

THE MONTANA CONSERVATIONIST

News from Montana's Conservation Districts

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NRCS: Snowpack looking good entering runoff season

BOZEMAN, Mont., May 4, 2017 - After low flows in some of Montana's rivers last summer caused issues for irrigators, anglers and recreationists, the spring and summer runoff this year looks to yield above average streamflows, according to snowpack data released by the USDA Natural Resources Conservation Service (NRCS).

Snowpack across the state is above normal for May 1 in all but a few sub-basins. Basins west of the Divide, which typically peak during the month of April, are all above normal with high elevations still gaining as of the end of the month. East of the Divide, where snowpack at higher elevations typically peaks a bit later towards the end of April to mid-May, also saw excellent gains during the month.

"Last month there was some concern over the lack of snowpack in some basins east of the Divide that provide irrigation and municipal drinking water, but April provided relief via abundant mountain snowfall and valley precipitation," said Lucas Zukiewicz, NRCS water supply specialist for NRCS in Montana. "Two of these basins in southwest Montana, the Ruby River Basin and Hyalite drainages, have snowpack that is now normal for April 1."

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Photo from a 319 mini-grant project by Musselshell Watershed

NACD: The Importance of Section 319

Conservation districts draw on a variety of funding sources to protect and conserve our nation's natural resources. Districts pull from farm bill conservation programs, state resource protection programs, and leverage private funds to achieve conservation objectives. They also can apply for funding through the Environmental Protection Agency's (EPA) Section 319 program.

Fast Facts on Section 319

The EPA's Section 319 program specifically focuses on nonpoint sources of water pollution, such as agricultural runoff, abandoned mine drainage, and soil erosion. Unlike point sources that originate from a fixed point – such as a pipe, water treatment facility, or industrial plant – nonpoint sources are much more diffuse, and as a result, more difficult to address.

The Clean Water Act (CWA) of 1972 gave the EPA authority to regulate point source pollution – but not nonpoint source pollution. It wasn't until 1987, when Congress amended CWA to include Section 319, that a grant program was established to help states, territories, and tribes curb nonpoint pollution through voluntary incentives.

Earlier this month, the Trump White House proposed eliminating this

highly effective, state-directed grant program. NACD knows how critically important Section 319 grants are to helping communities keep our nation's streams, rivers, and lakes healthy and productive – that's why we're speaking up.

Section 319 in Action: Iowa and Minnesota

With help from Section 319, the Madison County Soil and Water Conservation District (SWCD) in Iowa has been improving the water quality in the Badger Creek Lake Watershed. The district used a planning grant to conduct an assessment of the watershed and to create a watershed management plan complete with specific load reduction goals. Since 2013, the district has been working with landowners to install terraces, grassed waterways, and cover crops to meet the plan's objectives.

A unique feature of the Section 319 program is its leveraging requirement. Roughly \$420,000 in Section 319 funds for the Badger Creek Lake project were supplemented with more than \$200,000 in state funding and additional resources from the USDA National Water Quality Initiative and private landowners.

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CRP reaches enrollment cap; CREP to fill in gaps in some states

From NACD: Last week, USDA notified county offices that it will be suspending enrollment in the Conservation Reserve Program (CRP) for the rest of Fiscal Year 2017. CRP is currently capped at 24 million acres, and USDA has determined that current enrollment is too close to the cap to allow for additional contracts. Continuous CRP enrollment will begin again in October, once existing contracts expire and the total number of acres in the program falls.

While continuous CRP enrollment will be suspended, the Conservation Reserve Enhancement Program (CREP), which is administered in partnership with the states, will not. In Minnesota, CREP continuous sign-up starts May 15.

"Minnesota is at a crossroads in conservation," said John Jaschke, executive director of the Minnesota Board of Water and Soil Resources (BWSR), in a recent press release. "The state is facing serious water quality challenges, and we're losing hundreds of thousands of acres of grassland through expiring CRP. MN CREP isn't the whole answer, but it plays an important role in addressing both of these issues."

MN CREP is funded with approximately \$350 million from USDA and \$150 million from state sources. For more information, visit www.bwsr.state.mn.us/crep.



