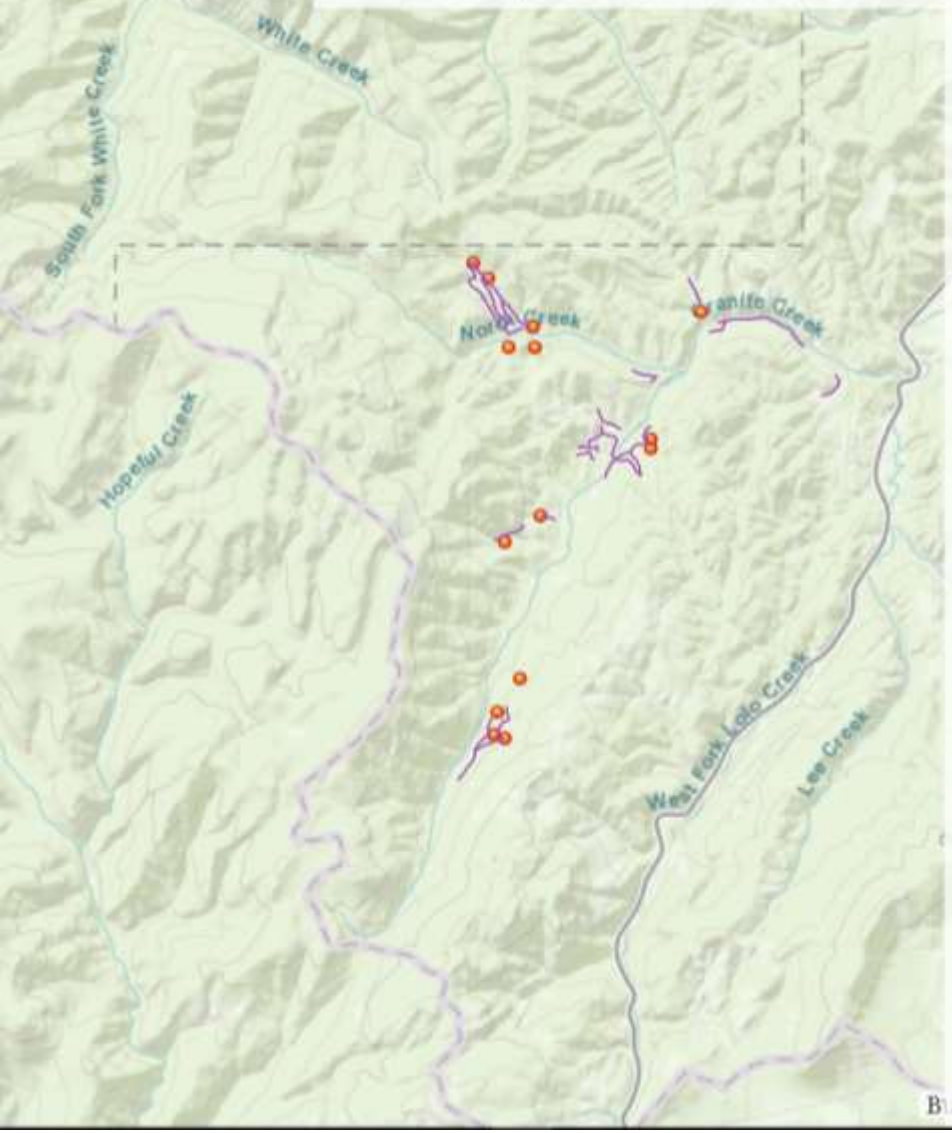
They also received $121,590 that helped restore 1,800 feet of nearby Oregon Creek from the historic impacts of placer mining. Restoration included construction of beaver mimicry structures to help restore floodplain connectivity.

Completed Restoration Projects in 2020

The Sun River Watershed Group received $10,474 to install exclosure fencing along 1/4 mile of Muddy Creek.

The constructed exclosure fencing. (*Photo provided by the Sun River Watershed Group*)

