



Montana NRCS Conservation Update

January 2011 Quarterly Newsletter www.mt.nrcs.usda.gov



In This Issue

- ❑ Happy New Year from NRCS State Conservationist
- ❑ Bio-Mass Possibilities
- ❑ High Tunnels
- ❑ Organic Initiative
- ❑ MTJoint Forestry Team
- ❑ CSP Participation
- ❑ Bee Colony Collapse
- ❑ STC Photos
- ❑ MACD Scholarships
- ❑ Renewing Our Conservation Pledge
- ❑ IAC/INCA Conference
- ❑ USDA Office of Tribal Relations
- ❑ Rangeland Poster
- ❑ Young Ag Leadership
- ❑ Women Stepping Forward for Ag
- ❑ Environmental Writers
- ❑ Soil Health Workshop
- ❑ Streams and Groundwater
- ❑ Non-Native Grasses
- ❑ Cool Cats
- ❑ Havre DC
- ❑ Human Resources Report
- ❑ Upcoming Events

Happy New Year from NRCS State Conservationist

Joyce Swartzendruber, State Conservationist

It is hard to believe we're into our 2nd decade of the 21st century. Technology advances continue to bring us more abilities to do our jobs at NRCS, and certainly are making our lives different on many levels. I remember watching a TV show when I was about 5 years old where someone was demonstrating the "future" in communication. The one thing I've been waiting for all my life is now here, and I'm kind of sorry it took so long. We can now have telephone calls on handheld equipment where we can see who we're talking to! This capability came to us in a big way in our state office with the recent installation of Video Teleconferencing equipment. Within a couple months we should be able to have face-to-face meetings across the United States and nobody will have to go through the "pat-down" at the airport. On the other hand, we might have to be a bit more dressed up when we turn on the set. The downfall is that now that it's here, it's in high definition, so there's no hiding the bad hair days and the new laugh lines!

In other advances in NRCS, some of our soil scientists have been busy taking soil samples for carbon measurements. This national effort should actually be completed by the end of 2011, and will hopefully help us calibrate our recommendations for specific soils to how much carbon they can sequester. I am reading a book I bought at the Montana Organic Association's annual conference titled "the Organic Manifesto", and I can't disagree with the opening statement from Dr. Rattan Lal at The Ohio State University. Dr. Lal states that soil management is the key to solving most of our environmental problems. Although we changed our name from Soil Conservation Service 15 years ago, we must still recognize the value of soil management in all that we do and recommend.

NRCS is still embarking on a massive Streamlining Initiative that will incorporate all of our field activities into a smoother process for conservation inventory, planning, and program contracting. I am hopeful that this effort will bring significant efficiencies to our field staff, and perhaps make conservation planning easier and provide more valuable maps and information to our customers.

Just a note that we saw a large number of employees retire in the past few months. Please be sure to check the Human Resources report to see what's been going on staffwise at Montana NRCS. And have a very good 2011.





Russian olive grove in Park County along the Yellowstone River. Note the native cottonwood trees.

NRCS CIG Grant Helps Study of Bio-Mass Possibilities for Upper Missouri Watershed Invasive Plants

Larry Cooper, Public Affairs

A \$1 million dollar CIG grant to the Center for Invasive Plant Management at Montana State University and the Missouri River Watershed Coalition is being used to fund an extensive study of potential uses for invasive plants and weeds.

Invasive plants like salt cedar and Russian olive, among many others, can restrict access for irrigation, hamper habitat access for wildlife, reduce water quantity and quality and slow water flow. Saltcedar and Russian olive, although introduced to the United States in the late 1800s and early 1900s, have escaped cultivation causing serious ecological problems in riparian areas. The study will help

determine if some of those troublesome plants couldn't be put to better use including bio-mass used for fuel production or other innovative technologies. The project will focus on 3 goals: 1) control these species, 2) bio-energy development and marketing, and 3) management & communications infrastructure and network. Some of those plants were used to stabilize river banks or soils, and have since spread causing serious ecological problems. The project will also provide a valuable tool to establish short and long-term management activities and determine which are most effective. There are six states involved in the upper Missouri watershed: Montana, North Dakota, South Dakota, Wyoming, Colorado and Nebraska.



Russian olive.



Saltcedar.



Seasonal High Tunnels Initiative - Good Montana Participation

Larry Cooper, Public Affairs

The first year of an NRCS pilot project to help finance high tunnels is nearing its end. Program participation in Montana is high. NRCS has approved 38 seasonal high tunnel contracts for installations in these areas:

Dillon	Glendive	Stanford	Hamilton	Hysham
Great Falls	Kalispell	Ronan	Plains	Glasgow
Miles City	Bozeman	Livingston	Columbus	Harlowton
Scobe	Whitehall	Conrad	Shelby	Billings

NRCS funding for these projects totals \$235,010.