MSU Ag Alert: Cooler spring temperatures may mean nutrient deficiencies

May 3, 2017: The Schutter Diagnostic Lab is seeing a lot of nutrient deficiencies (nitrogen (N), phosphorus (P), iron (Fe)).

Most of Montana was cooler than normal in April, which slows release of nutrients from organic matter, reduces movement of immobile nutrients (like P and Fe), and can result in cold stress. In addition, parts of the Triangle and south central Montana received up to 3 fold normal precipitation amounts, whereas some other areas in the state had below average precipitation (<http://water.weather.gov/precip/>).

Both P deficiency and cold stress can cause purpling. Too much moisture can result in root rot, further decreasing nutrient uptake, and often resulting in deficiencies of nitrogen (yellowing from bottom) and iron ("interveinal chlorosis"; see

<http://landresources.montana.edu/soilfertility/pdeficiency.html>, Plant Nutrient Functions and Deficiency and Toxicity Symptoms (4449-9), or photos at end of this alert.

As temperatures warm, cold stress symptoms will likely disappear fairly quickly, but recovery from compromised root systems from root rot and excess moisture stress may continue to be a challenge.

With low commodity prices, it's hard to think about a fertilizer rescue treatment, but some of these crops may need just that to not greatly impact yield. Applying nutrients that may already be in the soil but aren't being taken up because of the cold, would be waste. If you've fertilized with adequate N this winter or spring, and applied both potassium (K) and sulfur (S) with your seed, that's likely the case.

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Lots more got deposited in oxbows all along the Deer Lodge Valley. Known as slickens, these poisoned riverbanks remained virtually sterile for a century. Mining cleanup efforts between Butte and Missoula formed the largest contiguous federal Superfund site in the nation.

A lot of the big-ticket work grew out of settlements between the legacy mining owners and the state and federal government. Those agreements provided millions of dollars for removal of Milltown Dam, reconstruction of Silver Bow Creek through Butte, and numerous other smaller projects throughout the drainage.

Today, most of the upper Clark Fork work depends on the Montana Department of Environmental Quality for removal of the remaining toxic metals, and the Department of Justice's Natural Resource Damage Program for restoration of the resulting ecosystem. They're working from a \$96 million trust fund paid by the mining companies to repair damage to the 47-mile upper reach of the Clark Fork.

To do that, we have to know how the upper Clark Fork should behave if it hadn't endured a century of abuse. That requires lots of scientific detective work.

"The upper Clark Fork is a sleeping giant of a fishery," said Will McDowell of the Clark Fork Coalition, a Missoula-based river conservation group. "It has natural productivity, probably tied to those natural nutrient sources.

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What's in the water? Restoring Clark Fork requires regular sampling

From the Missoulian: WARM SPRINGS – As water chemistry equipment goes, you can't beat a Coke bottle.

Mixed in with the microfilters, GPS units and conductivity monitors on last week's National Science Foundation river survey were eight red-capped plastic soda bottles. Project principal investigator Marc Peipoch of the University of Montana made sure they were in easy reach in his canoe.

"You can spend money on gear or you can buy Coke," Peipoch said. "This is the best gas-tight bottle you can find."

Replace the soda with river water, and a geoscientist can determine the age of radon gas isotopes dissolved within. Radon gas signifies underground water, and its isotopes slowly decay over about four days' exposure to sunlight. Knowing the gas

condition gives hints about the mix of ground water and surface water flowing in the Clark Fork River.

At its headwaters just east of Anaconda, the Clark Fork looks like any pastoral stream. Just a couple dozen feet wide and a few feet deep, it writes a cursive script through the Deer Lodge Valley next to Interstate 90. An attentive motorist might notice a lot of earth-moving going on in its floodplain.

That's because in 1908, a catastrophic flood tore through the mine tailings of Butte and Anaconda and deposited lethal amounts of arsenic, copper and other metals throughout the drainage. The surge nearly ripped out brand-new Milltown Dam just east of Missoula. The dam held, and that's where several million tons of heavy metal sludge came to rest in its reservoir.