Completed Restoration Projects in 2020



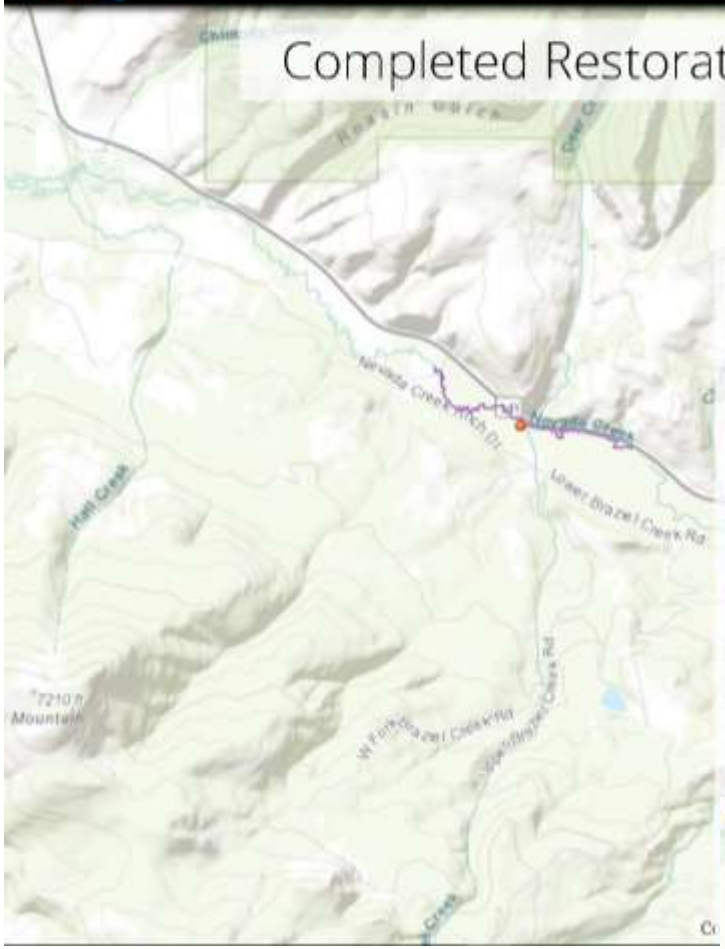
The Clark Fork Coalition received $90,000 to 100% recontour 8.5 miles of **forest roads** and remove at least 9 major associated **culverts**.

Before and after road decommissioning, 2018

One year after road decommissioning, 2019

Before, immediately after, and 1-year after project completion photopoints *(Photos provided by the Clark Fork Coalition)*

Completed Restoration Projects in 2020



The Big Blackfoot Chapter of Trout Unlimited used $215,500 to address bank erosion, improve instream and riparian habitat for native trout, and ensure grazing management goals were met.

Before and after photo points of the restoration project. A new water crossing for livestock can be seen in the "after" photo. *(Photos provided by the Big Blackfoot Chapter of Trout Unlimited)*

2020 Accomplishments by Program

In addition to funding 319 Projects, multiple programs at DEQ and external partners work to achieve the goal of restoring and protecting Montana's waters from nonpoint source pollution. Click HERE to review progress towards the measurable milestones established in the Montana Nonpoint Source Management Plan (2017). Review the next sections for summaries.

