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GENERATIONS



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MONTANA



Dear MSU Friends,

Throughout 2014, Montana State University has celebrated the 100th anniversary of MSU Extension. Formed through the Congressional Smith-Lever Act of 1914, Cooperative Extension is the outreach arm of the Land-grant University. In the beginning, MSU, then called the Montana College of Agriculture and Mechanic Arts, dispatched the first agent to Custer County to pursue the mission of bringing practical, science-based, relevant information and programming to the people. This is the exact same mission that Extension faculty located across the state, in our counties and reservations and on our campus serve today. This is why you will often hear me refer to MSU as your university. Thanks to the MSU Extension presence, we can truly say that the entire state of Montana is our campus.

MSU Extension is the vehicle that transports the research from our fields and labs and the knowledge from our classrooms to the people. Equally important, Extension is frequently the vehicle that brings the innovation, creativity and realities of the people of the state to the university and research centers for collaboration, discussion and problem-solving. This true engagement model has carried Montana through two World Wars, the Great Depression, the Cold War and into the information age. It is the model that is needed to bring us into the next 100 years.

How is Extension still relevant? It is the most visible face of our university in most communities. Our agents assist farmers and ranchers with agricultural issues and our communities with training on how to create viable foundations and how to be good stewards of public resources. Many of our leaders have been raised learning civics through hands-on activities in our 4-H youth programming. Families come together to learn about nutrition and how to stretch the food dollar, maybe even by growing a garden at home. While being true to our traditional programs, Extension today is addressing contemporary needs in our communities. And how often do you look to a search engine as a source for information? The internet is full of misleading and errant information, some that is harmful. By including "Extension" in your search, you can be sure you get the latest science-based, unbiased information.

This summer I took a busload of campus officers on a tour to the eastern part of the state to learn about Montana's energy industry, meet stakeholders and get to know some of our communities. All along the way we heard from Extension agents filled with passion for their local area and excited to share the unique qualities of their home counties. My heart was warmed to these professionals representing their communities and Montana State University so well.

With Extension, MSU is local. Our network allows us to address unique circumstances in individual areas, while applying best-practices and statewide and national expertise. From youth through adulthood, from cities to farms, in fields and city halls, MSU Extension is truly across Montana, across generations.

Happy 100th Anniversary to MSU Extension!

Thank you for your continued support,

Waded Cruzado

Meet our new director

In February 2014, Montana State University Extension welcomed Jeff Bader as the new Extension director. Bader was previously the Northern District department head with New Mexico State University Extension, a post he held since 2009. Prior to being department head, Bader was a county director and agricultural and 4-H agent in New Mexico since 1987. Bader earned a doctorate of education from New Mexico State University, where he also earned a master's of science in animal science with an emphasis in livestock nutrition. His bachelor's degree is also in animal science from NMSU. During Extension's centennial year, he has traveled across the state to celebrate Montana's statewide educational outreach network.

Dear Extension,

It is my honor to reflect upon the state of MSU Extension as we celebrate our 100th anniversary and look to the next 100 years. I joined MSU Extension in February and already feel at home. Aside from the topography of the state being surprisingly similar to my home state of New Mexico, the people are extraordinarily friendly and welcoming.

One of the reasons I sought employment in Montana is the reputation of MSU Extension nationwide. Montana's first agent, M.L. Wilson, was sent to Custer County in 1914 and by 1940 he was the Director of the Federal Extension Service. His influence on national agricultural policy was immense and helped form the foundation of Extension agriculture work that continues to this day. Montana State University Extension continues to be well respected and influential at both regional and national levels. When I heard the Director position was open, I knew it was something I wanted to be part of.

I believe one of the reasons MSU Extension is so impactful is that our programming efforts are based on locally identified needs of communities and the people we serve. Extension is the largest, and what I would argue, the most successful non-formal education program in history. We are a means for connecting the latest, research-based and unbiased information with the people wherever they are and whenever they want it. Our people and infrastructure provide real opportunities for engagement and solutions.

My first priority when I arrived was to travel the state to meet our Extension faculty and staff, as well as agricultural producers, community leaders and 4-H families. I needed to understand, and still do, what is important to the citizens of Montana as we determine our priorities going forward. Fortunately, I have found that all across the state our personnel are passionate and

committed to our mission. It truly is the people that make MSU Extension great. I have no doubt that this organization will continue to positively affect people and their communities for the next 100 years.

As you look through the pages of this report, you will see a few examples of the depth of our partnerships and impacts statewide. These are just a sample of programs that tell our story. Whether you connect with us through 4-H, Master Gardeners, a webinar on personal finance or in a hay field, MSU Extension is truly there, across generations, across Montana.

Happy 100th Anniversary MSU Extension. Here is to another 100 years!

Sincerely,



Jeff Bader, Director



CELEBRATE 100 YEARS OF EXTENSION

In 2014, Extension celebrates the 100th anniversary of the Smith-Lever Act, which provided for cooperative agricultural Extension work at the land-grant colleges that were established with the Morrill Act of 1862. The educational partnership between the U.S. Department of Agriculture and the nation's land-grant universities created a state-by-state, national network of educators who extend university-based research and knowledge to the people.



Mission: MSU Extension is a statewide educational outreach network that applies unbiased, research-based university resources to address community needs.