The high tunnel is a walk-in hoop or gothic shaped structure covered with a film plastic. For colder snowy climates like Montana, the gothic type structure is considered most; “snow-worthy” using a stronger 6 mil greenhouse grade of polyethylene that will normally provide about 4 years of service. Steel tubing or fence pipe is the standard material used for the hoops. Posts are driven into the ground about two feet deep to support the hoops.

Seasonal High Tunnels is a project under the USDA’s *Know Your Farmer, Know Your Food* initiative for farmers to increase the availability of locally grown produce. If funded by NRCS conservation programs the structures can’t have any electrical or mechanical inputs. NRCS officials suggest producers interested in high tunnels be sure to carefully read the manufacturer’s specification to ensure year-round use and a plastic strong enough to withstand Montana snow loads and winds. It should also be noted there must be existing cultivated cropland where specialty crops like vegetables and small fruits have previously been grown for local markets. Crops under a high tunnel must be grown in the natural soil profile or in raised beds.

Site selection is important. The tunnel should be located away from buildings and trees. The choice of cultivars, planting time and spacing are critical to getting a good crop. A high tunnel can add low-cost growing space to extend the growing season or for plant protection. The pilot project will determine if high tunnels are effective in reducing pesticide use, keeping vital nutrients in the soil, increasing yields and providing other benefits to growers.

EQIP Organic Initiative Deadline Is March 4, 2011

Offered by the USDA Natural Resources Conservation Service (NRCS) for the third year, the EQIP Organic Initiative is a special pool of money offered in all 50 states for farmers who are organic, transitioning to organic, or organic exempt with unique practices and payments determined by each individual state. March 4, 2011 is the national ranking deadline for sign-ups.

Many individual practices under this Organic Initiative have higher payments than regular EQIP, in recognition of the higher cost of organic seeds or fertilizers in an organic system. All states offer Conservation Activity Planning for the Transition to Organic. The transition plan provides a road map for future conservation cost-share activities to enhance organic agriculture on each farm.

NRCS staff have had training to help organic farmers access this opportunity for financial assistance of up to \$80,000. Experimenting with new cover crops and crop rotations, installing intensive grazing infrastructure (grazing plans, internal fencing, walkways, water lines), establishing wildlife and pollinator friendly habitat, and high tunnels are examples of potential practices available for funding under this program.

Contact your local NRCS office soon to meet with your conservation planning professional and determine which practices could enhance your farming operation.

Montana Joint Forestry Team Awarded

Creation of a joint Forestry Team that includes NRCS, the US Forest Service, Montana Department of Natural Resources and Conservation-Forestry, MSU Extension Service, and the Montana Association of Conservation Districts was honored with receipt of the **Two Chiefs Award**. The Montana partnership resulted in a memorandum of understanding regarding delivery of forestry assistance to the 80,000 forest landowners in Montana. Its intent is to create a one-stop service for private forest landowners. Nationally the NRCS Chief and the U.S. Forest Service Chief signed an agreement with an eye toward reducing barriers to delivery assistance to customers.



Montana Ranked High Nationally for Second CSP Sign-up Participation

Larry Cooper, Public Affairs

The final numbers have been tallied nationally for the second sign-up period of CSP participation. Montana ranked seventh nationally for funding allocations with a total of \$8.3 million. Montana ranked second in the nation for total acreage for the second CSP at 883,579 Acres. Those are impressive figures. Only Nebraska signed up more acres, totaling a little over 1.053 million. A third sign-up period, this one for 2011 is underway with applications due by January 21, 2011.



Bee Colony Collapse Cause Not Singular

Larry Cooper, Public Affairs

Researchers are now saying interactions among a number of elements are contributing to the bee colony collapse.

University researchers say a combination of nutrition, pesticides, and parasites may have caused the bee crisis. Without enough nutrients, bees are less able to fend off the harmful effects of pesticides and parasites.

Conversion of pasture land to row crops and the use of herbicides to clear field margins and ditches of blooming plants may have contributed to declining nutrition for honey bees.

Researchers at Washington State University found five dozen different pesticides in hives they studied. A majority of the pesticides were insecticides, any one of which might be

toxic to bees; WSU is looking at the combined effects of these chemicals.

However Kim Kaplan, a spokesperson at the USDA's Agricultural Research Service counters this contention saying pesticides have not been scientifically confirmed as a cause of colony decline and no specific pesticides have been named as potential culprits.

The USDA says when a bee hive still contains a live queen bee, but little or no male honey bees and there are no dead bees found in the hive there is a



“colony collapse.” *Apiary Inspectors of America* says beekeepers throughout the U.S. have lost one quarter to one third of their bee colonies in each of the last three years.