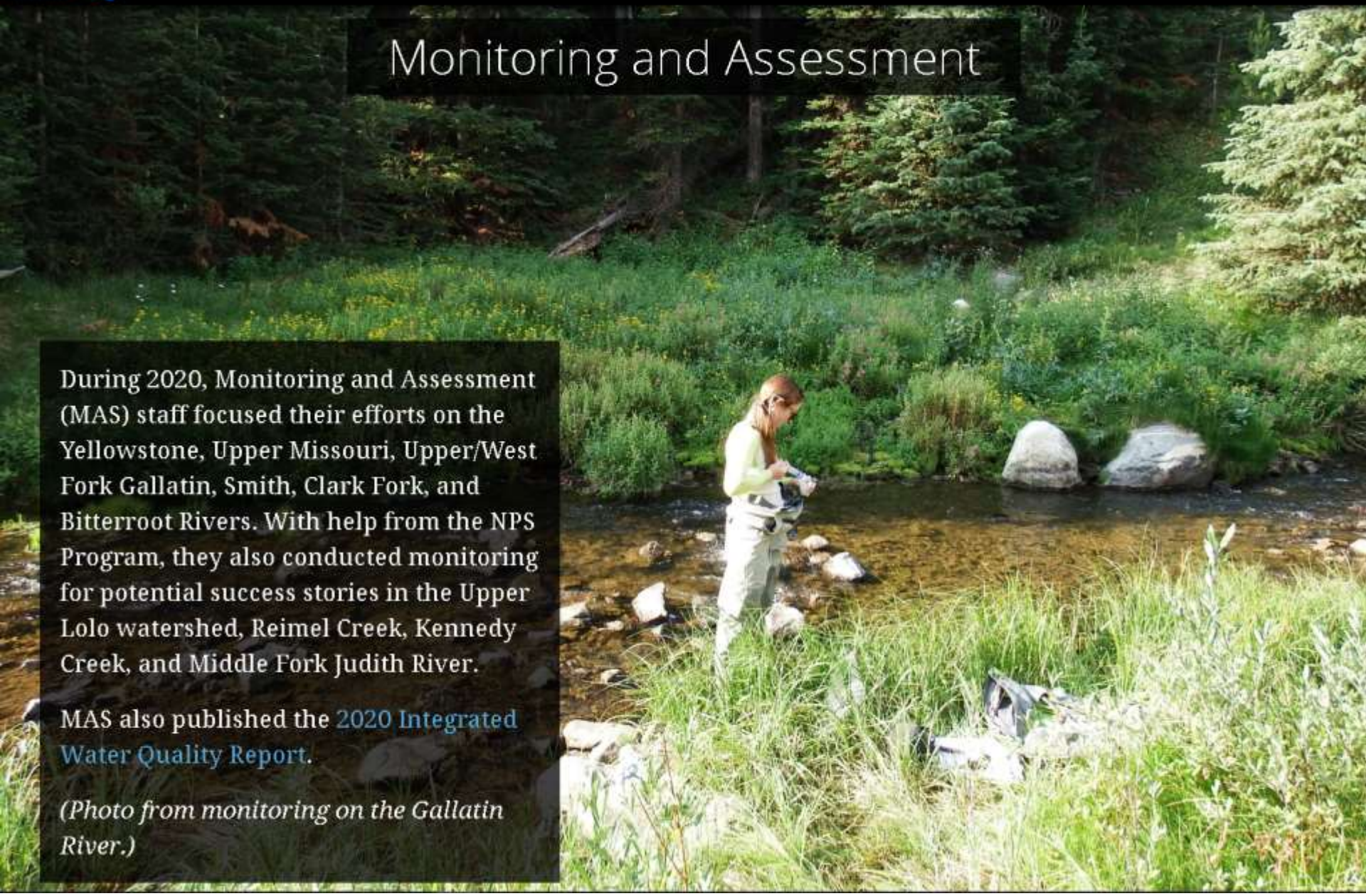
Standards & Modeling

Site specific selenium standards for Lake Koocanusa and selenium standards for the Kootenai River were approved in 2020. Site specific, non-human-caused arsenic criteria for the Yellowstone River were also approved. Work continues to develop nutrient criteria for the Upper Yellowstone River.

Modeling continued for the Tongue River salinity and Flathead watershed risk assessment.

(Photo from the Smith River phosphorus study completed by Standards in 2020.)