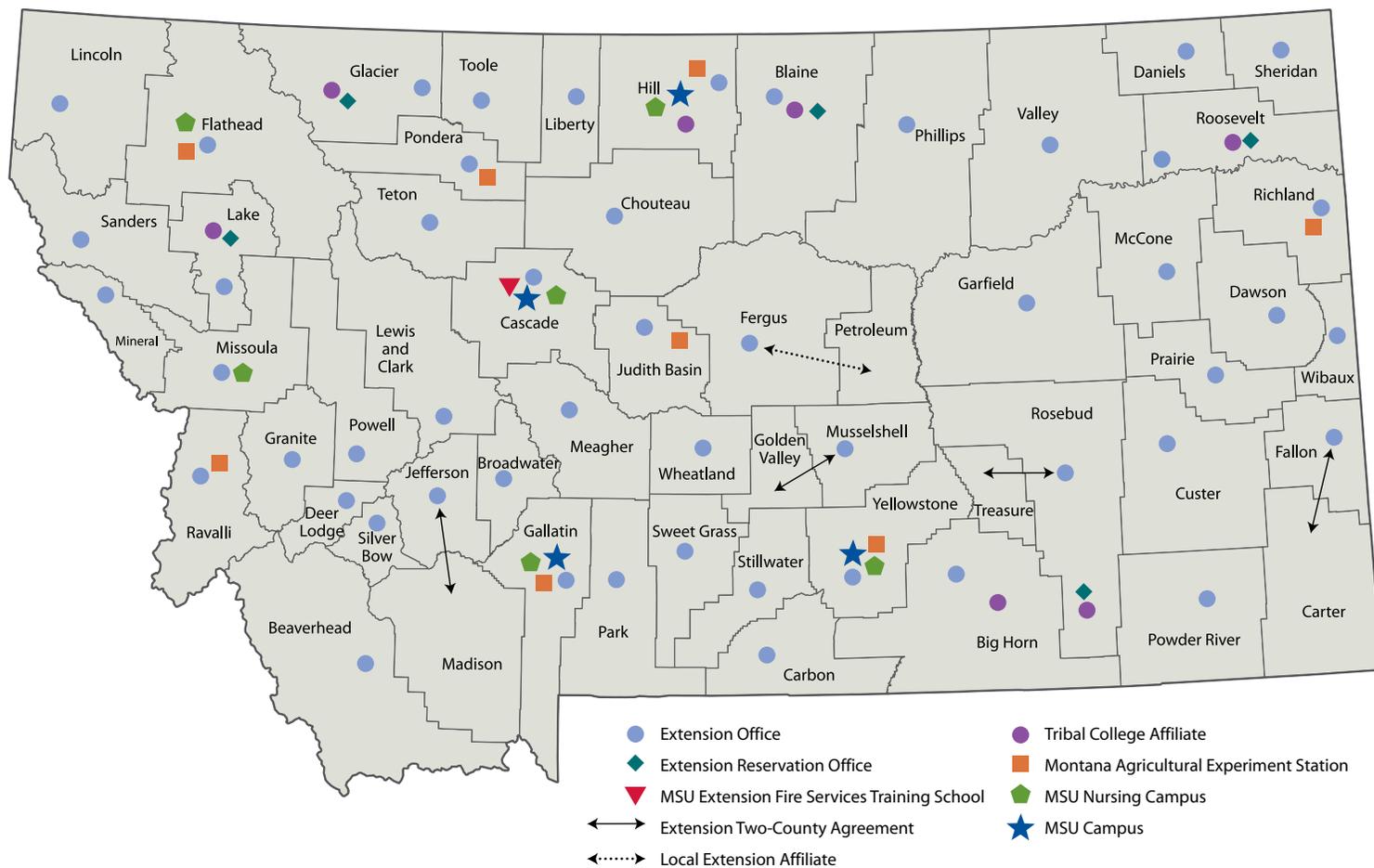
Montana State University's strategic plan includes six goal areas: learning, discover, engagement, integration, access, and stewardship. MSU Extension provides leadership in each of the goal areas, and provides a model for integrating learning, discovery and engagement.

Teaching/Learning: MSU Extension agents and specialists are MSU faculty members. There are 92 agents and 32 specialists living and working in more than 60 offices and communities statewide.

Research/Discovery: MSU Extension completes research in many places, including fields, city buildings and schools to find effective solutions and new knowledge to solve challenging problems.

Service/Engagement: MSU Extension works locally to support individuals, families, and communities. This leads to carefully established, long and trusting partnerships, allowing Extension to fully engage with communities for long-term, positive impacts.

across generations, across Montana



The following pages share examples of MSU Extension’s multiple efforts in many local communities to serve all Montanans in traditional and innovative ways that integrate learning, discovery and engagement while providing access and stewardship.

Extending resources

MSU Extension leverages resources and demonstrates a return on investment through quantifiable impacts.

Schutter Diagnostic Lab

Funding from the 2013 Montana Legislature helped the Schutter Diagnostic Laboratory hire an insect diagnostician and replace a recently retired plant disease diagnostician. From July through September of 2014, the Schutter Diagnostic Lab received over 1976 samples from 50 counties for plant pest identification and 542 samples for insect identification.

- Eighty-four new species were submitted to the Plant Diagnostic Information System Database.
- Twenty-four submissions were state-listed noxious weeds; three have caused millions of dollars of damage in neighboring states.
 - Two plants were the first state records of highly invasive weeds: garlic mustard and medusahead. Garlic mustard was eradicated and a management plan is in place to prevent the further spread of the medusahead.
 - In 2014, the state-listed priority 1A species, rush skeletonweed, was identified in Beaverhead and Ravalli Counties. This plant threatens rangeland and cropland and its identification furthers the state's goal to eradicate when found.