A research study led by University of Montana researchers and U.S. Army scientists, peer-reviewed and published recently by the online science journal *PLoS One*, was hailed as a breakthrough in solving the mystery of colony collapse. It suggested that two particular viruses may be a cause; the study found the virus pair in many of the honey bee colonies they tested.

The study said that either of the viruses on their own are not lethal, but when combined they become increasingly deadly. The virus combination was not found in colonies that had no history of the collapse disorder.

State Conservationist – On the Move

Robert Bray, District Conservationist - Culbertson; Photos: Scott Morton, Soil Conservation Technician - Culbertson

Montana State Conservationist Joyce Swartzendruber truly does get around. She's personally visited all 70 field offices in Montana and has been a featured speaker at more agricultural gatherings in the state than we can keep up with. In fact, Culbertson Soil Conservation Technician, Scott Morton, trying to keep up with Joyce to take these photos commented, "She's a hard lady to photograph because she is always on the move." Joyce attended four of the six MACD area meetings. Scott managed to keep up with her to get some quick "on the move" shots.

Joyce Addresses the MACD Area I Meeting.



Joyce gets a look at the new headquarters for Dry Prairie Rural Water, a conservation district project.



State Conservationist, Joyce Swartzendruber, speaks with Buzz Mattelin during sugar beet tour.

MACD Announces Two Scholarships Available for High School Seniors or College Students

Jeff Tiberi, MACD

There are two \$500 Scholarships for Montana students. High school seniors or students who are attending an accredited post secondary institution may apply.

Eligibility requirements include: US citizenship, Montana residency, 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.

Appropriate courses of study include agriculture, agribusiness, animal science, range science, forestry, environmental science, land resource science, plant science, etc.

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

Application deadline is Tuesday, February 15, 2011. Please send a paper copy of your application to the above address, and an email copy to mail@macdnet.org.

The application instructions may be seen at www.macdnet.org.

Renewing Our Conservation Pledge – The MACD Annual Meeting

Larry Cooper, Public Affairs

Conservationists from throughout Montana gathered in November at the Crowne Plaza Hotel in Billings for the annual meeting of the Montana Association of Conservation Districts. The theme of this year's meeting was "Renewing Our Conservation Pledge":

"I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country –its soils and minerals, its forests, waters, and wildlife."

The packed agenda was highlighted by a lively discussion about development of the 2012 Farm Bill and Montana's 310 law and the Conservation Districts.

There was a silent auction and appearances by well known farmer, rancher and radio broadcaster Trent Loos and a special appearance by famed cowboy philosopher Baxter Black.

A highlight of the noon luncheon on Wednesday, November 17 was a showing of the NRCS video "Been Around a Long Time" featuring the remembrances of long-time Montana rancher and conservationist Art Christensen.

Attendees were taken on a bus tour of the Bridger Plant Materials Center. There were informative sessions on water marketing and improving range with livestock.

The final night of the meeting, Ray Beck emceed the live auction and there was a special performance by cowboy poet and philosopher, Baxter Black.

A Wide Variety of Issues Reviewed at 2010 Intertribal Agriculture Council – Indian Nations Conservation Alliance Las Vegas Conference

Larry Cooper, Public Affairs

A strong attendance reported for this year's annual Indian Agriculture Symposium held December 7-11 at the Flamingo Hotel in Las Vegas. Montana State Conservationist Joyce Swartzendruber; Carrie Mosley ASTC for Programs; and Anne Stephens, NRCS Blackfeet Liaison in Montana represented NRCS, Montana. Our Montana NRCS-Intertribal Agriculture Council (IAC) display was featured in the trade show area.

The Symposium is co-sponsored by IAC and the Indian Nations Conservation Alliance (INCA). This year's theme was "A Celebration of Food Production." There were workshops on USDA-NRCS conservation programs, crop insurance and emergency assistance programs and USDA loan and grant programs. Harold Joseph of the Hopi Tribe keynoted one session discussing "folding tradition into modern agriculture". One afternoon event was celebrating the 20th anniversary of the Federal Reservation Tribal Extension

Program with presentations by Ralph Otto, the Deputy Director of the National Institute of Food and Agriculture, and Ross Racine, Executive Director for the IAC in Billings. Terry Tatsey, representing Montana's Blackfeet Community College, discussed the significance of food sovereignty – providing as an example the Saskatoon Berry.

An NRCS panel discussed conservation success stories, and Ross Racine discussed speculations on the 2012 Farm Bill. Jennifer Perez Cole, Public Affairs Specialist for the Montana Farm Service Agency, discussed the future of American Indian youth during a special session for younger symposium participants. Also addressing the youth conclave was Roylene Rides-at-the-Door, NRCS State Conservationist from Washington.



Montana display – Shown are members of the Ayayat Idait TeNa NuMu Dance Group of the Confederated Tribes of Warm Springs, Oregon.