Monitoring and Assessment



During 2020, Monitoring and Assessment (MAS) staff focused their efforts on the Yellowstone, Upper Missouri, Upper/West Fork Gallatin, Smith, Clark Fork, and Bitterroot Rivers. With help from the NPS Program, they also conducted monitoring for potential success stories in the Upper Lolo watershed, Reimel Creek, Kennedy Creek, and Middle Fork Judith River.

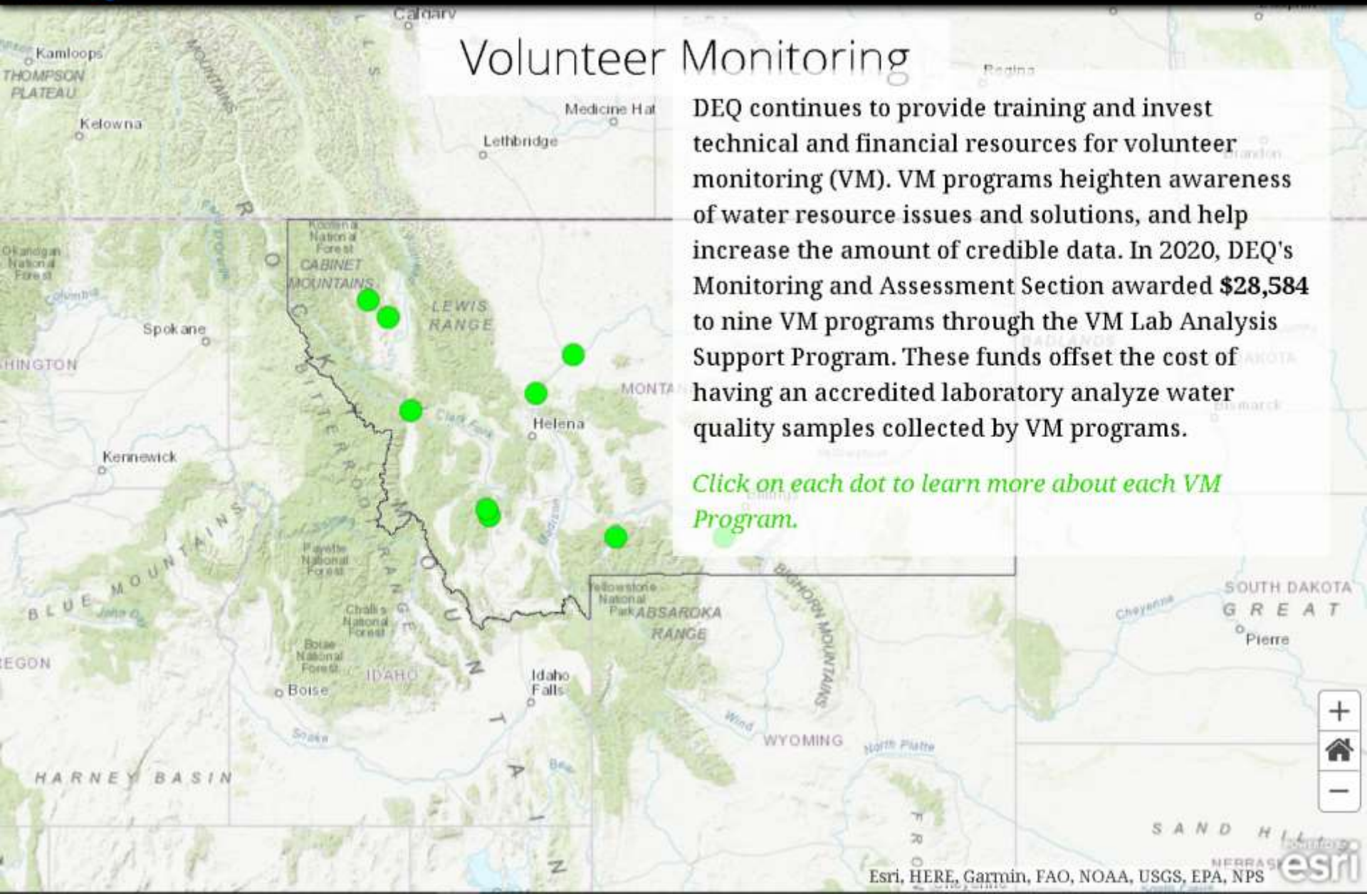
MAS also published the 2020 Integrated Water Quality Report.