- Twenty-nine plants were submitted to determine if they were toxic to livestock. Five were, thus proper identification prevented livestock harm.
- Ten plant samples were submitted by clients to verify if they were safe to consume. Four of these would have caused serious illness and one could have caused death within a few hours.
- Nine of 15 samples submitted were positively identified as bed bugs. Hotels, landlords and tenants used the information to solve disputes.
- A Bostrichid beetle was diagnosed in lumber allowing the builder to qualify for compensation for treatment.
- Carpenter ants were confirmed in four cases. Early confirmation saves surrounding homeowners from potential extensive and costly damage.

The direct economic impact of the Schutter Diagnostic Lab in 2013 was estimated at \$523/client or \$900,000 on over 3.6 million Montana acres.

The Local Government Center

The origins of the Local Government Center lie in Montana's unique process of periodic citizen review of the state's municipal and county governments. Montana's Constitution gives citizens of local jurisdictions the option to elect a study commission every 10 years to review the structure of their county or municipal government. In 1985, the Local Government Center was established at Montana State University to provide assistance to counties and municipalities and their study commissions.

The Montana Board of Regents authorized the Local Government Center in 1989. As the Center grew, it broadened its efforts to assist Montana's local governments. In 1993, the Montana State Legislature formally established the mission of the Center to "strengthen the capacities of Montana's local governmental units to

deliver essential services efficiently and to provide training, technical assistance, and research to local officials" (MCA 20-25-237).

Per the Montana Constitution, in 2014 the Local Government Center assisted with elections to determine whether local government commissions would be utilized. Forty-nine counties and municipalities voted to review their existing form of government and provide recommendations. The Local Government Center will provide training and support for these study commissions and empowering them to do their work. In addition, the LGC will continue to provide professional training for an average of over 6100 community officials and citizen boards.

While the Local Government Center has a legislative mandate, it has not had base budget funding.

Our new specialists



Megan Van Emon

Extension Beef Specialist/Assistant Professor

As the MSU Extension Beef Specialist, Van Emon works in MSU Extension and the MSU College of Agriculture Animal and Range Sciences Department. She works with beef programs on campus and at the USDA-ARS Fort Keogh Livestock and Range Research Laboratory in Miles City. Van Emon interacts with clientele throughout Montana and serves as a resource for beef clientele and Extension agents regarding beef production issues.

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Emily Glunk

Extension Forage Specialist/Assistant Prof.

As the Extension Forage Specialist, Glunk works in MSU Extension and the MSU College of Agriculture Animal and Range Sciences Department. She provides education to MSU Extension agents and Montana's forage producers and users on the topics of forage-animal-soil interactions and relationships; livestock and equine grazing issues; promoting awareness of best forage-management practices; small acreage land management; and identifying and addressing questions, issues, or opportunities regarding forage-based issues.

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Kate Fuller

Extension Economics Specialist/Assistant Prof.

As the Extension Economics Specialist, Fuller works in MSU Extension and the MSU College of Agriculture, Department of Agricultural Economics and Economics. Her research interests include agricultural pests and diseases and agricultural research and development. Fuller is currently working on developing her research and Extension programs, while working on projects relating to the 2014 Farm Bill, farm and ranch record keeping, as well as valuation of disease-resistant varieties and disease screening programs. She will be involved in a 28-community farm bill education series during October and November.

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Agriculture and Natural Resources

Programs in Agriculture and Natural Resources directly affect Montana's number one industry, agriculture; as well as its next two largest economic drivers, tourism and mining. In addition to economic impacts, these industries dominate Montana's culture and heritage.

Pulse Crops

Pulse crops, including things like peas, lentils and chickpeas have exploded in acres in recent years. In 2013, Montana was number one in the United States for peas and lentils. Pulse crops use soil moisture efficiently, help break disease and pest cycles in wheat and barley, reduce fertilizer costs and add flexibility into cropping systems. When wheat and barley crops are rotated with pulse crops, a substantial increase in yield and quality is achieved. The Montana Department of Agriculture (MTDOA) reports that in 2012 the replacement of pulse crops on 360,000 acres in Northeastern Montana that were normally left fallow was worth over \$100 million to the region. If pulse crops were grown on a quarter of acres in Montana that are currently left fallow, the benefit to Montana's economy would exceed \$240M (MTDOA).

Funds from the state, the Farm Bill and the Montana Specialty Crop Block Grant will help MSU support this growing economic opportunity in Montana, as well as the production of wheat, barley and other commodities.

In 2014, the Schutter Diagnostic Lab (SDL) identified widespread resistance to a fungicide in chickpeas and dry peas. The lab advised a grower who observed field failures to rotate fungicides which resulted in a gross profit to the grower of \$385,000, saving significant losses. SDL will utilize Montana Specialty Crop Block Grant funding to confirm this fungicide resistance and develop tests to rapidly identify it and limit future losses. MSU's new Pulse Crop Diagnostic Laboratory, staffed with funding through the Farm Bill, will work closely with SDL to provide cutting edge, collaborative support to Montana's producers.