Quinoa: an alternative crop for small grain producers?

From AgUpdate: Could quinoa be a new alternative crop to add to wheat rotations in Montana?

Often called the “mother grain,” quinoa has been used for food for at least 5,000 years.

In U.S. stores, quinoa is expensive compared to many other grains. Quinoa is also gluten-free, high in fiber and high-quality protein. In addition, the amino acid profile of quinoa is well-balanced for human and animal nutrition.

Dr. Gadi V. P. Reddy, entomologist/insect ecologist, and John Miller, research scientist, at Montana State University's

Western Triangle Ag Research Center (WTARC) in Conrad, Mont., think quinoa might be a good rotational crop for many cooler dryland regions.

“Quinoa would be a good rotational crop for wheat and barley growers,” Reddy said.

Quinoa's round seed is similar to millet and related to spinach, sugarbeets and Swiss chard.

Producers who grow malting barley and wheat are often frustrated with some of the insects they have, including wheat stem sawfly, wireworms and more, and growing quinoa might help.

[READ MORE](#)

As Missoula grows, nearby farmland is at risk

By Martin Kidston/Missoula Current

Nearly 20 percent of land suited for agriculture in Missoula County sits within two miles of the Missoula city limits, placing it at risk of development, according to a new study conducted by a University of Montana graduate student.

[The study](#), “Farmland Mapping Report: An Analysis of Missoula County Agriculture,” suggests that while the county's population grew 70 percent from 1970 to 2004, the amount of land developed has grown nearly 230 percent.

While some local policy makers look to apply the data from the new 54-page report to aid in

future decisions surrounding growth, the Montana Organization of Realtors suggests that doing so alone would be shortsighted, possibly driving the cost of housing higher than it already is.

Yet without a well-formulated plan backed by detailed statistics, some fear that nearby agricultural parcels could be lost as the city and county accommodate growth.

“This rapid growth has resulted in the loss of agricultural lands to development, and a reduction in the number of large operational farms,” said Nick Zanetos. “This data could be a very useful tool for policy making in the county, particularly in the subdivision approval process.” [READ MORE](#)

What happens when you plant bear poop? A lot of chokecherries

From 9News (CO): ROCKY MOUNTAIN NATIONAL PARK - Workers at Rocky Mountain National Park planted a bunch of bear scat as part of an experiment. They ended up with about 1,200 seedlings that will eventually be planted inside the park.

No one had the park had done it before, but they decided to plant the scat in the park's greenhouse to see what would happen.

Kyle Patterson with Rocky Mountain National Park, says bear scat is often mostly seeds because berries are a large part of their diet in the late summer and fall.

They did not pick out the seeds, but simply mixed the scat with soil in germination trays. They had much greater germination success than expected with over 1,200 seedlings from a single scat collection of primarily Chokecherry and Oregon Grape. (sometimes Creeping Barberry)

Patterson says it can be difficult to germinate these tree species because the Chokecherry, for example, has an extremely hard, thick seed coat that needs to be broken down in order to allow the seed to germinate.

She says passing through the bear's digestive system helps break down that seed coat and allowed for their success.

[READ MORE](#)

Jobs

Watershed Coordinator, Yellowstone & Shields Valley

Park CD is seeking applications for the position of watershed coordinator for the Upper Yellowstone Watershed Basin/Shields Valley Watershed Group. Part time. Email jessica.anderson@mt.nacdnet.net

Executive Director, Montana Audubon

The Director will be provided the opportunity to substantially shape the long-term future of a statewide conservation organization with a trusted reputation, dedicated staff, engaged Board of Directors and substantial financial resources. Closes July 1. [More Info](#)

Assistant Coordinator, Beaverhead CD & Watershed Committee

The watershed assistant coordinator will be responsible for working on programs and grants with the Beaverhead Watershed Committee and Beaverhead Conservation District in an effort to improve water quality in the region. Part Time. Contact beaverheadcd@gmail.com for more info.

