

Conservation Journal

The Official Newsletter the Gallatin Conservation District



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District Calendar

September 1-14: Taking applications for NRS position

September 6: 310 Applications due

September 20: GCD Board Meeting

September 26: MACD Area 6 Meeting, Livingston MT

October 4: 310 Applications due

October 8: Columbus Day, Office closed

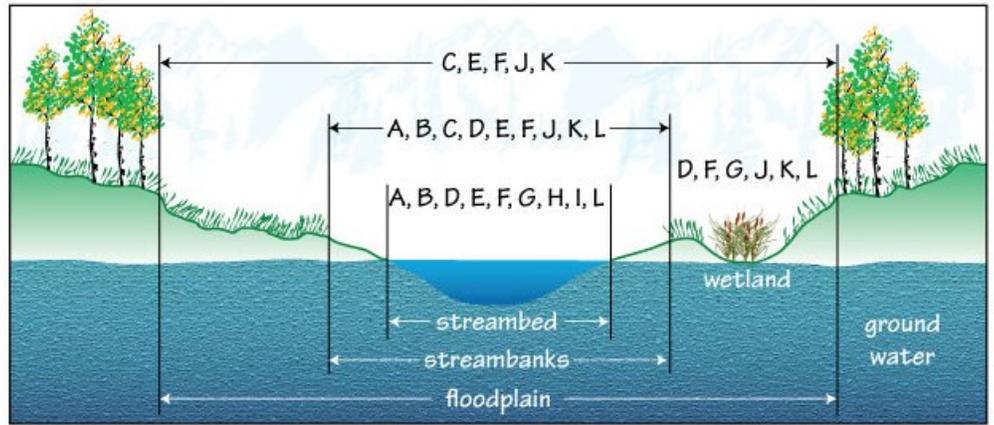
October 10: 310 Presentation at Legends HOA Annual Meeting, Bozeman

October 18: GCD Board Meeting

The views expressed in the GCD Conservation Journal doesn't necessarily reflect those of the Gallatin Conservation District, the Board Supervisors or Staff.

Editor's Note: Feel free to replicate or reproduce any articles in the GCD Conservation Journal, but please cite the source.
Thank you.

Stream Permitting in Gallatin County



Conservation District Jurisdiction—310 Permits

Using the diagram above, all projects in the areas designated as "A" will require a 310 Permit.

<u>Who Must Apply</u>	<u>Activities Requiring a Permit</u>
Any private, nongovernmental individual or entity that proposes to work in or near a stream on public or private land.	Any activity that physically alters or modifies the bed or banks of a perennially flowing stream.

Applications Procedure/Timeline

If you are planning to do work on or near a waterway in Montana, one or several permits may be required.

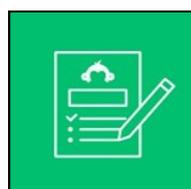
A person planning a project in Gallatin County must submit a permit application to GCD prior to any activity in or near a perennial-flowing stream.

Once an application is accepted, a team that consists of a GCD representative; a Montana Fish, Wildlife & Parks biologist; and the applicant may conduct an on site inspection. The team makes recommendations to the conservation district board, which has 60 days from the time the application is accepted to approve, modify, or deny the permit. Local rules apply. Currently, there is no charge for a 310 permit. GCD will only process applications relating to its 310 jurisdiction. Applications should be submitted to other authorizing agencies listed on form when necessary.

For more information, visit: <http://dnrc.mt.gov/licenses-and-permits/stream-permitting> and <http://dnrc.mt.gov/licenses-and-permits/stream-permitting/310-permit-applications>

Gallatin County Natural Resource Concern Survey

Gallatin County residents! Please take our Natural Resource Concerns Survey. We will use it to prioritize resource concerns and implement it through our long range GCD Strategic Planning. The survey is on Facebook "Gallatin Conservation District."



SURVEYMONKEY.COM
Can you spare a few moments to take my survey?
 Please take the survey titled "Gallatin Conservation District Natural Resource Concerns Survey". Your feedback is important!