Photos courtesy of Ron Francis, Public Affairs Specialist, NRCS Utah. Ron added a personal story – he was talking with a 14-year-old attendee (shown here on the left), who reported she had encountered a person, very short, dressed like Elvis who told her for \$5 she could take a photo of him – she handed him some pocket change and took the picture – she told Ron if he'd been the real Elvis she would have paid the five bucks.

The USDA Office of Tribal Relations Observes its One -Year Anniversary in November

Larry Cooper, Public Affairs

In November of 2009 the USDA created the Office of Tribal Relations at the level of the Secretary of Agriculture. The office is responsible for government-to-government relations between the Agency and Tribal governments. The Director of that office is Janie Simms Hipp, an enrolled member of the Chickasaw Nation who was raised in Oklahoma in Choctaw country. She is a lawyer, specializing in agricultural law and served as an administrative law judge with the Cherokee Nation.

Hipp says USDA is presently updating a USDA Program Guide which will profile programs offered by the 17 agencies of the United States Department of Agriculture. The guide will identify which programs can be accessed by tribal governments and by individuals. When completed, the guide will be available as a DVD or PDF and will be linkable from the USDA Website.

She also notes the agency is re-drafting its consulting practices and policies regarding tribal matters and is providing training to senior managers in the USDA's agencies with an eye toward streamlining information sharing and helping to identify specific programs that meet specific tribe's needs.

Hipp says many programs that would be of significant benefit are too frequently overlooked or are not quickly identifiable. She says there are an estimated 40 different funding lines addressing rural housing issues. As an example, USDA offers very-low interest rate loans and has one program providing a one-time \$7500 grant

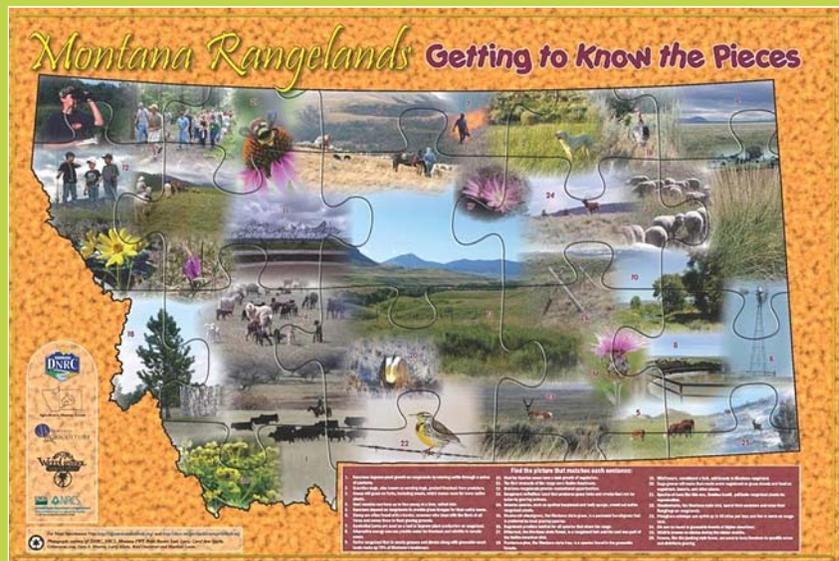
to very-low income elders for home repairs under section 504 programs.

As the new Farm Bill develops, Tribal Relations representatives will play an active planning role. She says there are weekly meetings scheduled with other departments in the Federal Government to identify how all can

work together for the benefit of Tribal nations. She urges tribal leaders to "reach out" and contact her office so they can be directed to agencies and programs addressing their needs.

For more information visit the Website at www.usda.gov or call (202) 205-224.

Cooperative Education Poster Now Available



The Montana Department of Natural Resources and Conservation and Agriculture in Montana Schools have partnered to create a poster and lesson plans (grades K-8) to help teach youth about the value of rangeland in Montana. Approximately 70 percent of Montana is rangeland, making it important for livestock production, wildlife habitat, water quality, pollution control, erosion control, recreation and the beauty of open space.

Also contributing to the project were NRCS, the Montana Weed Control Association, and the Montana Department of Agriculture. The poster and lesson plans can be viewed on the Web at <http://dnrc.mt.gov/cardd/consdist/posters/default.asp>. The state office has a small supply of posters that can be requested at MT-nrcs-publications@one.usda.gov.

Together: Shaping the Future of Montana's Agriculture

Shanna Huckins, NRCS District Conservationist/Earth Team Coordinator – White Sulphur Springs



The future of the agricultural industry was well-represented at the Young Agriculture Leadership Conference (YALC) in Red Lodge, October 1-3. Over 150 young ag enthusiasts convened to attend workshops, engage in discussion panels, and take advantage of networking at the conference, themed “Together: Shaping the Future of Montana’s Agriculture.”