Grants

223, etc. Grant Deadlines

Deadlines for 223, mini-education, and district development grants from DNRC for FY 2017 are as follows: **July 29, 2016**; **October 14, 2016**; **January 14, 2017**; and **April 26, 2017**. [Grant Info](#)

Watershed Management Grant

A new application cycle for DNRC's Watershed Management Grant Program is now open. Closes June 30. [More Info](#)

Aquatic Invasive Species Grants

The Montana DNRC 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. Closing June 1. [More Info](#)

Irrigation Development Grants

DNRC is offering grants of up to \$20,000 per project to support ongoing and new efforts to enhance the value of irrigated cropland. Deadline: June 15. [More Info](#)

Events

Bridger Plant Materials Center Field Day

Learn about the work the Bridger Plant Materials Center is doing during their annual field day. June 14. RSVP for lunch count by calling 662-3579 x100.

River Rendezvous

The Milk River Watershed Alliance (MRWA) along with the Missouri River Conservation Districts Council (MRCDC) would like to invite you to join us on a tour of the St. Mary's irrigation diversion system on June 27th, 2017. [More Info](#)

Judith Basin Range County School

The Judith Basin Conservation District is hosting Joshua Dukart, Holistic Certified Educator, for a workshop on "Grazing with a purpose". May 25, Utica. For more info call 566-2311.

Montana Ag Summit

The summit, co-sponsored by Daines, will take place in Great Falls on May 31 and June 1, 2017. The Montana Ag Summit will bring the nation's agricultural leaders to Montana's Golden Triangle. [More Info](#)

Have something you'd like to see in TMC? Submissions are due every other Friday at 5:00 (visit our website for a calendar), and should be sent to tmc@macdnet.org.

Coming Up:

May

MACD Board Conference
Call

15 Aquatic Invasive Species
Workshop, Lewistown

16 Aquatic Invasive Species
Workshop, Malta

17 Aquatic Invasive Species
Workshop, Fort Peck

18 Aquatic Invasive Species
Workshop, Lewistown

22 MACD Executive
Committee Conf. Call

24 Grazing with purpose by
Joshua Dukart, Lewistown
Prairie County Range Field
Day
Petroleum CD Range
Workshop with Joshua
Dukart, Winnett

25 Judith Basin County
Range School, Utica

Have an event to share?
Visit macdnet.org/calendar to
add your event to our list!

Know the difference between 'non-native' and 'invasive'

By Sara Kangas, NACD Communications & Operations Coordinator

While you're welcoming spring and the return of pollinators, make sure you're not introducing invasive species inadvertently.

Recently, Cheerios launched a #bringbackthebees campaign in partnership with Veseys Seeds. The campaign distributed 100 million seeds packets (that's over 1.5 billion seeds!) nationwide as part of an effort to increase awareness around bee population decline. Shortly following the campaign's launch, however, the company received criticism for including "invasive species" seeds in the packets.

First, it's important to understand the difference between "invasive" and "non-native" species. Some of Cheerio seed packets included wildflower seeds that only thrive in specific regions. These seeds were not "invasive," but rather "non-native."

Non-native plants introduced with human help either intentionally or accidentally (such as through a seed packet giveaway) end up in places they weren't found before. Non-native species are less likely to survive outside of their native (or original) habitat. They're also not as likely to be beneficial to local wildlife, and they may be more vulnerable to climate conditions than native species are.

This is the important bit to remember: not all non-native plants are invasive. Invasive species are both non-native **and** dominate native species; and by definition, disrupt ecosystems by limiting native biodiversity.

Amur honeysuckle, for instance – an invasive that has prompted extensive control efforts almost year-round across the Midwest – is one of the first plants to bloom in the spring and one of the last to die off in the fall. Its hardiness allows it to thrive, especially in its preferred habitat of forest canopies, by crowding out native wildflower and other plant species.

Amur honeysuckle can also encourage predator populations, as it provides expanded cover in what would otherwise be clear forest floor, and is linked to increased incidence of Lyme disease. Every bit of these stubborn plants must be removed to prevent resurgence, making non-chemical removal almost impossible.

Non-native plants, on the other hand, can be maintained and even thrive with proper care. Take for instance one of the most famous pollinator-friendly plants: milkweed. [READ MORE](#)