

# THE MONTANA CONSERVATIONIST

News from Montana's Conservation Districts

## In This Issue

- 2 Managing Water: Farmers, scientists work together to learn more about Bozeman area canal

After 13-hour airborne search, officials relieved they didn't find a feral hog in northeast Montana

- 3 New NOAA research holds promise of predicting snowpack before it falls

- 4 Mindy Ferrell honored for work promoting outdoors, education

Swan Forest Initiative proposes local management of National Forest Land

CU Boulder compiles global atlas of soil bacteria

- 5 OPPORTUNITIES

- 6 Does cloud seeding really work? Experiment above Idaho suggests humans could supercharge precipitation

## February 06, 2018

Volume 12 Issue 3

## Water Quality Mini Grants now open

SWCDM is seeking applications for mini-grants of up to \$3,000 to fund local education and outreach efforts addressing nonpoint source pollution and water quality issues. A total amount of approximately \$10,250 is available for grant funding this cycle.

SWCDM has obtained a grant through the Montana Department of Environmental Quality's (DEQ) federal Clean Water Act Section 319 program to provide grants to local groups working on an education and outreach project aiming to increase awareness of local water quality/nonpoint source pollution issues. Examples of previously funded projects include workshops, conferences, trainings, tours, student field studies, stream monitoring groups, and newsletters.

Eligible applicants may be conservation districts, local watershed groups, county extension services, counties, schools, etc. The applicant must have the ability to manage federal funding. Applicants must provide a minimum of 40% in non-federal, local in-kind, or cash match. Projects do not have to be in areas with a DEQ-accepted Watershed Restoration Plan (WRP), but priority may be given to projects supporting WRP implementation. DEQ-accepted WRPs can be found on the DEQ website at: <http://deq.mt.gov/Water/WPB/Nonpoint-Source-Program/Watershed-Restoration-Planning>.

These grants are funded on a reimbursement basis only. Applications will be reviewed by a funding recommendation panel that includes individuals from a range of organizations.

The Call for Applications began on February 2, 2018 with an application deadline of March 16, 2018 by 5 p.m. For more information on the mini-grants and to download an application form, please visit [SWCDM's website](#) or contact: Jessica Makus, SWCDM Programs Manager, at [jessica@macdnet.org](mailto:jessica@macdnet.org) or 406-443-5711.



1101 11th Ave • Helena, MT 59601  
(406) 443-5711 • [www.swcdm.org](http://www.swcdm.org)

This newsletter is made possible  
by a grant from DNRC.



## Managing Water: Farmers, scientists work together to learn more about Bozeman area canal

*Bozeman Daily Chronicle:* A group of irrigators will work with water scientists to learn more about how water moves through a canal that cuts through Bozeman and delivers their water.

The Farmers Canal Company is working with the Montana Bureau of Mines and Geology on a monitoring project along Farmers Canal, which begins near Gallatin Gateway and flows northeast through farmland before being piped north through Bozeman.

The study will look at streamflow and groundwater data to quantify the amount of canal water that leaks into the ground, which reduces streamflows and creates some challenges for water managers. Studying those data will also help identify where and when that seepage happens, which could help water managers make decisions about potential water conservation efforts.

John Metesh, of the Bureau of

Mines and Geology, said the study will be unique in that it will provide irrigators with hard data about how much canal water is soaking into the aquifer.

"They know their canal, they know their system well," he said. "They can't put numbers to it."

Canals deliver water to irrigators all over Montana. Many are managed by the irrigators themselves and many lack instruments to track flows, meaning decisions about water use often rely on a water manager's expertise rather than hard data. The study is meant to provide some of that data for Farmers Canal.

That canal has been delivering water to irrigators for more than a century. After meandering through farmland south of Bozeman, it flows through a pipe along College Street and then north along 19th Avenue. It ends north of town.

[READ MORE](#)

## After 13-hour airborne search, officials relieved they didn't find a feral hog in northeast Montana

*Missoulian:* A landowner's report of seeing a feral hog in northern Phillips County this winter could not be verified by airborne Wildlife Services officials.

"We didn't find any pigs," said John Steuber, state director of the agency. "And we flew 13 ½ hours in good flying conditions. We really scoured it and didn't see any sign or any tracks."

The flights were made over the course of several days.

The area where the wild pigs were reportedly seen was the Frenchman Creek area, a tributary to the Milk River north of Saco that flows south out of Canada creating a deep coulee surrounded by rugged hills.

The non-sighting is a sigh of relief for Montana wildlife and officials who have been bombarded by invasive species and disease outbreaks over the past few years — from detection of invasive aquatic mussels to confirmed cases of chronic wasting disease. Montana is under assault.