Participants had a variety of workshops to choose from, such as taking a look at the cattle industry and its outlook; learning what ag loan officers look for and what business habits make them nervous; and using satellite imagery and GPS to produce precise variable rate nutrient application instructions for crop production implements.

In Trent Loos’s workshop, participants learned how to use the internet to tell their agricultural stories to

populations that are not educated about or are ignorant of the industry’s important purpose. Dr. Ron Hanson gave attendees plenty to think about with a workshop titled, “You Can Buy the Family Farm But Remember, I Still Own It”, encouraging farm and

ranch families to have a strategic plan and discuss possible “what-if” family scenarios that may affect the succession of the farm to the next generation.

Representatives from industry organizations, such as Montana Farm Bureau Federation, MT Stockgrowers Association, MT

Petroleum Association, MT Grain Growers, and Senator Max Baucus’ Office answered questions from the audience about pressing issues in the Ag industry. After absorbing all the extensive information from workshops and discussion panels, participants roamed the trade show or kicked back with dinner and entertainment – a karaoke contest and a hypnotist.

The NRCS booth was a great success, with many young folks interested in careers with our agency. Not only is that good news for our agency, it’s good news for the Ag industry, especially after Trent Loos told a story that sums up the importance of the convention. He was in San Francisco for an agricultural convention, and he stepped on an elevator, whereupon a fellow noticed his cowboy attire and asked what he was doing in town. Trent replied, “I’m here for an agri-

cultural convention.” Then the man asked Trent, “What is agriculture?”

Special thanks to Seanna Sparks, Kate and Tess Norvell, and Chalayne Watson for jumping in to help with all the people coming to the NRCS booth.

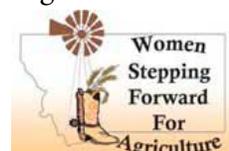
Variety of Topics Highlight Women Stepping Forward for Agriculture Conference

A full house was reported attending this year’s Women Stepping Forward for Agriculture conference in Helena October 5th and 6th. This was the tenth year of that annual meeting.

The event provided forums and discussion sessions for women involved in production agriculture.

There were a number of subjects reviewed this year including greenhouse gasses, cap-n-trade, estate tax legislation, the challenges facing family farming, farm security, timber management, new updates from USDA, and even self defense. LaDonna Gatlin, a well known inspirational speaker, made a presentation suggesting it was time for attendees to “tune up your life.”

Andrea Ceartin, NRCS Civil Engineer in Bozeman and Women’s Rights SEPM, was the coordinator for this year’s event. Sponsors included Montana Agri-Women, Montana Farm Bureau Women, Montana Cattlewomen, WIFE (Women Involved in Farm Economics) and the USDA Food and Agriculture Council.





David Naugle (left), Tim Griffiths, NRCS Sage Grouse Initiative coordinator (center), and Mark Rose, NRCS Farm and Ranchlands Protection Program manager (right).



Mark Rose, Tim Griffiths, David Naugle, and the editors of Marketplace, a radio program produced in Los Angeles that focuses on business and the economy.

Environmental Writers Gather in Missoula

Larry Cooper, Public Affairs

In October, an estimated 600 people participated in the 20th Annual Conference of the Society of Environmental Journalists. Attendees come from throughout the United States, Canada, Mexico and 27 other countries. This is the first time the organization has held the annual gathering in Montana. NRCS hosted an information booth at the meeting staffed by Public Affairs Specialists from National Headquarters and Lori Valadez of our Montana Public Affairs staff.

The topics were wide ranging and speakers included Nancy Sutley, Chairwoman of the White House Council on Environmental Quality; Jane Lubchenco, Director of the National Oceanic and Atmospheric Administration; Tom Strickland, The Assistant Director of the Department of the Interior; and Jon Jarvis, Director of the National Park Service.

While there isn't enough space here to adequately outline the wide variety of environmental subjects captured at this session, the official meeting announcement and member invitation

has some very colorful and interesting observations about Montana. The conference theme was "Wild Rockies and the Changing West". Here are some thought provoking quotes from the meeting announcement:

"Even Congress praises Montana as the best last place."

"Montana's special qualities are threatened by increasing problems – a microscope for how the North American West is the nation's fastest changing region... See for yourself, for instance, how the region is arguably No. 1 for climate change impacts-by walking the ground in the aftermath of record-breaking wildfires, or through massive forest insect outbreaks, or by assessing other evidence of climate shifts that will soon require a renaming of Glacier National Park. See how the region is also No. 1 for charismatic wildlife and wilderness under stress, rampant outdoor recreation and alternative energy projects, population growth and sprawl consuming open space, and private land conservation deals on millions of acres. All that comes on top of historical problems such as wide scale reckless mining and logging and campaigns to eradicate predators."