(Photo from monitoring on the Gallatin River.)

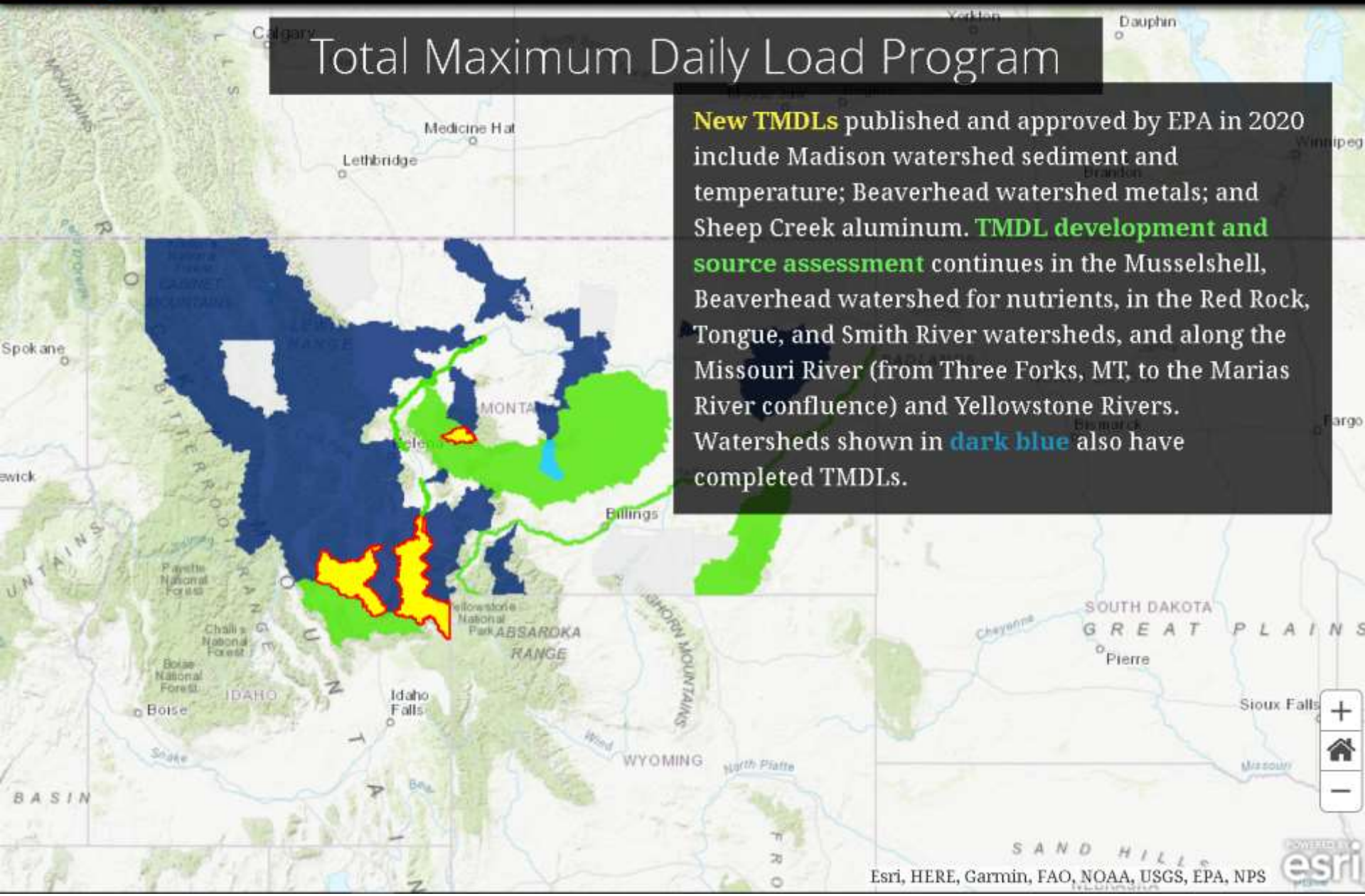
Volunteer Monitoring

DEQ continues to provide training and invest technical and financial resources for volunteer monitoring (VM). VM programs heighten awareness of water resource issues and solutions, and help increase the amount of credible data. In 2020, DEQ's Monitoring and Assessment Section awarded **$28,584** to nine VM programs through the VM Lab Analysis Support Program. These funds offset the cost of having an accredited laboratory analyze water quality samples collected by VM programs.

Click on each dot to learn more about each VM Program.



Total Maximum Daily Load Program

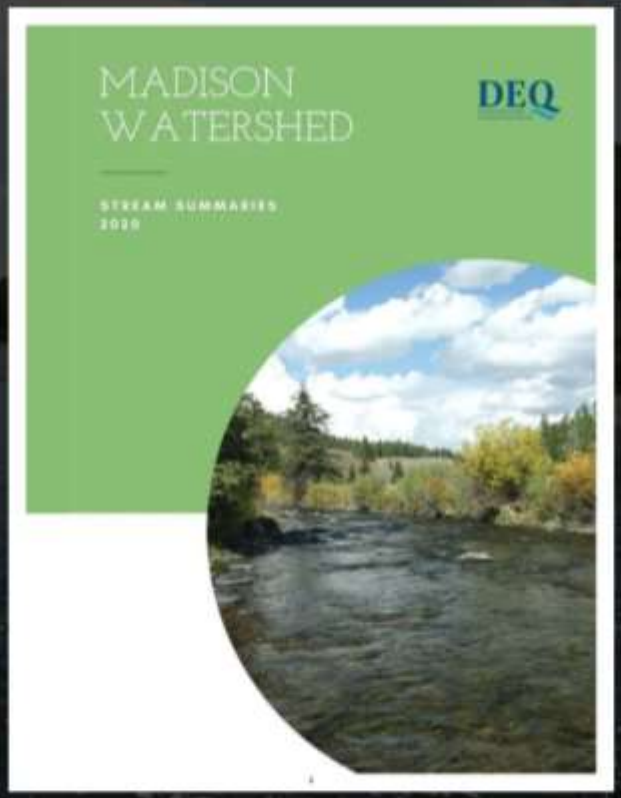


New TMDLs published and approved by EPA in 2020 include Madison watershed sediment and temperature; Beaverhead watershed metals; and Sheep Creek aluminum. **TMDL development and source assessment** continues in the Musselshell, Beaverhead watershed for nutrients, in the Red Rock, Tongue, and Smith River watersheds, and along the Missouri River (from Three Forks, MT, to the Marias River confluence) and Yellowstone Rivers. Watersheds shown in **dark blue** also have completed TMDLs.