The sad part is that sooner or later Montana likely will see feral hogs move in, said Mark Sullivan, Fish, Wildlife and Parks' regional supervisor in Glasgow.

[READ MORE](#)

## EPA delays WOTUS after Supreme Court decision

*The Hill:* The Environmental Protection Agency (EPA) is pushing back by two years an Obama administration rule redefining the federal government's power over small waterways.

The Trump administration is working to repeal the rule, dubbed the Clean Water Rule or Waters of the United States (WOTUS), and formally proposed to do so last year.

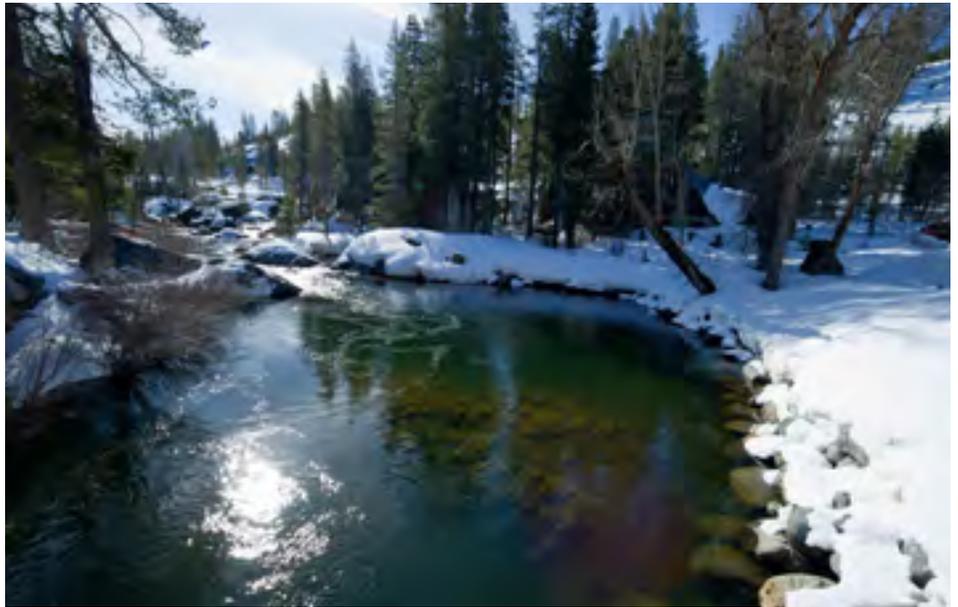
But earlier this month, the Supreme Court overturned a federal appeals court's action halting the rule, so it could take effect soon.

EPA head Scott Pruitt said the Wednesday action is meant to stop the Clean Water Rule from taking effect due to the Supreme Court's action.

"Today, EPA is taking action to reduce confusion and provide certainty to America's farmers and ranchers," Pruitt said in a statement.

"The 2015 WOTUS rule developed by the Obama administration will not be applicable for the next two years, while we work through the process of providing long-term regulatory certainty across all 50 states about what waters are subject to federal regulation."

[READ MORE](#)



## New NOAA research holds promise of predicting snowpack before it falls

*EurekaAlert:* As farmers in the American West decide what, when and where to plant, and urban water managers plan for water needs in the next year, they want to know how much water their community will get from melting snow in the mountains.

This melting snow comes from snowpack, the high elevation reservoir of snow which melts in the spring and summer. Agriculture depends on snowpack for a majority of its water. Meltwater also contributes to municipal water supply; feeds rivers and streams, boosting fisheries and tourism; and conditions the landscape, helping lessen the effects of drought and wildfires.

Now, new NOAA research is showing we can predict snow levels in the mountains of the West in March some eight months in advance. This prediction can be down to the scale of a mountain range, which will improve regional water forecasts.

"In summer when people are thinking about 4th of July fireworks and barbeques, long before the first snow has fallen, our experimental prediction system tells us what the following March will be like," said Sarah Kapnick, a physical scientist at NOAA's Geophysical Fluid Dynamics Laboratory who led the research that appears online today in Proceedings of the National Academy of Sciences. "Advances in global climate models and high quality ocean, atmospheric and land observations are helping us push the frontiers of snowpack prediction."

While we have long range climate predictions that show a decline of snowpack by the end of the century and short-range rain and snow forecasts, until now there has been little information on what to expect in the next two months to two years.

[READ MORE](#)

## Districts in the News

If your district is in the news, please send it to us so we can share it here.