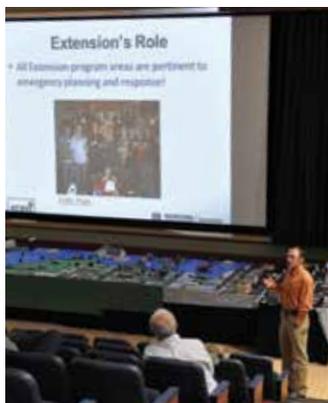


Agro-emergency Planning

The products and services that make up the bulk of Montana's economic productivity are primarily related to: agriculture, natural resources, food production/distribution, and cultural/historic sites and parks. Federal, state and local governments are required to plan for disasters and emergencies impacting these areas. Extension is a strategic partner in all phases of agro-emergency management, providing direct agribusiness security and emergency education, and facilitating workshops and exercises for communities, stakeholder groups, and government agencies.

MSU Extension has created a curriculum for community workshops to help local people think how to protect and recover their local resources in emergencies. They have conducted eight workshops serving 29 counties and two reservations, and have more scheduled. Community leaders report that the process of thinking strategically about things like how to evacuate an area of people and livestock, or where to secure unique resources in a specific emergency is beneficial.

The SDL routinely provides education on agro-emergency preparedness and works with state and federal regulators when new pests are identified in the state.



Pesticide Education

Since 1983, MSU Extension has provided Private Pesticide Applicator Training on behalf of the Montana Department of Agriculture. The training encourages integrated pest management (IPM). Chemicals aren't always the most effective means of pest control. By using a combination of tactics including biological, regulatory and chemical controls, as well as adjusting planting and harvesting dates, crop yields increase, costs decrease and safety to both the environment and the applicator is improved. Simply learning to properly calibrate sprayers has a tremendous impact. Planning ahead for solutions to potential problems is a clear benefit. The MSU Extension Pesticide Education Program directly reaches about 6100 private applicators annually, though the impact of producers using science-based, unbiased IPM extends to the entire state.

MSU Extension Water Quality

Montana has 60,000 miles of perennial streams which are an invaluable source for irrigation, drinking water and recreation. At least 15 percent of stream miles are not meeting standards of protection of public health and 25 percent are not meeting goals for ecological function. The majority of impairment is the result of non-point source pollution. Management of these pollution sources requires education of the public. MSU Extension Water Quality is working with state agencies and local watershed groups to involve citizens in water quality data collection to help them understand water quality issues in their local streams. Understanding they have an impact leads people to change their behavior. Including various lessons, the Extension water quality specialist provided 20 presentations in 2013 with more than 304 participants.

MSU Extension Forestry

MSU Extension Forestry provides publications, seminars and workshops for landowners, as well as training programs for the Montana Logging Association and Montana Forest landowners, having helped more than 2000 forest landowners develop forest stewardship inventories and plans on over 1.2 million acres across Montana. In addition, MSU Extension Forestry organizes the annual Natural Resources Youth Camp, provides workshops for Montana teachers and conveys forest stewardship information to a daily listenership of more than 22,000 through the “Forestry Minute. In the past five years MSU Extension forestry has partnered in \$50 million in grants to reduce wildfire hazards and greenhouse gas emissions.

One area of value provided by Extension Forestry is training for growing and maintaining wind breaks. Growing trees where they don't naturally occur, such as prairie landscapes, is a challenge that comes with many benefits. Each windbreak design, tree planting and maintenance workshop typically impacts over 2,000 acres. Windbreaks improve aesthetics and wildlife habitat while increasing the economic value of a property and lowering costs. A windbreak can reduce winter heating and summer cooling costs by 30 percent, and livestock feeding costs by a similar amount.

Weed invaders education program

Early Detection and Rapid Response (EDRR) means looking for newly invading weeds and acting quickly to eradicate or contain them. This information campaign is helping to control and manage costly noxious weeds in the state. Early identification when weed populations are small, combined with tools for people to alert weed coordinators or Extension staff has led to reductions in or eradication of species like dyer's woad and yellow starthistle in particular. For more information: www.msuextension.org/invasiveplantsMangold/extensionsub.html or www.mtweed.org or www.weedawareness.org.

Big Sky Small Acres

Big Sky Small Acres: Rural Living in Montana magazine is produced three times annually by Montana State University Extension. Perfect for busy landowners and backyard enthusiasts, Big Sky Small Acres features practical articles on topics including weed management, water management, horticulture, wildlife and habitat, insects and pests, and more. Full of easy-to-apply information, this publication helps newcomers and long-time Montanans alike be good stewards of treasured resources while enjoying the last best place. The magazine is offered online for no charge, www.msuextension.org/BSSA.



Cindy Bertek, the Forest Stewardship Coordinator in Missoula, spoke about the Forest Stewardship workshops for private forest landowners and managers.

“Whether they’re five acres or 10,000 acres, families have unique goals for their forests, and with nearly 3.8 million acres of forests in private ownership, these landowners are every bit as important as every other forest in the state.”

Livestock Quality Assurance

Livestock production results in the greatest share of agricultural receipts in Montana. MSU Extension connects with youth, families and producers to apply unbiased, scientific research in animal nutrition, reproduction and management to improve profitability and sustainability.

Beef Cattle Program

In 2013, the Extension Beef Cattle Program presented 43 formal beef production and management programs to 1365 stakeholders on topics ranging from ration balancing and forage utilization to genetics and selection and carcass grading, to drought strategies and risk management. Ration-balancing software training was delivered to 23 county Extension agents further extending the use of this valuable resource through the state. Every penny saved on a ration results in a \$1.50 per cow savings for a 5-month winter/spring feeding period. Saving a dime per ration for a mid-size 250 cow herd would result in feed cost savings of around \$3750.