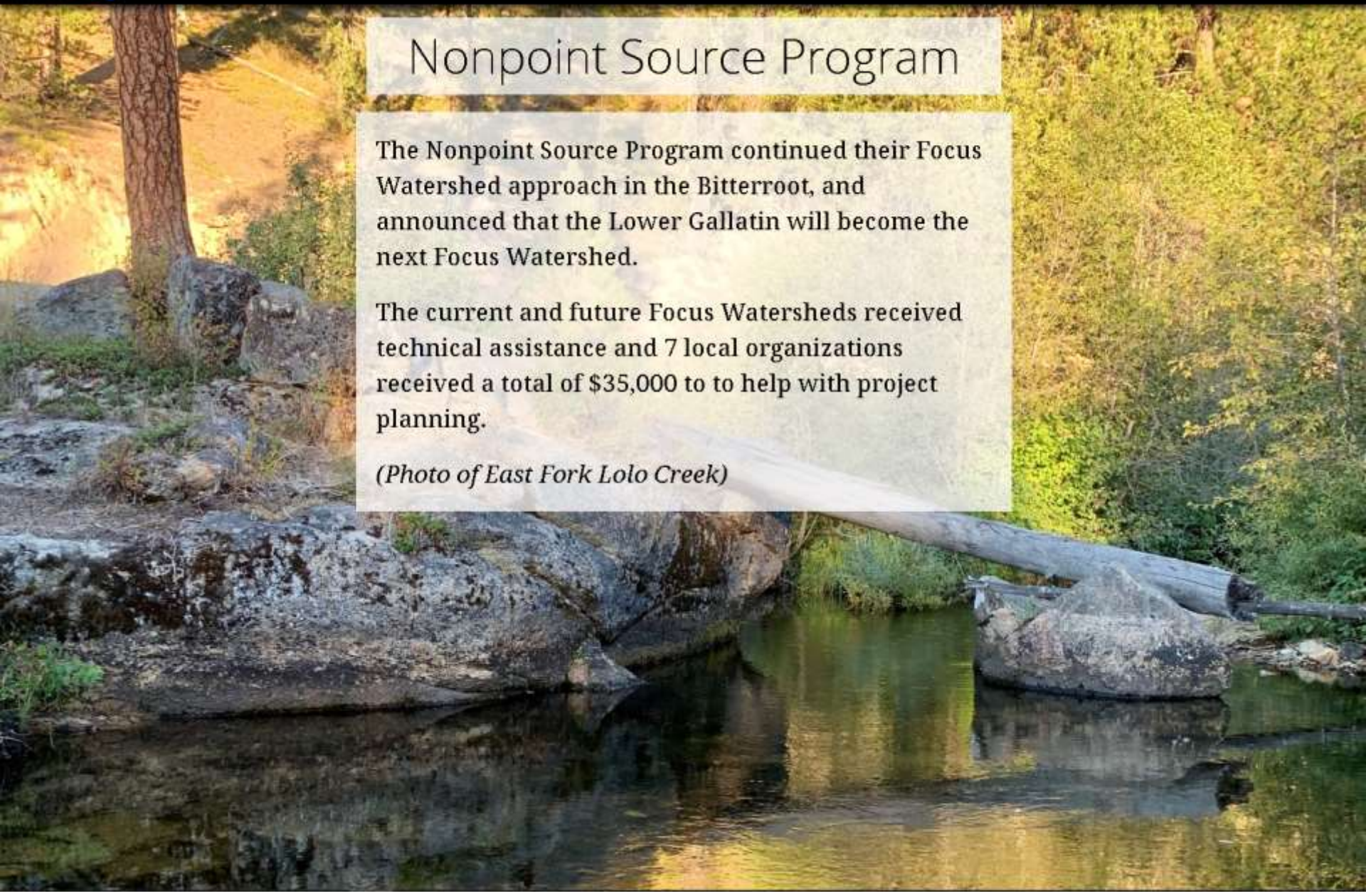
Total Maximum Daily Load Program

All TMDL documents can be accessed at http://deq.mt.gov/water/surfacewater/TMDLdeq.mt.gov/water/surfacewater/TMDL

Be sure to check out the Madison Watershed Stream Summaries!



(Photo of the Madison River)



Nonpoint Source Program

The Nonpoint Source Program continued their Focus Watershed approach in the Bitterroot, and announced that the Lower Gallatin will become the next Focus Watershed.

The current and future Focus Watersheds received technical assistance and 7 local organizations received a total of $35,000 to to help with project planning.