### Mindy Ferrell honored for work promoting outdoors, education

Trout Creek resident Mindy Ferrell has been recognized for her big impacts in the community.

Ferrell was recently given the Montana Wilderness Association's Brass Lantern Award for continued volunteer service promoting public lands, wild spaces and outdoor education.

Ferrell combined her love for education and the outdoors by taking kids to the outdoors for more than just a standard education.

The former Noxon Schools teacher of 23 years focused her instruction in the elementary school and retired in 2012.

When funding was available, the school coordinated three-day outdoor education programs based at the Clark Fork Field Campus. She also taught adult education for five years and ran summer programs for adults and kids in the Bull River Valley at the East Fork Historic Ranger Station.

"For years there was summer Saturday programming sponsored by Cabinet Resource Group which covered many, many aspects of the natural world. A week-long Bull River Nature Center Day Camp ran for four summers for kids between fourth – eighth grade, funded by the Liz Claiborne and Art Ortenburg Foundation," said Ferrell. [READ MORE](#)

### Swan Forest Initiative proposes local management of National Forest Land

*Montana Public Radio:* For more than half a decade, the Lake County Conservation District has been working on a proposal to transfer management of 60,000 acres from the Flathead National Forest to the state for the next 100 years.

Despite opposition, the board voted to move forward last September with the so-called Swan Forest Initiative. That means the next step is shopping the idea to Montana's delegates in Congress. But two-thirds of Montana's D.C. delegation say they haven't heard of the Swan Forest Initiative.

"This is an opportunity to take a

natural resource, a renewable natural resource that's grown right here in Lake County, proactively manage that resource, and then turn the profits from that management right back into conservation work here," says Jim Simpson, the board chair of the Lake County Conservation District.

The conservation district's mandate is to manage soil and water quality projects in the county. Simpson says Montana's 58 conservation districts are chronically underfunded. More than half run on less than \$30,000 annually. So he is proposing a so-called conservation forest. [READ MORE](#)

### CU Boulder compiles global atlas of soil bacteria

What lives in your dirt? CU Boulder researchers are one step closer to finding out after compiling the first global atlas of soil bacterial communities and identifying a group of around 500 key species that are both common and abundant worldwide.

The new study, which appears today in the journal *Science*, narrows down the immense diversity of soil-dwelling bacteria to a "most wanted" list that will guide future research into the study and manipulation of microorganisms that affect nutrient cycling, soil fertility and other important ecological functions.

"With this research, we have started to open the black box and are gaining a better understanding of what microbes are living in our soils," said Manuel Delgado-Baquerizo, lead author of the study and a postdoctoral researcher at the Cooperative Institute for Research in Environmental Sciences (CIRES) at CU Boulder.

Soil bacteria account for a large percentage of the planet's living biomass and facilitate key soil processes such as carbon cycling and nutrient availability. But despite being studied for decades, the microorganisms living in soil—even in the soil from an average North American backyard—are still poorly understood due to a species count numbering in the tens of thousands. Most species remain undescribed—they do not match existing genomic records and have not been successfully cultured in a lab. [READ MORE](#)

## Notes from Nashville 2018 NACD Convention

As the Montana delegate on the NACD Board of Directors I would like to pass on some of the highlights of the 2018 Convention. There were around 80 meetings, breakout sessions, events and tours during the 6-day convention. The Gaylord Resort and Convention Center is the largest non-casino hotel in the U.S. making it an adventure in itself.

Acting NRCS Chief Leonard Jordan reported on the current budget situation which hasn't improved as well as an update on progress on the Farm Bill, similar to what we heard in Bozeman last November. Filling high level positions down to the local DC positions is taking longer than expected due to changes in the structure itself. Senior White House Advisor Dr. Sam Clovis gave a similar report. It sounds as if NRCS, FSA and FHA may become more integrated in the hope of streamlining processes and data sharing.

At the Natural Resource Committee hearing, Mr. Tim Williams, Deputy Director of External Affairs for the Dept. of Interior gave high praise for Secretary Zinke. His message was the "the Federal land footprint should get no larger". Sec. Zinke believes we must utilize our natural resources (mining, timber and grazing) and also to utilize more local expertise in policy making and build better relationships. Major concerns included wild horses, fire and forest management, and the need to fix NEPA within the next year.

I met with the forestry group, which includes Forest Service, State Foresters, NRCS and NACD. The discussion included working forest, Good Neighbor Authority and rural/community/urban forestry.

Other committees discussed crop insurance problems, Sam and Dunn's# repeal, ESA, soil health, tribal issues, etc.

