

THE MONTANA CONSERVATIONIST

News from Montana's Conservation Districts

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Soil health workshops are great success

This past month, over 320 people attended soil health workshops held in Great Falls, Billings, and Sidney, hosted by SWCDM, NRCS, Soil & Water Conservation Society, and other partners. The workshops taught participants about managing agriculture ecosystems to increase soil carbon, retain moisture, reduce pesticides, and increase bottom lines.

Featured presenters, Dr. Dwayne Beck and Dan Forgey, both from the Dakota Lakes region of South Dakota, shared their experiences of incorporating various soil-building practices into their farms over the last few decades that have resulted in higher yields, more diversified markets, and less dependency on inputs. A key point made by both presenters was the crucial need to keep farmlands covered by a crop or residue throughout the year, whether it be through no-till, cover crops, diverse and companion cropping, or for forage. In Great Falls, a producer panel made up of producers from the area also drove home the positive role increased soil cover, diverse rotations, and improved soil organic matter have played in their operations. Dan and Dwayne's presentations from the workshops are available through May 31 at: www.swcdmi.org/soil-health-workshop-resources/.

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Montana NRCS announces 2017 conservation initiatives

BOZEMAN, 1/25/17 - NRCS is offering additional funding through its Environmental Quality Incentives Program (EQIP) to target specific resource concerns in Montana in 2017: On-Farm Energy, Organic, High Tunnel Systems, Honey Bee Pollinators, Sage Grouse Initiative Invasive Conifer Removal, and Sage Grouse Initiative Cropland Seeding.

While NRCS accepts applications for EQIP on a continuous basis, NRCS has set a deadline of Feb. 24, 2017, to apply for 2017 initiatives funding.

EQIP offers financial and technical assistance to eligible participants to install or implement structural and management practices on eligible agricultural land. Conservation practices must be implemented to NRCS standards and specifications. In Montana, socially disadvantaged, limited resource, and beginning farmers and ranchers will receive a higher payment rate for eligible conservation practices applied.

Applicants that operate as an entity are required to have a DUNS number and have that number registered with SAM.gov prior to submitting their application for consideration.

For more information about EQIP, or other programs offered by NRCS, please contact your local USDA Service Center or visit www.mt.nrcs.usda.gov.



Who is Sonny Perdue?

Northern Ag examines pick to lead USDA

After extensive deliberation, President Donald Trump named former Georgia Gov. Sonny Perdue as his nominee for Agriculture secretary last week.

In a statement, Trump noted Perdue "embraced policies under which Georgia farmers have thrived," and Perdue would bring that same level of success to USDA. "Perdue is deeply in touch with the concerns of American farmers and will fight for their prosperity," the transition team stated.

"Sonny Perdue is going to accomplish great things as Secretary of Agriculture," Trump said. "From growing up on a farm to being governor of a big agriculture state, he has spent his whole life understanding and solving the challenges our farmers face, and he is going to deliver big results for all Americans who earn their living off the land."

Perdue, 70, fills out the final cabinet position just one day before Trump's inauguration. Perdue was governor of Georgia from 2003 to 2011, but he also has a long history in the grain and feed industry as a founding

partner for AGrow Star, a grain business with 11 elevator locations across Georgia and South Carolina. AGrow Star grew out a grain and fertilizer business Perdue's family built that later bought and merged with a group of grain elevators in 2000 that had been called Milner Grain.

"I am proud and honored to be joining President-elect Trump's administration as his Secretary of Agriculture," Perdue said. "Beginning as a simple Georgia farm boy, making sure Americans who make their livelihood in the agriculture industry are thriving is near and dear to my heart, and I'm going to champion the concerns of American agriculture and work tirelessly to solve the issues facing our farm families in this new role."

Even before the official announcement, several major agricultural groups praised the announcement. Zippy Duvall, president of the American Farm Bureau Federation and a Georgia farmer, stated that Perdue's nomination "is welcome news to the nation's farmers and ranchers" and would provide a strong voice for agriculture. [READ MORE](#)



More soil organic matter makes more rain

By Alan Newport,
BeefProducer.com: Some meteorologists say up to half of the rainfall on a continent comes from the evapotranspiration of plants and soil. This implies a huge reward for better soil management.