Sheep Program

Montana State University Extension and the Montana Wool Lab work together to provide service, research and education to Montana's sheep industry. The Wool Lab has the most state of the art technology available in the world and is essential to the Montana sheep industry's work toward becoming the lead provider of wool for knit wear in America. The Extension Sheep program is also involved in research related to grazing for noxious weed control and quality assurance for market lambs.

4-H Market Livestock Program

Youth who participate in 4-H Market Livestock projects must complete Animal Quality Assurance training at least once as a junior 4-H member and once as a senior 4-H member. AQA training helps them understand their role as producers in the food supply chain, and their responsibility to produce a safe food product while caring for animals in an ethical manner. In 2014, over 8,000 Montana kids enrolled in market projects.



4-H Youth Development

Montana 4-H is the largest youth development organization in the state. Focused on citizenship, healthy living and science, 4-H is a trusted source of education, skill building and activities for youth and volunteers.

Teens in 4-H BioScience Montana project win top science fair prize

Colin Norick, 15, and Colter Norick, 16, brothers from Columbia Falls, won Montana's top science fair prize with a research project they developed through BioScience Montana, a Montana State University outreach project.

The intensive, eight-month experience offers 4-H members from around Montana a chance to conduct scientific research, learn about bioscience-related careers and collaborate via distance learning technologies. Students work with MSU faculty and students to complete three modules: neuroscience, infectious diseases and metabolomics. They are then encouraged to undertake a project of their own design.

The Noricks chose to research the effectiveness of DHA, an omega-3 fatty acid believed to improve brain function after learning about the importance of omega-3 and omega-6 fatty acids from Edward Dratz, an MSU professor of chemistry and biochemistry. The brothers recruited fellow Columbia Falls High School students to receive a standard dose or a double dose of a DHA supplement or a placebo. Two months later, preliminary data showed that teens who took DHA showed improved cognitive

function and attention compared to placebo; however, the double dose did not produce superior results to the standard dose.

According to Dratz, the teens' research goes beyond just a science fair project and has the potential to impact the scientific literature. "We plan to publish our study in a scientific journal with the help of Dr. Dratz," Colin Norick said.

With its focus specifically on teens, the Noricks' study took a number of original approaches, Dratz said. The Noricks won numerous awards for their project at the 2014 Montana State Science Fair held at the University of Montana. Their success in Missoula also won them an all-expenses paid trip to Los Angeles to enter it in the international competition in May.

BioScience Montana is funded by the National Institutes of Health as a Science Education Partnership Award (SEPA) granted to MSU Extended University, the 4-H Center for Youth Development, and the MSU Department of Cell Biology and Neuroscience. For more information, visit <http://eu.montana.edu/bioscience>.



Developing Future Leaders from Lessons of the Past

Educational research indicates content knowledge and interest in U.S. history is alarmingly low in elementary students and declines further as students age. One 4-H project is inspiring future community leaders to learn more about their own country through a hands-on, experiential approach.

The 4-H Western Heritage Project is a combination of 4-H Shooting Sports and a study of frontier history from 1860 – 1900. In order to participate, 4-H members compete with nineteenth century firearms, and dress the part in period correct hats, boots, clothing, and accoutrements. Like all 4-H Shooting Sports projects, the 4-H Western Heritage Project instills the lessons of safety and responsibility, but it's the living history component that is changing youth perception of learning American history. Throughout the 4-H year, members develop an Old West persona, improve the period correctness of their

attire, learn trades of the past, visit museums and historic sites, discuss race relations and conflicts, and educate others through public speaking engagements. The curiosity piqued in the project, and the research skills gained, often transfer to other periods of American or world history.

For more information on 4-H shooting sports, including archery, air rifle, air pistol, small bore rifle, small bore pistol, shotgun, muzzle loading, and hunting, contact your county MSU Extension Office. More information on the 4-H Western Heritage Project can be found at www.4-hwesternheritageproject.org



standard curriculum students	4-H Western Heritage Project Members
<p>Below Proficiency in U.S. History:</p> <p>80% of fourth-graders 83% of eighth-graders 88% of twelfth-graders</p> <p>(National Center for Education Statistics, 2010)</p> <p>Descriptors of Learning U.S. History:</p> <p>Boring Irrelevant Memorization Lifeless</p>	<p>After One Year or More in the 4-H Western Heritage Project Members:</p> <p>Report a significant increase in the importance of learning history Feel a relevant connection to the past Can relate to Frontier lifestyles Have more in-depth conversations with elders in their life Read more printed materials in historical topics Show a greater interest in museums and historic sites Display a significant increase in “liking” history (particularly those who entered the project with negative views about learning history) Favor hands-on teaching methods when learning history</p> <p>Descriptors of Learning History from 4-H Western Heritage Members:</p> <p>Fun Interesting Learn Lessons from the Past Important</p>



Montana 4-H

In 2013:

- 26,953 youth participated, including 10,245 in club membership.
- 2013 survey indicated 56% of county agents incorporated science, technology, engineering and mathematics (STEM) into their programming.

International Programming - learning about cultures, communication, friendship, diversity, differences, and global understanding.

Facts in Brief:

- 10 Montana youth traveled to Greece, United Kingdom, Japan, Austria, France, Argentina, Taiwan, or Tanzania.