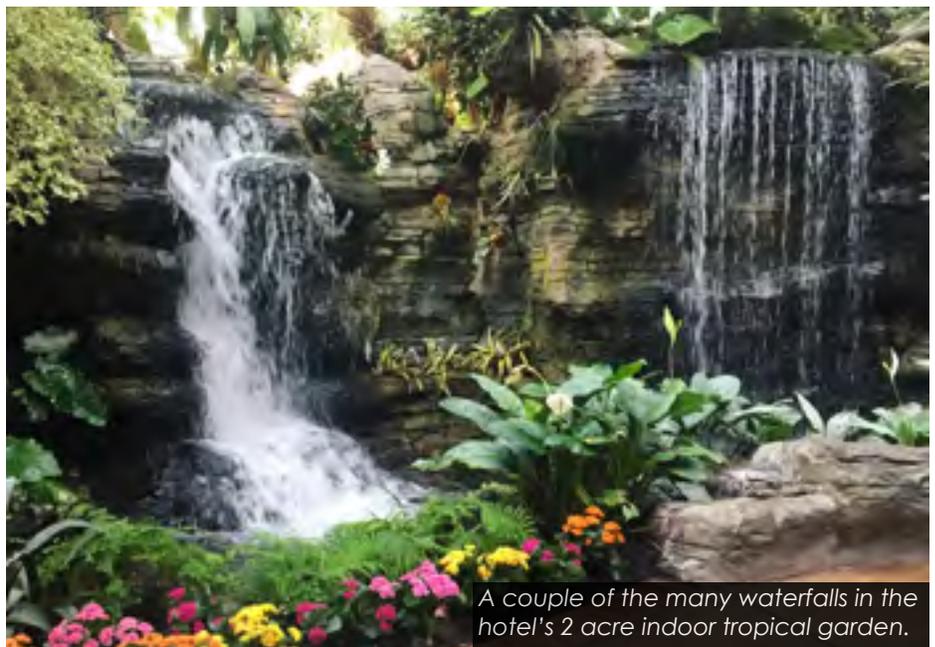
Informative breakout sessions included our own Ann McCauley and Kate Arpin discussing the Conservation Menu. 16 breakout sessions cover a multitude of issues concerning conservation districts.

31 resolutions were brought forth to the 3 standing committees. Montana's lone resolution concerning "agency policies to limit the spread of invasive species" was passed and will become part of NACD's policy book. This book contains over 300 policy statements that are derived from resolutions brought up by states and the committees that form NACD. They cover many situations and issues, but are added to each convention and reviewed every 5 years. This year's resolutions dealt with tax laws, BMPs, CRP, CSP, soil health, wildlife, etc. Montana needs a process to review these resolutions prior and then have representation at the committee meetings. There is a process and formality to follow, but it can be done.

The convention is a very high energy event. It is extremely educational and informative with opportunities to meet with the agency leaders (our partners) and a lot of great people from around the country engaged in conservation agriculture. It is also a lot of work, tiring, and very expensive, some of which I contribute personally. I try to serve the interest of Montana to the best of my ability and appreciate your support. Feel free to contact me any time with any questions you may have.

Sincerely,

*Steve Hedstrom*



*A couple of the many waterfalls in the hotel's 2 acre indoor tropical garden.*

### Grants

#### 223, etc. Grant Deadlines

Deadlines for 223, mini-education, and district development grants from DNRC for FY 2018 are as follows: **April 25, 2018**. [Grant Info](#)

#### Montana Library Land Information Grants

These grants are available to local government and can fund projects such as updating 911 data, infrastructure (storm water, water mains, streets, etc.) mapping, public land surveys, and more. Turnaround is short; SWCDM can provide application review assistance if needed. Due February 15, 2018. [More Info](#)

#### Grazing Lands Education & Demonstration Project Funds

GLCI is accepting applications for mini-grants and demonstration projects. Mini grant funds are for education projects to support awareness of grazing lands and natural resources; up to \$1000 per award. The current focus for demonstration projects is on projects addressing grazing management, soil and rangeland health, and concentrated animal feeding operations. Due February 16. [More Info](#)

#### Aquatic Invasive Species Grants

The Montana Department of Natural Resources and Conservation (DNRC) Reclamation and Development Grants (RDG) Program offers state-funded grants for the prevention and control of aquatic invasive species (AIS). The

goal of the grants is to protect the natural resources of Montana from severe and unacceptable damage from aquatic invasive species. [More Info](#)