To be contrarian, I say meteorology has similar problems to economics as a science. Neither discipline can truly control enough variables to make a good measurement of the effects of a single happening, therefore they can only use scientific principles to *imply* those results. Nonetheless, I'm going to agree in this case that the amount of soil organic matter and therefore the amount of moisture present in the soil has huge effect upon plant health and therefore upon plant transpiration. Therefore, across large expanses it should have huge effect upon moisture put back into the air and upon rainfall.

Another way of measuring all this was drawn to my attention recently. [It's a year's worth of satellite data on worldwide soil moisture.](#)

It began with the launch in 2015 of a NASA satellite called Soil Moisture Active Passive (SMAP). It is designed to provide globally

comprehensive and frequent measurements of the moisture in the top two inches of soil every two to three days. SMAP's first year of observational data has now been analyzed and scientists on the project say it is providing some significant surprises that will help in the modeling of climate, forecasting of weather, and monitoring of agriculture.

Apparently, this top level of soil preserves a "memory" for weather anomalies, more so than had been predicted from theory and earlier, disparate measurements. The researchers' use of the word "memory" refers to the persistence of effects from unusually high or low amounts of rainfall. Contrary to most researchers' expectations, it turns out that these effects persist for a matter of days, rather than just a few hours. They say on average, about one-seventh of the amount of rain that falls is still present in that topmost layer of soil three days after it falls — and this persistence is greatest in the driest regions.

Researchers also say the data also show a significant feedback effect that can amplify the effects of both droughts and floods. When moisture evaporates from wet soil, it cools the soil in the process, but when the soil gets

too dry that cooling diminishes, which can lead to hotter weather and heat waves that extend and deepen drought conditions. These things were known true at the micro level, meaning they have been measured with soil thermometers and moisture meters, but had never been quantified on a large scale.

I'll remind you this is from depleted soil, which today is the standard the world over. What if we were dealing with healthier soil, with higher organic matter?

Let's think about what could happen if we raised the organic matter significantly and across large areas. Since science tells us a 1% increase in soil organic matter holds at least 20,000 gallons of water in each acre of soil, that suggests my home state of Oklahoma, containing 44.7 million acres, could hold at least 894,694,400,000 gallons more water in the soil after each rainfall event of one inch or more. We can multiply that by the number of one-seventh from the SMAP satellite data. That means seven days after that one-inch rainfall event, Oklahoma's soil would still have an extra 127.8 billion gallons of water the plants could continue to use for evapotranspiration, thereby further moistening the air and increasing the potential for more rainfall.

This is exciting because it strongly suggests grazing and farming that builds soil is not only directly beneficial to those practicing it for higher yields, lower inputs, more profit and more drought resiliency, it also appears it helps make more rain for everybody.

[See original article](#)

Bumblebee is first in continental US to be listed

CNN: For the first time, a bee species in the continental United States has been declared endangered by the US Fish and Wildlife Service.

The rusty patched bumblebee is in worrisome decline and it is a race to keep it from becoming extinct, the agency said.

"Listing the bee as endangered will help us mobilize partners and focus resources on finding ways right now to stop the decline," Wildlife Service Midwest Regional Director Tom Melius said.

The population of the rusty patched bumblebee has shrunk by 87% since the late 1990s, the wildlife service said.

Bees help pollinate 35% of the world's food, and bumblebees pollinate everything from tomatoes to cranberries, blueberries and melons.

"The rusty patched bumblebee is among a group of pollinators, including the monarch butterfly, experiencing serious declines across the country," Melius said. "Why is this important? Pollinators are small but mighty parts of the natural mechanism that sustains us and our world. Without them ... our crops require laborious, costly pollination by hand."

The species joins seven species of yellow-faced bees found in Hawaii on the endangered list. It is one of 47 bumblebee species in North America.

[READ MORE](#)

Montana's search for Ag Education specialist continues

For the second time in less than a year, the Montana Office of Public Instruction has been frustrated in their effort to fill the position of State Ag Education Specialist.

In a state that is in dire need of a skilled workforce; and that places much value on high school Ag Education and FFA; and that has substantially increased its support of Career and Technical Education in recent years, this is unwelcome news indeed.

The challenge began when former Ag Ed Specialist, Brad King resigned in late spring 2016. The first Search for his replacement was unsuccessful, and [as reported here on Northern Ag Network, a second broader effort was launched](#) this past fall. That second search also failed to find

a suitable candidate.