[News Releases](#)

[Watson to Lead Natural Resources Conservation Service in Montana](#)

Contact:

[Tasha Gibby](#)

406-587-6789

BOZEMAN, Mont., August 27, 2018 – Tom Watson recently assumed the position of state conservationist for USDA’s Natural Resources Conservation Service (NRCS) in Montana. In that job, Watson will be responsible for NRCS operations within the state, including the administration of conservation technical assistance to private landowners, conservation financial assistance programs, conservation easement programs, the Natural Resources Inventory, water supply forecasting, soil survey mapping, and the Plant Materials Center in Bridger.

Most recently, Watson has worked as an assistant state conservationist in Oregon, supervising the administrative and operational functions for the state. His NRCS career began at a local field office in Wyoming after graduating from the University of Wyoming with a range management degree. Watson grew up on a farm in western Nebraska and has spent his whole life connected to agriculture.

“I pride myself with being from the West and with that, an understanding of issues that often impact private land and producers,” Watson said. “I look forward to working with producers and the many conservation groups who have a stake in Montana’s future.”

Watson may be reached at the NRCS state office in Bozeman at 406-587-6811.

###



Running the Ranch

Posted by Tim Griffiths, Natural Resources Conservation Services in [Farming Conservation](#)

August 28, 2018

Pickup trucks, working dogs, cowboy hats, and running shoes. These were the diverse sights I registered as my eyes scanned the 100-plus crowd gathered under Montana’s Big Sky this past Saturday.

You could tell right away this wasn’t a typical ranching operation, and it certainly wasn’t going to be your normal run. It was a mixture of both, aptly named the [Montana Ranch Run](#), now in its fourth year.

Organized by Kari Berg Marks and the [Montana CattleWomen](#), the race serves as a bridge that links urbanites with rural America. The primary goal is to introduce a new audience, the running community, to the beauty of Montana’s farms and ranches as well as educate them about the importance of agriculture and private land stewardship.



The Montana Ranch Run is a 25-mile race that takes participants through three ranches, giving them a firsthand view of ranching in Meagher County. Tim Griffiths with the Natural Resources Conservation Service was one of the participants in the race this past weekend.

Continued on the next page



The 25-mile race was run by two to five people, and posters were set up at the exchange points providing information on ranching.

Additionally, I believe the unpublished secondary goal is to have as much fun as possible in the process. As to accomplishing both, I can now personally attest.

The course runs approximately 25 miles through three multi-generation ranches and transects the Lewis and Clark National Forest in Meagher County, Montana. It's organized into five legs that can be run solo or as a team of 2 to 5 members.

The landscape is as varied as the participants, and seamlessly links public and private lands that blend low elevation winter range with high mountain elk and moose calving grounds. Oh, and the course is run completely on dirt. Your feet never hit blacktop!

This year, USDA was provided an opportunity to help support last weekend's run. I jumped at the chance to help create posters and outreach materials used throughout the race. The project proved almost as fun as the run itself as we discovered so many amazing facts to share like:

- Agriculture is Montana's number one industry, valued at more than \$4 billion annually. This is more than the value of gas and oil, mining, and the wood and paper products industries, combined.
- Montana ranchers provide 39 million acres of open space and wildlife habitat. This is an area larger than 18 Yellowstone National Parks
- Approximately half of all threatened or endangered species have at least 80 percent of their habitat on private agricultural land. This makes private landowners critical to successful species recovery.

On average, USDA's [Natural Resources Conservation Service](#) invests upwards of \$8 million every day of the year into conservation systems that help producers stay productive and profitable.

The facts were incorporated into posters and displayed at the exchange points between legs, each of which also featured "agriculturally-inspired" treats. In fact, somewhere between the first and second exchange points, I had a hard time concentrating on running as I was vividly daydreaming about the homemade beef jerky that was waiting at exchange three. It was also nice to have so many of the local ranch families on hand, from helping at the exchange points to running the course themselves. Incredible people to say the least.

At the Montana Ranch Run, participants received a cattle ear tag as the finisher medal.