About the conference itself, the invitation/announcement told invitees to "expect sessions on environmental law

and politics (Montana likely has the highest ratio of professional environmentalists per capita), free-market environmentalism (Montana has the leading think tanks), environmental justice (focusing on Libby, a Montana mining town where asbestos killed hundreds and the EPA has declared a public health emergency), and the cutting edge technologies and philosophical questions of modern wildlife biology."

The conference was hosted by the University of Montana in Missoula.

Soil Health Workshop a Success

Kyle Tackett, DC Dillon

Sixty-two ranchers, farmers, and managers gathered in Twin Bridges on November 8 to learn about soil health. The day started off with a presentation by Josh Dukart, a Holistic Management Certified Instructor from North Dakota. Josh spent a couple hours speaking about the basics of soil health and relaying success stories from his own operation and others that he has worked with in North Dakota. Following lunch, Baker District Conservationist Ann Fischer, spoke about success stories from Fallon County. She touched on how no-till and cover crops are being used in Fallon County to address soil health concerns. A no-till farmer from Baker followed Ann and conveyed to the crowd his personal experiences in 15 years of no-till. The day ended with a panel of three Madison County producers giving their local experiences with no-till. A special thanks to Ann Fischer and all the speakers for making the long trip to southwest Montana.

Elevated Nitrogen and Phosphorus Still Widespread in Much of the Nation's Streams and Groundwater

U.S. Geological Survey News Release

Elevated concentrations of nitrogen and phosphorus, nutrients that can negatively impact aquatic ecosystems and human health, have remained the same or increased in many streams and aquifers across the Nation since the early 1990's, according to a new national study by the U.S. Geological Survey.

"This USGS report provides the most comprehensive national-scale assessment to date of nitrogen and phosphorus in our streams and groundwater," said Marcia McNutt, USGS Director. "For years we have known that these same nutrients in high concentrations have resulted in 'dead zones' when they reach our estuaries, such as during the spring at the mouth of the Mississippi, and now we have improved science-based explanations of when, where, and how elevated concentrations reach our streams and aquifers and affect aquatic life and the quality of our drinking water."

"Despite major Federal, State and local efforts and expenditures to control sources and movement of nutrients within our Nation's watersheds, national-scale progress was not evident in this assessment, which is based on thousands of measurements and hundreds of studies across the country from the 1990's and early 2000's," said Matthew C. Larsen, USGS Associate Director for Water.

According to the U.S. Environmental Protection Agency, nutrient pollution has consistently ranked as one of the top three causes of degradation in U.S. streams and rivers for decades.

USGS findings show that widespread concentrations of nitrogen and phos-

phorus remain two to ten times greater than levels recommended by the EPA to protect aquatic life. Most often, these elevated levels were found in agricultural and urban streams. These findings show that continued reductions in nutrient sources and implementation of land-management strategies for reducing nutrient delivery to streams are needed to meet EPA recommended levels in most regions.

Nutrients occur naturally in water and are needed for plant growth and productive aquatic ecosystems; however, in high concentrations nutrients often result in the growth of large amounts of algae and other nuisance plants in streams, lakes and estuaries. The decay of these plants and algae can cause areas of low dissolved oxygen, known as hypoxic, or "dead," zones that stress or kill aquatic life. Some forms of algae release toxins that can result in health concerns.

The study also found that nitrate is a continuing human-health concern in many shallow aquifers across the Nation that are sources of drinking water. In agricultural areas, more than one in five shallow, private wells contained nitrate at levels above the EPA drinking water standard. The quality and safety of water from private wells—which are a source of drinking water for about 40 million people—are not regulated by the Federal Safe Drinking Water Act and are the responsibility of the homeowner.

Because nitrate can persist in groundwater for years and even decades, nitrate concentrations are likely to increase in aquifers used for public drinking-water supplies during at least the next decade,

as shallow groundwater with high nutrient concentrations moves downward into deeper aquifers.

"Strategies designed to reduce nutrient inputs on the land will improve the quality of water in near-surface parts of aquifers; however, decades may pass before quality improves in deeper parts of the aquifer, which serve as major sources for public-supply wells," said Neil Dubrovsky, USGS hydrologist and lead scientist on this study. "Unfortunately, similar time delays for improvements are expected for streams that receive substantial inputs of groundwater"

A variety of sources can contribute nutrients to surface and groundwater, such as wastewater and industrial discharges, fertilizer and manure applications to agricultural land, runoff from urban areas, and atmospheric sources. USGS findings show that nutrient sources and resulting concentrations vary across the Nation. For example, concentrations of nitrogen generally are highest in agricultural streams in the Northeast, Midwest, and the Northwest, which have some of the most intense applications of fertilizer and manure in the Nation.