At a meeting of an Ag Ed Specialist Hiring Committee on January 26th, the possible reasons for the unsuccessful searches were discussed, as well as what changes might bring future success.

Montana's CTE Division Administrator T.J. Eyer says his department will rework the recruitment documents and begin a new search immediately, hoping to be able to make an offer to a candidate by April 15th.

Eyer confirmed that he also plans to meet with the new leadership in the Office of Public Instruction to discuss what else might be done to achieve success. [READ MORE](#)

A surprising supply of deep soil carbon

From Ag Research Magazine: For years, many agronomists believed that significant levels of soil carbon only accumulated near the soil surface. So when four [Agricultural Research Service](#) scientists submitted a research paper claiming that large amounts of soil carbon were sequestered as deeply as 5 feet in the soil profile—and by annual as well as perennial crops—they had some trouble getting their paper through the review process.

The study was a 9-year project that evaluated the effects of nitrogen fertilizer and harvest treatments on soil organic carbon

sequestration in switchgrass and no-till maize crops managed for biofeedstock production.

"Soil organic carbon sequestration has a major impact on the long-term sustainability of bioenergy crop production because it can significantly affect soil fertility and greenhouse gas emissions," says ARS geneticist Ken Vogel (retired). "So using accurate sequestration rates is essential in developing life-cycle analyses that assess the long-term environmental costs and benefits of biofuel crop production."

[READ MORE](#)

Zinke one step closer to confirmation

The Hill: Senate committee on Tuesday advanced Ryan Zinke's nomination to be President Trump's secretary of Interior.

Zinke's nomination was approved 16-6 by the Energy and Natural Resources Committee and will move to the full Senate next. Four Democrats joined every Republican in backing Zinke, and one, Sen. Ron Wyden (D-Ore.), abstained from the vote.

Republicans have broadly supported Zinke, a Republican who represents Montana in the House and who has relatively moderate positions on public lands issues. He supports federal land ownership, a stance out of step with many conservatives in

the West, and in his confirmation hearing earlier this month he said he would support conservation efforts at Interior.

"I want to be clear on this point: I am absolutely against transfer or sale of public land. I can't be any more clear," Zinke said at his confirmation hearing.

He supports expanded energy development on federal land, including coal mining, something most Democrats resist. During his hearing, members prodded Zinke on his views of climate science: He said he believes the climate is changing but that efforts to combat that need to balance energy industry jobs as well.

[READ MORE](#)

Daines to lead National Parks subcommittee

Missoulian: Montana Sen. Steve Daines has been appointed chairman of the Senate's subcommittee on National Parks.

The panel has oversight of the National Park System, Wild and Scenic River System, National Trails System, historic sites, military battlefields and the Land and Water Conservation Fund reports to the Senate's Committee on Energy and Natural Resources. Republican Daines also sits on the subcommittee on Public Lands, Forests and Mining, and Subcommittee on Energy.

"Growing up just a short drive away from Yellowstone National Park, I know the importance of our national parks to Montanans

way of life," Daines wrote in an email Tuesday morning. "In this new role, I'll continue to champion our national parks by working with the Trump administration to reduce the maintenance backlog and restore integrity to Park Service. We must create a National Park system that honors America's Best Idea."

Running that subcommittee will put Daines in close contact with fellow Montanan Ryan Zinke, confirmed Tuesday as secretary of the Interior Department. The Interior Department oversees the National Park Service, among other agencies.

[READ MORE](#)

Executive order could derail Grizzly delisting

Post Register, Boise: An executive order signed Monday by President Donald Trump could have a surprising effect in Idaho: potentially complicating efforts to delist the Yellowstone grizzly.

Monday's order aims at fulfilling another campaign promise: reducing regulatory burdens on business. The order directs the Office of Management and Budget to calculate the economic costs of regulations — often no simple task — and for the removed rules to have a greater economic impact than new rules. And for every new rule, two existing rules must go.

But because of the the way the Endangered Species Act works, and because of the broad, generic language of the executive order, it may be more likely that the Yellowstone grizzly will remain listed into the future, despite efforts by state and federal managers to push toward deregulation.

Under the Endangered Species Act, a previously listed species is delisted through the publication and approval of a delisting rule, which includes ongoing monitoring, a five-year review and other new regulations. Though the effect of such a rule is to reduce federal regulatory authority over management of a species and turn authority over to states, it is nonetheless a federal regulation.