Runners also got to hear from Dusty Hahn, a rancher from a neighboring county who shared his compelling [personal story](#) of working lands and conservation and talked about the many ways that agriculture, fish, and wildlife are all thriving together in his community. His insights to success was clear as he eloquently stated, "We've accomplished all of our great deeds only through collaboration and cooperation."

USDA, following those same principles, helped landowners in Meagher County apply conservation on 106,000 acres to improve water, forage and wildlife habitat in the last year and a half alone.

As I neared the end of the journey, I could see three little girls in summer dresses all lined up at the finish. They were local rancher kids, probably fifth or sixth generation, just doing their part to chip in to help mom, dad and the grandparents complete another day in the office. They were all smiles awarding the runners with their medals, or cattle ear tags in this case.

To be honest, it made my whole day. I also felt extremely proud to work for the Natural Resources Conservation Service, which prides itself on "Helping People Help the Land."



On August 9th, Trudy from the Manhattan Community Library visited the EOC to talk about the Manhattan Community Library. With many selections and genres of books, the Library encourages kids to stop by and check out some books that gets them outside and be more active.

There were many books about nature, especially rocks and minerals, on display for the kids to look through. They also wrote down the titles of their favorite books on canvas. During the Library Summer Reading Program "Our Library Rocks" they had kids make pet rocks. If you look around closely, you may spot some "pet rocks" around the EOC, too.





All About Fish

On the 17th, Nathanael presented on area native fish. He discussed the difference between native and non-native species and provided some information about each species. He emphasized the importance of protecting native species.

Miles Miller brought in crayfish, aquatic insects and fish that he had collected from the creek for the kids to observe.

Kids painted canvases for the 2018 Manhattan Potato Fest silent art auction. Proceeds benefit the Zach Babat Memorial Art Scholarship Fund. It was fun seeing the ideas that the kids came up with.





2018 Manhattan Potato Fest



The theme for the artwork was Wildlife, Fish or Artist Choice. Kids chose acrylic paint colors and used stencils or stamps made from zucchini and allium blossoms or just free painted.



We then asked them to name their work (top left to right): "Two Trout at Rainbow Lake", "Swan Lake", "Rainbow Hand", "Mountain Sunset", "Beta Fish A



-Swimmin", "Grand Teton NP", "Mind", "Fish Jaws", "Fishing Boat", "Splatter", "Sunset Glean", "Midnight Moose", Western Cutthroat Trout", "Wheel of



Color", "The Loon", "Happy", "Sunny Crab", "Blue Flower", "Color in Sky",



"Under the Artic Sky", "The Wavy World", "Green, Blue, Red Fish",



"Worst Birthday Ever", "The Night Sky", "Rainbow Fish", "Wylder", "Sunset Fish",



"River of the Cutthroat Trout", "Swirl", "Splash", "The Bird House", "A Wolves Winter", "Rainbow Hill", "Sunny Sunset", "A Tribe of Birds", and "Farmers



We displayed thirty-six canvases at the EOC on Saturday, August 19th during the 2018 Manhattan Potato Fest.



Many parents stopped by and purchased their child's artwork—the silent auction has brought in \$378.00. All proceeds will benefit the Zach Babat Memorial Art Scholarship Fund.



Thank you to everyone for their support for this worthy endeavor!



Pollinators



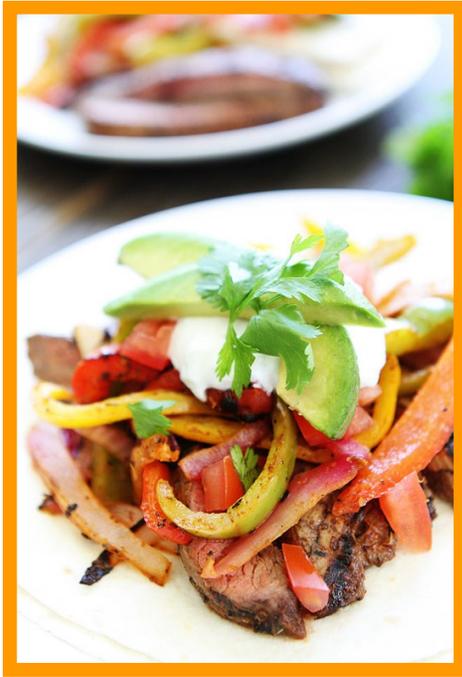
Bee Free Fiesta

A wonderful meal is planned: The menu includes Chips and Salsa, Tortillas, Fajitas made of Beef, Red and Green Bell Peppers, Onions, Refried Beans, Guacamole, Rice, and Lemonade.