Differences in concentrations across the Nation also are due to natural features and human activities. For example, concentrations of nitrogen in streams draining parts of the agricultural Midwest are increased by contributions from artificial subsurface tile drains that are used to promote rapid dewatering of poorly drained soils. Conversely, concentrations of nitrate in streams draining parts of the Southeast appear to dissipate faster as a result of

enhanced natural removal processes in soils and streams.

“This nationwide assessment of sources and natural and human factors that control how nutrients enter our streams and groundwater helps decision-makers anticipate where watersheds are most vulnerable to contamination and set priorities and management actions in different geographic regions of the country,” said Dubrovsky.

For more than 125 years, the USGS has served as the Nation’s water monitoring agency, including flow and (or) quality in selected streams and rivers across the U.S. USGS continues to work closely with the EPA, U.S. Department of Agriculture, the States, and local watersheds to assure that USGS monitoring and assessments provide useful information for managing nutrients throughout the Nation.

Non-native Grasses and Shrubs Pose a Threat

Larry Cooper, Public Affairs

The U.S. Department of Agriculture has released a new study by scientists and conservationists showing that non-federal rangelands in the Western United States are productive, but that non-native grasses and shrubs pose a potential threat to the rangelands’ productivity.

“American ranchers and farmers are at the front line of the effort to protect the health and productivity of our western rangelands,” said Agriculture Secretary Tom Vilsack. “This new study not only provides valuable information about the current state of these lands, but also sets a baseline that will enable USDA to make our conservation efforts more effective and efficient in the future.”

The study, which was published in *Frontiers in Ecology and the Environment*, was the result of collaboration between two USDA agencies—the Agricultural Research Service (ARS) and the Natural Resources Conservation Service (NRCS)—and the U.S. Geological Survey (USGS).

The study reveals that less than 25 percent of non-federal rangelands have significant land degradation but that non-native plant species now occur on nearly 50 percent of all non-federal rangeland. While some of these species have significant benefits for soil conservation, others have negative effects. The study evaluated more than 10,000 field plots across western rangelands using National Resources Inventory (NRI) data, which is a statistical survey designed to help gauge natural resource status, conditions and trends on U.S. non-federal land.

For this study, the authors developed a new system for collecting NRI data to provide land managers with a baseline for making objective assessments. The system, developed by ARS, NRCS, USGS and the Bureau of Land Management, is designed to help land managers monitor western rangelands. It also will ensure the land remains productive by using scientific and local knowledge to establish reference conditions for different types of rangeland.

Rangelands across the western United States support productive ecosystems and hundreds of millions of dollars are

invested each year in public and private funds to manage and conserve them. Because rangelands are highly diverse, their accurate assessments depend on understanding how different types of land vary in their potential for supporting productive ecosystems while limiting runoff and erosion.

“These findings will provide a new tool for addressing how to monitor the vast tracts that stretch across the western United States and ensure that they are used well and remain productive,” said Edward B. Knipling, ARS administrator.

“We have gained a great deal of knowledge about the health of U.S. rangelands with this study,” said NRCS Chief Dave White. “NRCS can use this knowledge to improve our policies and technical skills to better serve landowners and taxpayers.”

The collected quantitative data can also be used as a baseline to monitor rangeland health in future studies such as the USDA Conservation Effects Assessment Project (CEAP). CEAP is a long-term effort designed to determine the environmental effects of conservation practices on agricultural lands. CEAP also can be used to set a course for future conservation action.

Additional details appear in the *Frontiers in Ecology and the Environment* paper, available online at <http://www.frontiersinecology.org/>.





Carla Lawrence, right, hosting GLCI Booth.

Cool Cats Help Launch MSU Animal Biosciences Facility

Melynda Harrison, MSU News Service

Carla Lawrence, NRCS RC&D Coordinator in Joliet, was at a Montana Stockgrowers Association meeting when MSU's College of Agriculture started handing out Ranchers Circle pins. The members of the Ranchers Circle had each donated at least \$10,000 to the College of Agriculture's efforts to build a new \$15.7 million Animal Bioscience Building.

As an avid Bobcat fan and range sciences alumnus, she felt it was important to give back to MSU to help prepare future students for careers in agriculture.

"Universities need to have state-of-the-art technology or they fall behind," Lawrence said, "The ABB will help students keep up with technology and gain the skills they need to work in Montana's agricultural jobs."

Although she couldn't make a gift of \$10,000 by herself, she started think-

ing creatively. While sharing her commitment to MSU among friends and colleagues at the meeting, an idea sparked – "The Cool Cats." By the end of the meeting, about half of a new group that became "The 40 Cool Cats" had signed on.

The 40 Cool Cats each donated at least \$250, and by the time the fundraising was done, the 40 members had pooled more than \$10,000, enough to be included in the Ranchers Circle. One of the 40 Cool Cats, by the way, is NRCS Chief Dave White.

Many of the Cool Cats joined in celebrating the grand opening of the building during Ag Appreciation weekend.