#### Partners in Flight Implementation Grants

The intent of the NGPJV PIF Implementation Grants program is to accelerate delivery or improve the effectiveness of conservation program and practices, to support sustainable habitats and declining grassland bird populations within the boundaries of the Northern Great Plains Joint Venture. Successful grants are meant to deliver projects contributing measurably to the protection, restoration or enhancement of prairie grassland and/or shrub-steppe habitats used by one or more of the following five species: Baird's Sparrow, Chestnut-collared Longspur, Lark Bunting, McCown's Longspur, and Sprague's Pipit. [More Info](#)

#### DNRC Landscape Scale Restoration Grants

The Landscape Scale Restoration Grant Program is delivered by a partnership between the USDA Forest Service State and Private Forestry and the Montana DNRC. The program is intended for implementation of watershed level, forest-based projects and activities which address the three State and Private Forestry national themes: 1) conserve and manage working forests, 2) protect forests from threats, 3) enhance public benefits from private forests. DNRC is calling for submissions of short abstracts, which will be followed by a meeting between project leads and grant managers to develop ideas. Due April 2. [More Info](#)

### Events, etc

#### Sustainable Farm Law Workshops, Missoula

CFAC is hosting Sustainable Farm Law 101 on February 24th, covering legal aspects of land lease and purchase, sales contracts, insurance, employment law, food safety, farm events, & value added production. Advanced Farm Law on February 25th will take an in-depth look at managing farm risks with insurance and employment law issues. [More Info](#)

#### Save the Date: Montana Water Summit

Join a diverse group of water users, community members, policy-makers, scientists, and natural resource managers for thought provoking sessions on managing and adapting to changing pressure's on Montana's water supply. March 6-7, 2018. [More Info](#)

#### Montana Storm Water Conference

Join us, May 1-3, 2018, in Bozeman, MT, for the 2018 Montana Storm Water Conference. This is a time to gather, share, learn and collaborate on storm water and water quality issues with your local, regional and national colleagues [More Info](#)

#### Opportunities continued on next page...

## Coming Up

### February

- 12 MACD Board Committee Call
- 13-15 Transboundary Grasslands Workshop, Glasgow
- 15 LIAC Grants Due
- 16 Grazing Lands Demonstration Project Grants Due
- 24 Sustainable Farm Law 101, Missoula
- 25 Advanced Farm Law Workshop, Missoula
- 26 Attaining & Maintaining Soil Health Workshop, Wibaux
- 26 MACD Exec. Committee Conference Call
- 27 CMR Community Working Group Mtg

### March

- 27 Soil Acidity Workshop, Fort Benton
- 6-7 Montana Water Summit
- 12 MACD Board Conference Call

**Have an event to share?**  
Visit [macdnet.org/calendar](http://macdnet.org/calendar) to add your event to our list!

## OPPORTUNITIES, continued...

### Montana Natural Resources Youth Camp

The 32nd annual Montana Natural Resources Youth Camp will be held July 15-20. Students aged 14-18 will spend a week in rustic cabins at Lubrecht Experimental Forest east of Missoula, learning about our natural resources & their management, and make lasting friendships. Camp cost is \$300. Application & deposit of \$150 due June 15. [www.mnryc.com](http://www.mnryc.com) for more info.

## Jobs

### Coordinator: Sun River Watershed Group

This position is a part time or full time position, responsible for the daily management of the organization, including fundraising, budgeting, program planning and implementation, staff and independent contractor supervision, program oversight, office management, and complying with the legal responsibilities of non-profits. The Coordinator works in close partnership with the Sun River Watershed Group Executive Committee. [More Info](#)

---

## Does cloud seeding really work? Experiment above Idaho suggests humans could supercharge precipitation

*ScienceMag.org*: Cloud seeding—sowing clouds with small particles to make them rain or snow—has a reputation as dodgy as the weather. That's because even though scientists have been seeding clouds since the 1940s, there was precious little proof the technique worked. Now, researchers flying two small planes through a bank of clouds in Idaho have shown, for the first time outside the lab, that humans can artificially turbocharge snowfall.

“What they've done is identify the chain of events from seeding to precipitation on the ground, which has been sorely needed for the last 80 years,” says William Cotton, a former professor of atmospheric science at Colorado State University in Fort Collins who was not involved with the research.

In the 1940s, atmospheric scientist Bernard Vonnegut found that particles of silver iodide can cause supercool clouds of water vapor to freeze into snow in the lab. (He is the brother of writer Kurt Vonnegut, whose fictional ice-nine was partially inspired by the discovery.) Particles like silver iodide can provide a scaffold on which water molecules can align themselves into a crystalline structure or, in other words, freeze. [READ MORE](#)