But if all animal pollinators were to become extinct, which of the foods on our menu would be eliminated?

HINT: Some of the more common foods that we enjoy from animal-pollinated plants include tomatoes, onions, avocados, beans, green peppers, chili peppers, lemons, limes, oranges, berries, vanilla, sugar, almonds, watermelon, and apples.

Article source: Nature's Partners: Pollinators, Plans, and You
www.nappc.org



Left photos: Josh from MSU Extension came by to talk to us about our native pollinators. He started the program with a walk around the garden and the kids were asked what kind of bugs did they see ... they answered bee, wasp, ladybug, ant, moth, etc. He asked them what they were doing ... they answered flying from flower to flower. They were pollinating!  (except ant, of course).



He demonstrated the process of pollination with a white lily. He showed how the pollen made its way into the reproductive parts of the flower to become a seed, fruit or nut.

So, if we didn't have any pollinators, could we still have a fiesta? Of course, but it would be just cheese, meat and tortillas with none of the fixings that make them yummy.



Right photos: Adam, our Farmers Market booth neighbor, was invited to come talk about honey bees. He showed the kids a beekeepers outfit, a portable bee box and its' many parts, and a smoker used to calm the bees when working with them. He talked about how honey was collected and brought sweet treats—honey sticks and an edible honey comb. He also brought bee pollen that people tried.

Interestingly, people tasted different things with the pollen, some thought it tasted like raisins and some said it had a citrus flavor.



Gallatin County Water Supply Outlook—September

You are receiving the next installment of the Gallatin County Water Supply Outlook. Please refer to this report to learn about current drought/flood conditions and drought/flood outlook for the Gallatin Valley. This report serves as a resource to aid in our resilience to changing weather and climate conditions. Happy September!

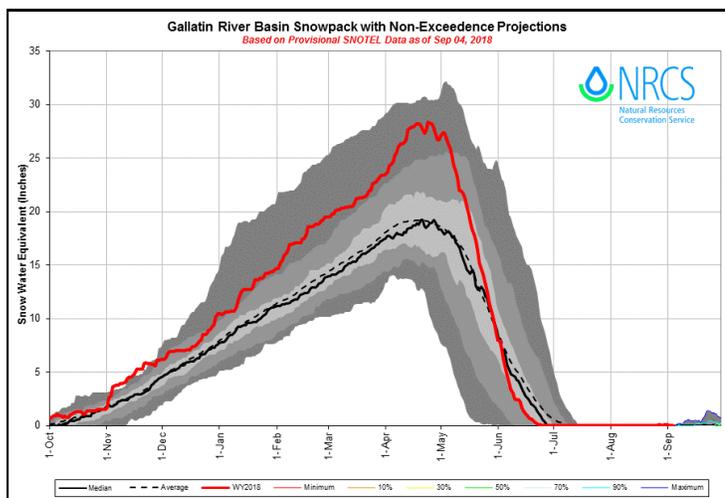
- Mitch Lassa

Big Sky Watershed Corps Member

MSU Extension - Gallatin County, One Montana

Snowpack

Gallatin River Basin



Snowpack Summary: As summer comes to an end, we can hopefully reflect on a summer well spent and look forward to a pleasant fall.

Due to lack of snowpack during the summer, this segment of the report has been abbreviated. Data is gathered from seven SNOTEL sites in Gallatin County.

After September 4, data becomes projections of potential snowpack levels.

Click [here](#) to access the 2017 Water Year NEP graph to compare current and previous snowpack conditions.