Lawrence is currently the coordinator for the Beartooth Resource Conservation and Development District in Joliet. She organized the donor group, e-mailed updates and made sure everyone got their money in.

"It was a [great] way to be involved for people who couldn't come up with \$10,000," Lawrence said. "When people participate and put out the money – even if it is hard at first – there is a real sense of belonging to that building."

Russell Nemetz is another Cool Cat and the ag director for the Northern Ag Network. He was raised in production agriculture along the Milk River Valley near Chinook. It's there his family continues to farm and ranch.

"Livestock makes up the biggest part of the agriculture industry in Montana and there is no better place in the country or the world to have a building of this caliber," Nemetz said. "In the end, the students using this building will make our industry stronger and better."

"There are a lot of us who supported the project, but couldn't make the \$10,000," Nemetz said, "The Cool Cats gave us a way to get involved."

Tim and Carol Gill gave more than \$250, but thought the Cool Cats would be a fun way to donate. Tim Gill is president of Montana Livestock Ag Credit, Inc., and a member of the ABB fundraising committee.

"Our whole heart and soul were in it," Gill said. "MSU is our land-grant university and the College of Ag was so significant to the way I grew up; it's a significant part of Montana's well-being."

Gill, his wife and their sons are all MSU alumni. Members of Gill's board of directors at Montana Livestock Ag Credit, Inc., also were big believers in the project, and the corporation became one of the initial big donors.

"They may not all be MSU alumni, but they are all committed to agriculture in Montana," Gill said. "The well-educated students who are using the new ABB are the future of Montana agriculture, and this building, with all of its cutting edge technology, will give us an even brighter future."



Con Nystrom, HCCD (left) presents award to Deana Grabofsky, Havre DC.

Havre District Conservationist Honored

Jennifer Kenck, Hill County Conservation District Administrator

A special award was presented to Havre District Conservationist Deana Grabofsky during this year's Hill County Conservation District Legislative Dinner. Con Nystrom, Vice Chairman of the District, made the presentation, citing Deana's long and varied career working with Conservation Districts and NRCS. Deana began her career in 1989 as a Student Trainee Soil Conservationist in Lewistown. In 1990 she was transferred to the Bozeman Office. In 1991 she became a permanent, full-time Soil Conservationist assigned to the Chinook Field Office.

In 1993, she was reassigned to Havre and has been working with Hill County Producers, as a Soil Conservationist, and since 2002, as the District Conservationist. Nystrom presented Deana with an engraved clock.

USDA-NRCS
10 E. Babcock St., Rm 443
Bozeman, MT, 59715
www.mt.nrcs.usda.gov
406-587-6971

Human Resources Report

New Employees

- David Molebash, Soil Conservation Technician, Livingston Field Office
- Marvin Hansen, Soil Conservation Technician, Bozeman Field Office
- Patrick Cole, Biologist, Bozeman Area Office
- Margaret Valladao-Smith, Soil Conservationist, Fort Benton Field Office
- Paul Smidansky, Civil Engineer, Glendive Field Office
- Trisha Cracraft, Biologist, Sheridan Field Office

Promotions

- Talana Klungland, District Conservationist, Havre Field Office
- Gary Berger, Soil Scientist, Dillon MLRA Office
- Matt Whithed, District Conservationist, Hamilton Field Office
- Joshua Schrecengost, Biologist, Great Falls Area Office

Retirements

- Mike Hansen, Soil Scientist, Bozeman State Office
- Keith Robertson, Resource Conservationist, Great Falls Area Office
- Wayne Yost, District Conservationist, Ekalaka Field Office
- Roy Kaiser, Water Supply Specialist, Bozeman State Office
- Dave Jewell, Civil Engineer, Miles City Area Office
- Doreen Peters, Human Resources Specialist, Bozeman State Office
- Kit Sutherland, RC&D Coordinator, Bitter Root RC&D Office
- Lanny Walker, District Conservationist, Fort Benton Field Office

Upcoming Events

For up-to-date conservation and agriculture-related events and activities in Montana, visit <http://www.mt.nrcs.usda.gov/news/events.html>.

January 2011

- ❑ Montana Weed Control Association, Jan 11-13, Great Falls
- ❑ Young Ag Couples Conference, Jan 12-14, Helena
- ❑ Soil Health Workshop 2011, Jan 19, Bismarck, ND
- ❑ Winter Grazing Seminar, Jan 31-Feb 1, Bozeman

February 2011

- ❑ Society for Range Management 2011 Annual Meeting, Feb 6-10, Billings

March 2011

- ❑ Montana SWCS Annual Meeting, March 1-2, Helena

April 2011

- ❑ Montana Envirothon, April 18-19, Lewistown



United States Department of Agriculture
Natural Resources Conservation Service

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audio-tape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."