[READ MORE](#)

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 Planning Grants

Montana DNRC is seeking applications for watershed related planning and management activities that conserve, manage, develop or protect the state renewable resources and/or support the implementation and development of the state water plan. Due March 15, 2017. [More Info](#)

Regional Conservation Partnership Program

NRCS is asking potential conservation partners to submit project applications for federal funding through the Regional Conservation Partnership Program (RCPP). Up to \$252 million is available to locally driven, public-private partnerships that improve the nation's water quality, combat drought, enhance soil health, support wildlife habitat, and protect agricultural viability. Pre-proposals: April 21. [More Info](#)

Forest Landscape Scale Restoration Grants

LSR projects are intended to be outcome-driven, cross-boundary, landscape-scale, innovative, and meet priority needs. Only state forestry agencies are eligible to apply. [More Info](#)

Mussel Response Mini Grants

Funds are available for high priority invasive mussel related projects, such as: (1) prevention; (2) early detection and rapid response; (3) control; (4) treatment demonstration, research or design; (5) coordination; or (6) other related actions. Due March 1. [More Info](#)

Events

Ranchers Stewardship Alliance Grazing Workshop

Come learn about and discuss: Rangeland Monitoring, Grass Growth and Response to Grazing, and Grazing Systems. Feb. 27, Malta. [More Info](#)

Workshops on Expiring CRP

A partnership of federal and state agencies and resource groups have organized meetings to inform landowners of their options once the CRP contracts expire.

Feb. 8, Ryegate | Feb. 9, Billings | Feb. 22, Scobey | Feb. 23, Froid | Feb. 24, Glasgow | March 1, Choteau | March 2, Shelby | March 8, Havre | March 9, Great Falls

Jobs

Gallatin CD Administrator

Gallatin Conservation District is seeking an administrator. This position performs administrative duties requiring attention to accuracy, timeliness, and adherence to regulations. Position serves as liaison between the district and the community. [More Info](#)

Other

Nominations open for Wetland & Watershed Stewardship Awards

The Montana Wetland Council and the Montana Watershed Coordination Council are both accepting nominations for the biennial *Montana Wetlands Stewardship Award* and the *Montana Watershed Stewardship Award*. The awards ceremony will be held on Monday March 20th, 2017 at the Montana State Capitol Building. **The deadline is Sunday, January 15th, 2017.** [More Info](#)

Water Quality Mini-Grants Available

SWCDM is seeking applications for mini-grants of up to \$2,000 to fund local education and outreach efforts addressing nonpoint source pollution and water quality issues. A total amount of approximately \$15,000 is available for grant funding this cycle.

Examples of previously funded projects include workshops, conferences, trainings, tours, student field studies, stream monitoring groups, and newsletters.

Closes: February 28.

Visit swcdmi.org/programs/mini-grants for application and 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:

February

2 Cheatgrass Management Workshop, Helena

9-10 Western Montana Grazing & Ag Conference, Missoula

13 MACD Board Conference Call

22 Expiring CRP Workshop, Scobey

23 CMR Working Group Meeting, Malta
Exp. CRP Workshop, Froid

24 Exp. CRP, Glasgow

26 MACD Scholarship Applications Due

27 MACD Executive Committee Conference Call
Grazing Workshop, Malta

28 Water Quality mini-grant applications due

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



Meet Ian Cavigli, SWCDM Big Sky Watershed Corps Member

Ian grew up in Kalispell and attended Montana State University, graduating with a bachelors of science in cell biology. During his time at MSU, he was involved in undergraduate research in the plant sciences department, which solidified his interest in science and the environment. Following graduation he managed a research lab at the university for a year, and then spent a summer in the field working on a whitebark pine surveying project for the Montana Natural Heritage program. All these experiences contributed to creating a desire to study and work in conservation science, to which the Big Sky Watershed Corps program is a natural answer. Ian says he is excited to be part of the team at SWCDM and to learn and contribute to the organization's goals as much as possible.

MACD Scholarships Now Open

Two \$500 Scholarships are available for Montana students. Eligibility requirements include:

- Minimum grade point average of 3.0, and
- Enrollment or plans to enroll in a course of study that allows students to explore natural resource issues.

Students may receive a scholarship both as a high school senior and once during post secondary career.

Application deadline is **February 26, 2016.**

<http://macdnet.org/programsevents/scholarships/>