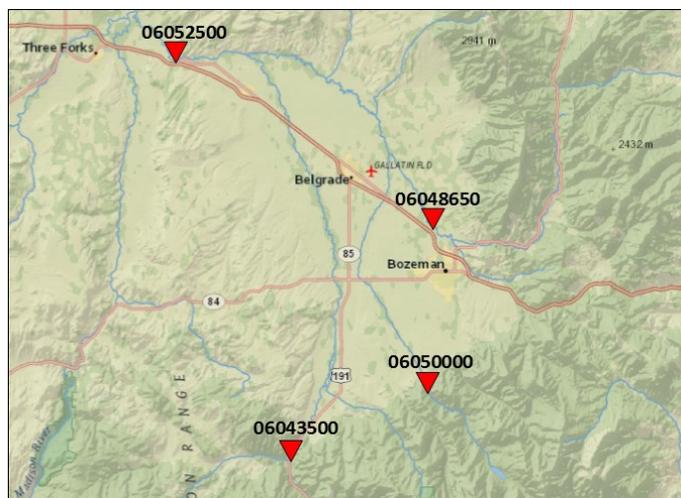
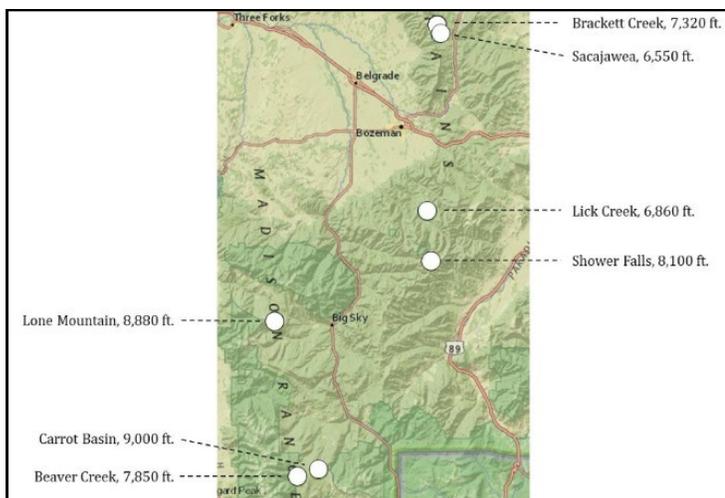
For current NEP graphs of other Montana river basins, click [here](#).

For more information on how to read NEP graphs, click [here](#). (Source: [NRCS](#))

To access [blue hyperlinks](#): Control + click mouse/keyboard

Streamflow

Gallatin River Watershed

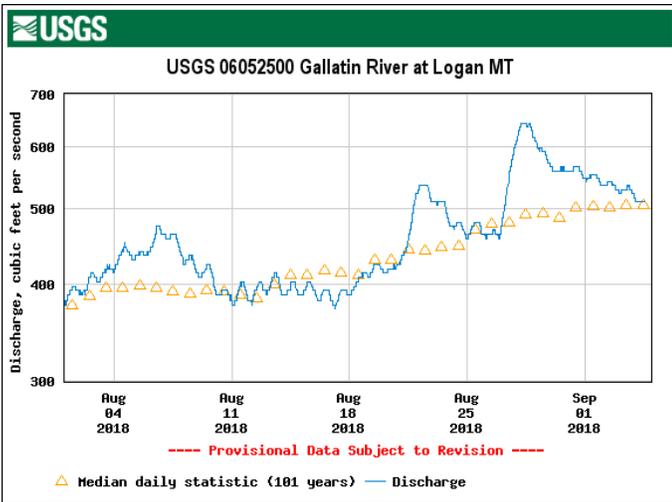


Streamflow Summary: As of September 4, 2018, stream discharge in the Gallatin River is above normal. August saw a few significant rain events that helped keep discharge above normal. Current discharge at station 06052500 is 510 cfs - 101% of daily median discharge (504 cfs). At station 06048650, discharge is 59.8 cfs - 193% of daily median discharge (31 cfs). At station 06043500, discharge is 511 cfs - 106% of daily median discharge (483 cfs). The median is calculated from a data collection period of 101, 3, and 88 years, respectively.