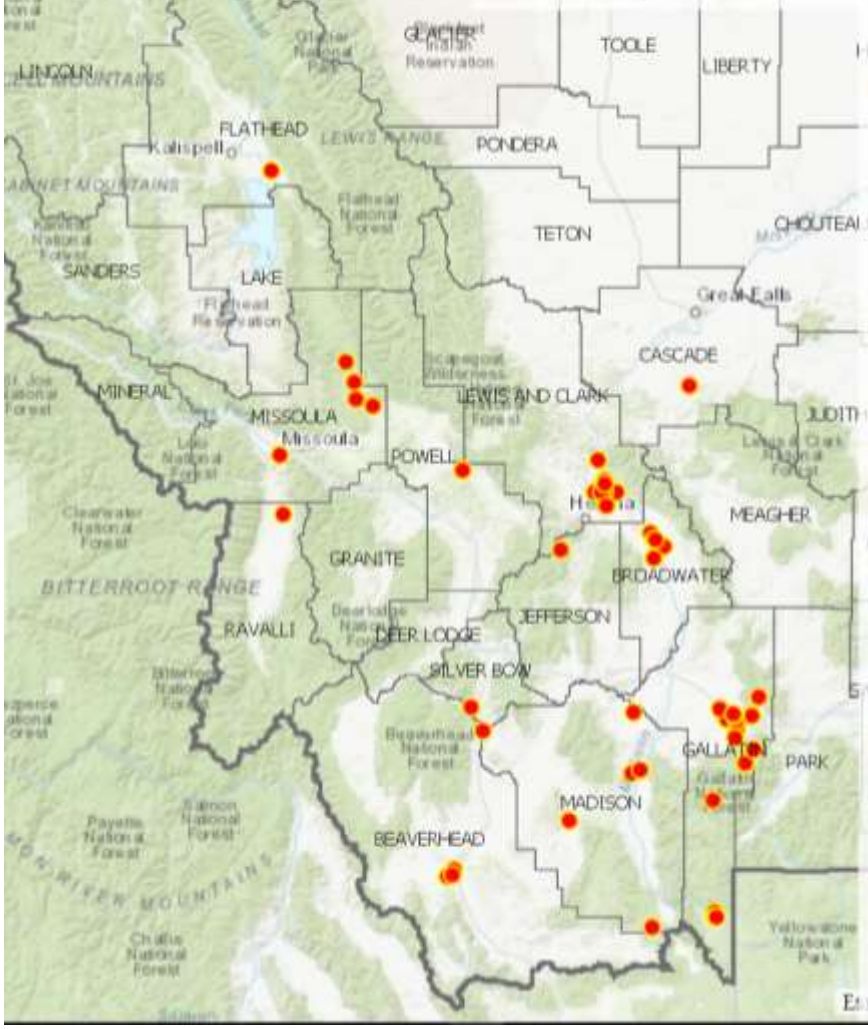
(Photo of East Fork Lolo Creek)

Nonpoint Source Program

The NPS Program published TMDL Implementation Evaluations for Big Spring Creek and the Ruby River watershed. They also published a nationally-recognized Success Story for Cramer Creek.

(Photo of the Ruby River)

Nonpoint Source Program



DEQ continues to support outreach and monitoring for harmful algal blooms (HABs).

42 of 64 citizen reports received in 2020 were confirmed to be harmful algal blooms.

Visit HAB.mt.gov for more information, to submit a suspected HAB report, and view a map of recent reports.

An example of a harmful algal bloom, photo was submitted through the HAB.mt.gov reporting application

Wetland Program

DEQ is the lead state agency responsible for developing an effective, comprehensive Wetland Program for Montana, as well as developing the capacity of state and local governments to protect wetlands. DEQ's Wetland Program provides state leadership to conserve, protect, and restore wetlands for their water quality, water quantity, habitat, and flood risk reduction benefits. This work is guided by an EPA approved Wetland Program Plan that references actions the Wetland Program can take to collectively achieve the overall state goal of "no overall loss of the state's remaining wetland resource base (as of 1989) and an overall increase in the quality and quantity of wetlands in Montana".

EPA awarded DEQ a Wetland Program Development Grant to continue this work for the next three years. Funding was also secured to conduct the 2021 National Wetland Condition Assessment.

The Wetland Program also leads the Montana Wetland Council to develop and implement actions identified in the State Wetland Plan.

(Photo of a wetland in the Centennial Valley.)

Supporting our Partners

The NPS Program works with local, state, and federal partners to provide necessary resources to address NPS pollution.

In 2020, DEQ hosted their annual MOU meeting with the USFS. DEQ also continued monitoring and project support for the USDA Natural Resource Conservation Service, specifically in National Water Quality Initiative watersheds.

Continue reading to learn more about some of our partnerships.

Partners - MWCC

The Montana Watershed Coordination Council's (MWCC) mission is to "unite and support Montana's community-based conservation networks to promote healthy and productive watersheds."

They do this by supporting, connecting, inspiring, and representing Montana's watershed communities and conservation partners. MWCC's vision is "a Montana where watersheds and communities are healthy, productive, and thriving."

MONTANA WATERSHED COORDINATION COUNCIL

www.MTWATERSHEDS.org

Partners - MWCC

In 2020, the MWCC Watershed Fund distributed more than $136,000 in Project Support Funding from NRCS and DEQ to implement conservation and restoration. Local conservation groups leveraged this support with an additional $423,500.

The Watershed Fund also provided $79,400 in capacity and professional development support to 22 local conservation organizations.

(Photo from a project on the East Fork of Divide Creek, a tributary to the Big Hole River, where 87 of these beaver dam analogs are reversing the downcutting of the creek.)

Partners - MWCC

2020 marked the 9th year of the Big Sky Watershed Corps Program. This AmeriCorps program is a partnership between MWCC, SWCDM, and Montana Conservation Corps. 35 Big Sky Watershed Corp members were placed with organizations across Montana. The Watershed Fund provided cost-share for 9 of those members and funding for 4 members to complete on-the-ground projects.

(Photo of a Big Sky Watershed Corp member removing browse protection at a restoration site.)