Montana 4-H hosted:

- 25 young people from across the United Kingdom and Europe
- 60 Japanese youth
- 10 high school students from Russia and Eurasian countries
- 4 youth from Argentina

Children, Youth, and Families at Risk (CYFAR)

Over 60 Native American youth learned Science, Technology, Engineering, and Math (STEM) skills through robotics and videography 4-H programs. Most competed in the First LEGO League, a national robotics contest held at Montana State University.

Montana youth involved in MSU Extension 4-H programming are supported by 4,327 trained adult and youth volunteers who lead local programs and activities. These volunteers account for over 227,000 service hours, which translates to an economic impact of \$4,458,280 (Estimate of the Value of Volunteer Activity using data from US Department of Labor – Bureau of Labor Statistics). This equates to 118 FTE positions at work developing Montana's youth into strong citizens.

Strengthening families

MSU Extension provides resources and programming that empowers individuals through training and education, encouraging volunteerism and creating stronger families and communities.

Grandparents Raising Grandchildren Project

Today, more than 6,600 grandparents in Montana are responsible for the primary care of their grandchildren. The Montana GRG Project focuses on providing education, support, and information on resources for grandparent-headed families. Additionally, the project provides support group facilitator training and coordinates a network of education/support groups across the state. Currently there are 31 local contacts across Montana, including on the seven Indian Reservations, where information and support is available to grandparents. The project also focuses on grandparent well-being by providing resources and support to manage the physical and emotional stress of kinship caregiving. Because most grandparents care for these children informally, this program helps the state more than \$200,000/day in foster care payments. www.montanagrandparents.org

4-H Mentoring Program

The 4-H Mentoring Partnership Program, active in two counties and one reservation, focuses on making a positive impact on the lives of at-risk and tribal youth through mentoring, 4-H participation and family activities. By partnering with organizations such as United Way, Big Brothers, Big Sisters and Thrive, the program reaches over 200 youth aiming to improve academic performance, enhance social competencies and strengthen family bonds.



4-H Military Programs

In 2013, there were 48 4-H clubs directly reaching 475 military youth. Operation military Kids offered 73 programs reaching 1620 youth and 643 adults. Five High Adventure Back Country Camps were offered to 55 teenagers and 27 youth attended overnight horse clinic camps designed for military kids. These youth report learning patience, perseverance, helping others, how to deal with stress related to having a deployed parent, problem solving and team building skills.

Powerful Tools for Caregivers

Powerful Tools for Caregivers (PTC) is an educational program that provides family caregivers with the skills and confidence to better care for themselves while caring for someone with a chronic illness.

According to AARP's 2012 "Across the States Report," Montana had 131,000 family caregivers in 2009 providing caregiving services valued at \$1.39 million. The same study showed that 88 percent of caregivers never get a break from their fulltime caregiver responsibilities. It is not uncommon for the stress of caregiving to cause serious illness for the caregivers.

MSU Extension's Powerful Tools for Caregivers class trains instructors to conduct six weekly, 90-minute classes in communities across Montana to empower caregivers to develop a wealth of self-care tools to help caregivers of all ages so they can in turn continue to provide direct or managed care for their loved ones.

The Powerful Tools for Caregivers program is a national program developed at Stanford University and sustained by collaborations with community-based organizations.

In 2013, 48 caregivers successfully completed the six-week course. From data collected from class participants, they report they are better able to care for themselves while providing caregiving to loved ones.

Family and Consumer Sciences

Family and Consumer Sciences programming empowers individuals, families and communities to make informed decisions using unbiased, research-based information to improve life, health and finances in the home and community.

Healthy Living

Chronic diseases are Montana's leading cause of death, illness and disability and account for approximately 70 percent of healthcare costs. In Montana, heart disease is the leading cause of death and along with other diseases including diabetes, stroke, osteoporosis and hypertension, significantly impacts quality of life. Research shows that healthy food choices, physical activity and early detection of symptoms can prevent or delay these diseases saving millions in health care costs. Utilizing its network across the state and the trusting relationships of agents in local communities, MSU Extension works with the Montana Department of Health and Human Services and other agencies to provide educational programming in every county.

- In several counties, MSU Extension collaborates with community partners to present health fairs where residents can receive free, local health screenings and immunizations. In Fort Benton, Geraldine and Big Sandy, health professionals reported a savings of more than \$250,000 by 471 participants (\$530/each).
- Strong Women is a statewide program offered by Extension agents and others who complete Extension train-the-trainer certification. This program targets middle and older age women in underserved areas, helping them increase muscle strength by training 2-3 times per week over 12 weeks. In 2013, 2,204 adults reported participating. One hundred percent indicated they had increased stamina, strength, flexibility, balance and general health. This is critical in Montana where an aging population presents significant economic concern. The longer families can stay together in their homes, the less cost to them and the state.
- Thirty-two Extension offices partnered with the Montana Department of Health and Human Services to offer the Cardiovascular Health Program. Offices provided blood pressure readings and referrals for those with multiple high readings.