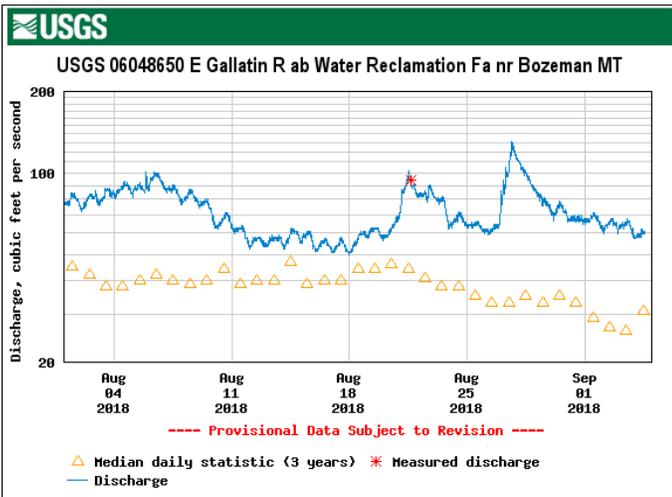
For current flood conditions, refer to the [USGS WaterWatch Map of Flood and High Flow Conditions](#).

Streamflow

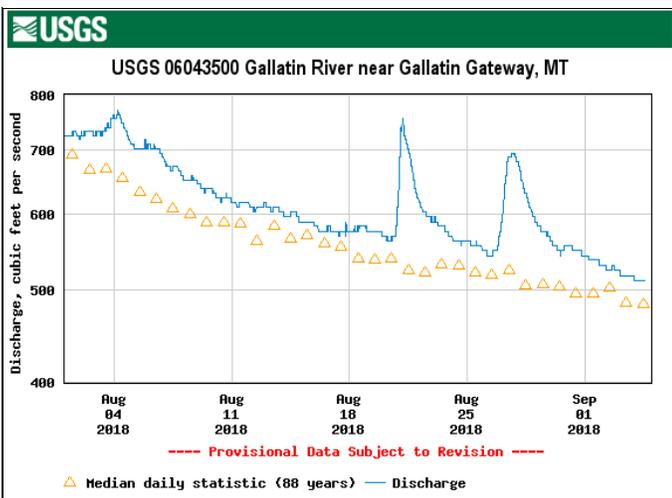
Gallatin River Watershed



Graph of discharge (cfs) at Gallatin River at Logan MT from August 1, 2018 to September 4, 2018.



Graph of discharge (cfs) at E Gallatin R ab Water Reclamation Fa nr Bozeman MT from August 1, 2018 to September 4, 2018.



Graph of discharge (cfs) at Gallatin River near Gallatin Gateway, MT from August 1, 2018 to September 4, 2018.

Understanding Streamgage Data

Discharge — the volume of water flowing past a given point in a stream in a given period of time measured in cubic feet per second (cfs) ([USGS](#))

Gage Height — the height of the water in the stream above a reference point ([USGS](#))

Temperature — the temperature of a stream, in degrees Fahrenheit, recorded at a reference point

What is a streamgage?

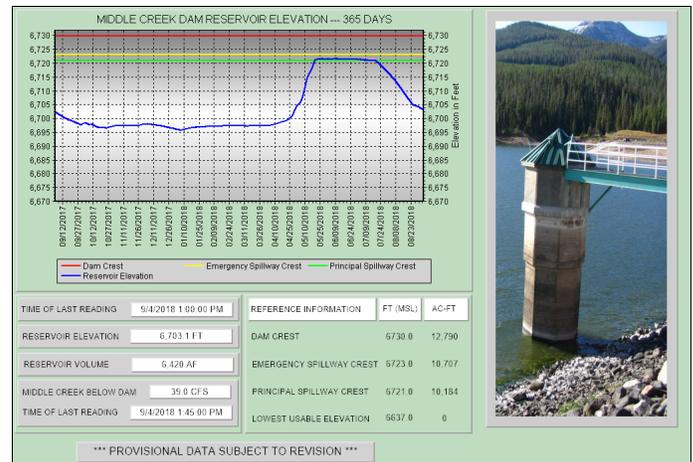
A USGS streamgage is an active, continuously functioning measuring device located in the field that computes or estimates a mean daily streamflow or other set of unit values. USGS streamgages measure the elevation of water in a river or stream (the stage) which is then converted to a streamflow (discharge) using a curve that relates the elevation to a set of actual discharge measurements. The stage is typically measured every 15 minutes and data is transmitted to the USGS every 1 to 4 hours, after which stage and streamflow data is calculated and put on to the USGS website.