Partners - MWCC

More than 140 watershed conservation partners came together for MWCC's Annual Meeting in Helena. The meeting centered on the theme, "Healthy Watersheds, Healthy Communities."

MWCC and the Montana Forest Collaboration Network co-hosted nearly 300 watershed and forestry professionals at the 2020 Summit to Stream virtual Symposium and Conference in October.

OCTOBER 14-16, 2020

MONTANA FOREST COLLABORATION NETWORK

MONTANA WATERSHED COORDINATION COUNCIL

SUMMIT TO STREAM: CONNECTING PEOPLE, WATER, AND FORESTS

Copper King Hotel in Butte, Montana

More information available at mtwatersheds.org

Partners - MWCC

MWCC expanded the Watershed Stories campaign into the broadcast realm with a series of Audio Stories highlighting the impact of individuals collaborating to protect and restore local watershed resources. These 30-second clips aired on local radio stations and featured the Beaverhead Watershed Committee, Bitter Root Water Forum, Broadwater Conservation District, and Granite Headwaters Watershed Group. Longer versions were posted on social media and websites, including the MWCC website.

(Turn on the sound to watch the Bitter Root Water Forum's audio watershed story!)

Partners - SWCDM

SOIL & WATER CONSERVATION DISTRICTS of MONTANA

[No Title]

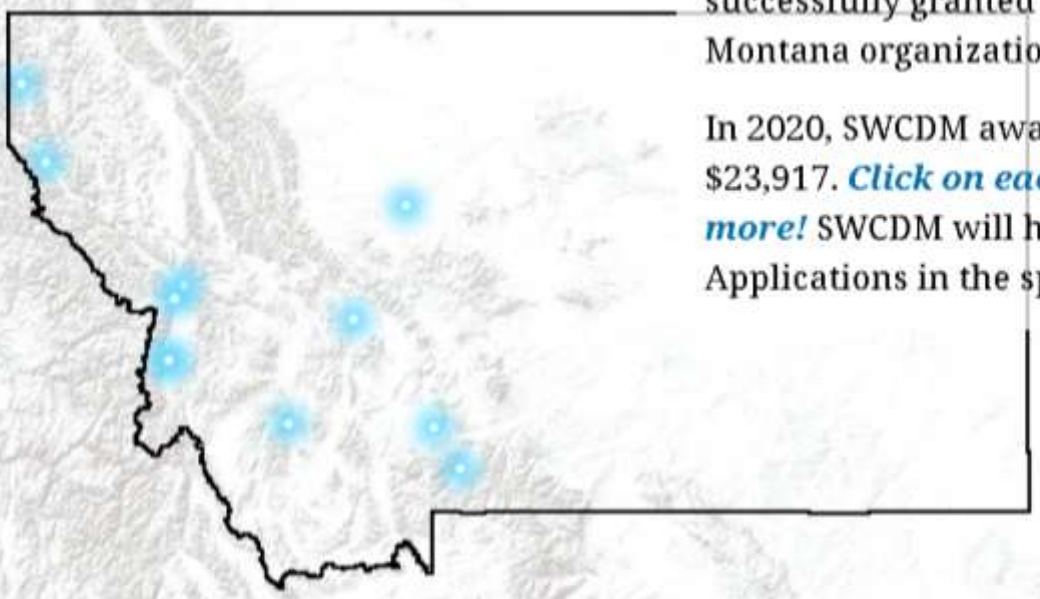
Created in 1972, SWCDM is a nonprofit association governed by a statewide board of directors who also serve as district supervisors in their own jurisdictions. Conservation Districts have a decades-long history of conserving Montana's resources by matching the needs of local people with technical and financial resources, and initiating good conservation practices to benefit all Montanans.

Partners - SWCDM

In 2020, SWCDM's Ranching for Rivers program worked with landowners to implement three grazing and riparian management projects, under grants totaling $21,491. The program accepts applications on a rolling basis.

(Before and after photos from the Ranching for Rivers project on Nevada Creek.)

Partners - SWCDM



SWCDM coordinated the Education and Outreach Water Quality Mini-Grant Program through the NPS 319 program. Since 2010, this program has successfully granted 118 E&O projects for 58 unique Montana organizations.

In 2020, SWCDM awarded 11 new projects, totaling $23,917. ***Click on each point to learn more!*** SWCDM will have another Call for Applications in the spring of 2020.

This report was prepared by Hannah Riedl and reviewed by Eric Trum, Water Quality Specialists with the Montana Department of Environmental Quality, Watershed Protection Section.

Contributors include Deb Call (Fiscal Services), Steve Carpenedo (Watershed Protection Section), Terri Nichols (MT Watershed Coordination Council), Ben LaPorte (Big Hole Watershed Committee).

Photos are from DEQ unless otherwise noted.

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