E3: Economy, Energy and the Environment

E3: Economy, Energy and the Environment is a coordinated federal and local technical assistance program that focuses on sustainability by providing custom, hands-on assessments of production processes. Montana is leading the nation by piloting the E3 framework with agricultural producers. Ten MSU Extension agents, who already have trusted relationships in their counties, are trained to complete assessments that identify opportunities and provide recommendations to reduce energy consumption, increase productivity, minimize carbon footprint and drive innovation. An E3 Assessment assists producers with maximizing energy savings and ensures eligibility for state/federal funding programs to help implement the recommendations. This program is early in its development so impacts aren't yet available. Visit www.e3.peakstoprairies.org or contact Myla Kelly, myla.kelly@montana.edu for information as it comes available.

SOLID FINANCES

Solid Finances

The award winning MSU Extension Solid Finances Program reaches Montanans wherever they are through webinars and face-to-face classes on financial education topics that are determined through needs assessments. The webinars are recorded and available, along with other resources from the website <http://www.msuextension.org/solidfinances/>. From July of 2013 to May of 2014, more than 909 hours of financial education training was provided. In addition, the webinar recordings were accessed 2,513 times.

Depending on the class, participants learn: how to protect themselves from identity theft; how to save money on healthcare expenses via Montana Medical Savings Accounts (MSAs), Flex Plans and health savings accounts (HSA); and how to evaluate whether retirement savings are on track. Evaluation data indicates participants are taking actions including obtaining their credit report, increasing the amount they are saving for retirement and adjusting MSA, Flex and/or HSA contributions.

When individuals actively manage their financial security, they are less likely to need public assistance programs in the future. They are able to protect themselves from scams and identity theft and reduce their costs for medical care.



Montana Weatherization Training Center

MSU Extension provides weatherization training for professionals so they can improve the quality of life for low-income families, particularly the elderly, people with disabilities and children. Working with Montana's Human Resource Development Councils and Tribal associates, the program connects qualified contractors with families to offer safe, efficient, cutting-edge techniques to address the health, safety, and energy efficiency issues present in low-income housing. The Department of Energy claims a 35% reduction in energy use in homes that have been weatherized, leading to an ongoing annual savings of over \$400 for families.

WxTV Weatherization online program

WxTV is a national weatherization training show that uses 12-15 minute episodes to blend expert advice, how-to techniques, innovation, and reality TV to create entertainment-based learning. The show has gained a sizable following within the weatherization, renovation, and energy-efficiency industries.

The show was developed in 2010 by the Montana Weatherization Training Center, part of Montana State University – Extension Housing and Environmental Health, with funding support from a partnership between Exxon Mobil and the National Community Action Foundation.



January, 2013-June, 2014 WxTV had just under 54,000 individual viewers on the main site www.wxtvonline.org.

In the last two years, the WxTV main site has gained more than 20,000 new viewers.

The WxTV YouTube channel currently has nearly 1 million views.

Nutrition Education

Food insecurity and hunger in Montana is real. The USDA Map the Meal Gap reports that 20.9 percent of Montana's children struggle with hunger, meaning they regularly have concern over whether they will have enough to eat. Fifty-seven percent of Montana's children participated in the National School Lunch Program and 13 percent of Montanans received Supplemental Nutrition Assistance Program (SNAP) benefits, though the number of families who are eligible for benefits is much higher. (Montana Food Security Council and Montana Food Bank Network, 2011). Access to enough food, and to healthy food in particular, is complicated by great distances between grocery stores and the availability of fresh, healthy foods at many locations. Nutrition education helps Montanans learn how to stretch their food dollars while meeting USDA dietary guidelines.

MSU Extension operates the SNAP-Ed program in Montana. Families receiving federal food stamp benefits through the SNAP program are strongly encouraged to attend this series of eight nutrition education lessons for adults. Children in the first, third and fifth grades who attend Title One schools in 14 counties, including five reservations, also receive the education. MSU Extension also offers the Expanded Food and Nutrition Education Program (EFNEP) which helps limited resource families obtain knowledge, skills and attitude necessary to extend their food budget and prepare healthy, nutritious meals, while increasing physical activity and learning other healthy lifestyle changes. The EFNEP program includes a series of eight classes for adults and a six lesson series for children in Title One schools in Billings, Missoula and Great Falls.

The Summer Feeding Program provided healthy activities and nutrition lessons in 56 sites statewide with more than 300 children attending. Reports noted that the program had good participation from families with adults and youth learning more about nutrition in a fun environment while enjoying healthy physical activities.

After EFNEP nutrition classes, 37 percent of participants increased their skills in comparison shopping and using a grocery list, and 32 percent indicated they could make their food budget last through the month. One participant shared, "I thought I could not afford to cook healthy foods for me and my grandchild. With new recipes and learning shopping tips, we now have healthier meals." SNAP Ed adults indicated they increased their consumption of fruits and vegetables (35%), planned meals and comparison shopped (44%) and increased their increased their physical activity level (34%). Youth decreased intake of sugary drinks (31%) and improved physical activity (38%).

MUNCH CODE: Operation Concession Intervention

In an effort to make a healthy choice the default choice, Teton County Extension Agent Jane Wolery worked with area concession stands to increase the nutritional value of food offerings. During the basketball season at Choteau High School, several changes were made using the Munch Code book, produced in part by Teton County Extension. Among the popular healthy additions were a fruit slushie, served in a six-ounce cup, and baggies of frozen grapes. Whole-wheat products also replaced refined-wheat products when possible.

Wolery worked with several partners in the community to make the simple menu changes, and compared to the previous year, the basketball concession totals showed almost 100 percent more fruits, vegetables and whole-wheat products were sold compared to the previous year, and the concessions made \$920 more over the course of 10 home ball games. Several people voiced their appreciation for the healthier offerings.