For more information, [visit the USGS webpage on streamgages](#).

Reservoir

06050000-Middle Creek Dam (Hyalite)

Reservoir Elevation Graph



Reservoir Elevation Graph and supporting data for Middle Creek Dam (Hyalite) Reservoir. (Source: [DNRC](#))

Reservoir Summary: As of September 4th, 2018, Middle Creek Dam (Hyalite) Reservoir elevation is 6,703.1 ft, which is below principal spillway crest elevation (6,721.0 ft). Reservoir volume is 6,420 acre-ft. Reservoir percent capacity is 50%.

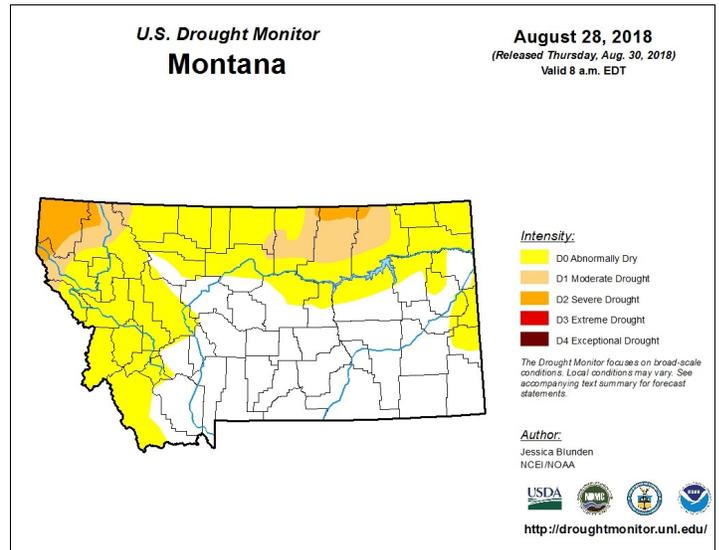
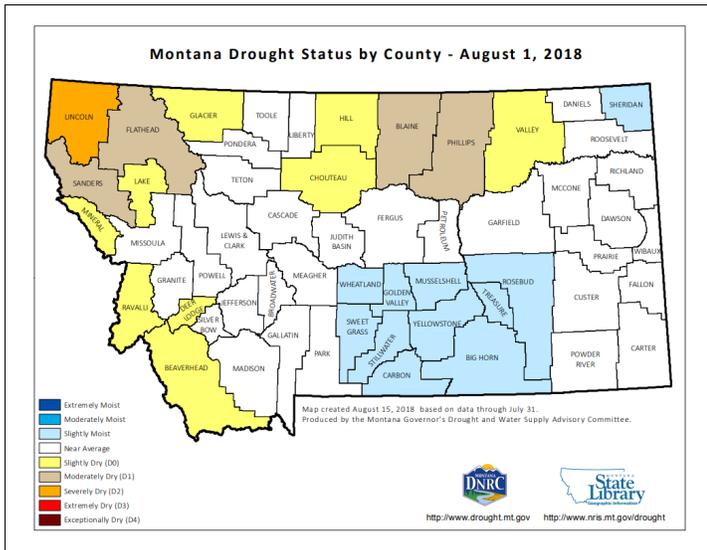
Understanding Reservoir Data—Middle Creek Dam (Hyalite)

Middle Creek Dam (Hyalite), completed in 1951, is owned by the Montana DNRC and managed by the State Water Projects Bureau through a U.S. Forest Service Special Use Permit. The reservoir stores 10,184 acre-feet of water and provides irrigation water for 73 farms and ranches and drinking water for 2,000 households. The reservoir is also used for recreational purposes.

For more information, [visit the Montana DNRC State Water Projects Bureau webpage.](#)

US Drought Monitor

Montana Counties Drought Map



Drought Monitor Summary: As of August 1st, 2018, the Montana Counties map indicates that Lincoln County is experiencing severely dry conditions (D2), with surrounding northwestern and northern counties experiencing moderately dry (D1) and slightly dry conditions (D0).

Ten southcentral Montana counties are experiencing slightly moist conditions. The U.S. Drought Monitor map - released more recently on August 28th, 2018 - indicates similar severe (D2) and moderate (D1) drought conditions, with a good portion of the state experiencing abnormally dry (D0) conditions.

Understanding Drought Data—How is drought measured?

Drought is quantified through a number of factors including precipitation, wind, streamflow, and soil moisture measurements. Drought is categorized into drought intensity designations based on percentiles, e.g. D2, D3, D4.

For example, D4 drought occurs when precipitation, streamflow, and soil moisture measurements are at percentiles of 0-2, meaning that these are extremely low measurements and should only occur 0-2 times in 100 years. Please visit the [US Drought Monitor website](#) for more information on drought classification.

What is the Montana Drought Impact Reporter?

The Montana Drought Impact Reporter (MDIR) is an interactive web-based mapping tool designed to compile and display impact information in near real-time from a variety of sources such as media, government agencies, and the public. The MDIR is vital in order to ground-truth national trends at a local level.

Please visit the [Montana DNRC webpage](#) on Drought Management to access the MDIR and report current conditions in your area.



Natural Resources Conservation Service
United States Department of Agriculture

UPCOMING EVENTS, DEADLINES AND WEBINARS

To promote and guide the conservation and management of natural resources in Gallatin County.

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Loren Blanksma

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Leia Miller, Youth Education Coordinator
& Newsletter Contributor
Nathanael Johns, Summer Intern
& Newsletter Contributor

310 CONSULTANTS

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Matt Johnson, RESPEC
Dave Moser, MT FWP

NRCS FIELD OFFICE

Justin Meissner, District Conservationist, Townsend
Bozeman/Townsend Shared Management Team
Christopher Mahony, District Conservationist, Bozeman
Shawna Taylor, Soil Conservationist
Marvin Hansen, Soil Conservation Technician

September 2018

September 5, 2018 - September 6, 2018 [Montana Range Tour](#)
September 5, 2018 - September 5, 2018 [Lavina Field Day](#)
September 11, 2018 - September 13, 2018 [Noxious Weed Management Certification Workshop Level I](#)
September 13, 2018 - September 14, 2018 [Farm to School Summit](#)
September 24, 2018 - September 27, 2018 [National Association of State Foresters Annual Meeting](#)
September 25, 2018 - September 25, 2018 [Rangeland Analysis Platform: Introducing a free, online tool to help manage and monitor western rangelands](#)

October 2018

October 2, 2018 - October 4, 2018 [Women Stepping Forward for Agriculture Conference](#)
October 5, 2018 - October 7, 2018 [Young Ag Leadership Conference](#)
October 10, 2018 - October 12, 2018 [2018 Watershed Symposium](#)
October 15, 2018 - October 18, 2018 [Restoring Resilient Communities in Changing Landscapes](#)
October 15, 2018 - October 19, 2018 [Armed to Farm Veteran Training](#)
October 17, 2018 - October 20, 2018 [35th Annual Montana AWRA Conference](#)
October 26, 2018 - October 28, 2018 [AERO 2018 Expo and Annual Meeting](#)
October 26, 2018 - October 27, 2018 [2018 Montana Farmers Union Annual Convention](#)

To access [blue hyperlinks](#): Control + click mouse/keyboard

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