After a successful launch, Wolery teamed up with Valley County Extension Agent Roubie Younkin and MSU Extension 4Health and BioScience Project Director Carrie Benke to offer a webinar for other Extension agents about Operation Concession Intervention.



Horticulture

MSU Extension horticulture includes components of agriculture and natural resources, family and consumer sciences and community development programming. Including everything from caring for lawn and gardens, to beautification of boulevards along busy city streets, to bolstering self-reliance that comes from growing your own food, horticulture bridges traditional rural agriculture with more urban needs.

Master Gardener

During the growing season the calls to a county Extension office are over 50 percent horticulture or integrated pest management related and in some counties the percentage is upwards of 90 percent. Master Gardener curriculum, written and produced by the MSU Extension Horticulture professional staff has a goal of educating the general public in horticulture, yard and garden maintenance and IPM. Three levels of classes are offered and each require a volunteer commitment.

The Master Gardener program provided 13,480 hours of training in 2013 which led to 156 Level 1 certifications, 35 level 2 certifications and eight level 3 certifications. These individuals completed over 12,800 volunteer hours with an economic value of over \$284,000.

A survey of Master Gardener participants indicated that after completing the program they are more likely to participate in other MSU Extension programs. In this way, the program has been very effective in connecting additional MSU Extension

resources with communities and non-traditional clientele, including many who live in Montana's urban areas. Strong Master Gardener and horticulture programs benefit the state by increasing property values, reducing plant disease and insect issues, beautification of communities and better farmer's markets across the state. In addition, thousands of pounds of fresh produce are donated annually to food banks, schools and other various underserved groups.

Yellowstone County has the first non-profit Master Gardener Association in the state. They are dedicated to expanding the outreach of the Yellowstone County Extension's urban horticulture position by teaching gardening skills in and around Yellowstone County. In 2013, the program offered the Level 1 and Level 2 program to inmates at the Yellowstone County Women's Prison. Inmates fulfilled the course requirement of 50 volunteer hours by working in the on-site greenhouse and outdoor raised garden beds. The gardens yielded over 2,600 pounds of vegetables which provided a fresh salad bar for 200 inmates over the summer.



Community Development

MSU Extension business and community development programs provide resources and expertise to help Montana's businesses and communities envision, create and sustain successful enterprises and economic development efforts.

REAL MONTANA

Various leadership programs have guided community actions lasting years or decades, and continue to influence citizen interaction and cooperation. REAL Montana is a new initiative for rural adult leadership.

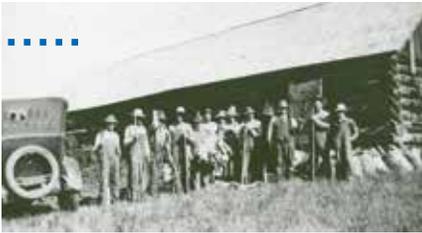
Resource Education and Agriculture Leadership is a modern iteration of adult leadership education that builds on the legacy of the Kellogg Extension Education Program (KEEP), which was an adult leadership program that began in 1972 in Montana.

The mission of REAL Montana is to “build a network of informed and engaged leaders to advance the natural resource industries in Montana.” The program involves a two-year cycle of classes, networking opportunities, and travel. Class 1 is in the middle of their program, and will embark on a study tour to China in January 2015.

During multi-day seminars, participants are involved in a mix of skill building and experiential learning activities, such as

impromptu and prepared public speaking, meeting management, and conflict resolution. Additionally, each seminar focuses on a different aspect of natural resource development in Montana, including agriculture, oil and gas development, mining, and water issues. The strength of the program lies in its diversity of speakers, tours, and subject matter.

REAL Montana has an advisory board of 12 leaders from a wide variety of natural resource industries and is made possible through a unique public-private partnership. Each participant is responsible for a tuition fee, which covers approximately 20% of the total program cost. The program director is an employee of MSU Extension, and additional program funding is obtained through sponsorships from state- and nation-wide natural resource membership organizations and companies. Program information can be found at www.realmontana.org.



Ennis Tourism Assessment and Planning Program

Tourism is one of Montana's leading industries and primary revenue drivers with over 10 million annual visitors who spend roughly \$3.3 billion and support over 42,000 Montana jobs. The MSU Extension Community Development Program, in partnership with the Montana Office of Tourism and Montana Main Street Program, coordinated the Tourism Assessment and Planning Program in Ennis, Montana in 2014.

The six-month program was attended by over 120 local citizens interested in learning more and actively participating in the workshops. The program produced five outcomes: designing signage on Main Street, determining local and national marketing strategies, investigating town infrastructure priorities, focusing on specific beautification projects, and establishing an events committee. As a result, the residents of Ennis have increased capacity to understand and address the challenges and opportunities associated with tourism.

Rural Community Foundations

The Rural Community Development Initiative is designed to improve the economic stability of rural communities, businesses, residents, farmers and ranchers and enhance the quality of life in rural America. The program goal is to build the capacity of Montana's communities to establish or build community foundations across the state. The program is a collaboration between Montana State University Extension, Montana Community Foundation, and Anaconda Local Development Corporation to provide technical assistance in the areas of strategic planning, grant making, fundraising, endowment building, community collaboration, and leadership development. Extension agents work in their counties by partnering with others to facilitate and/or attend relevant trainings, assist in the facilitation of strategic planning and host Transfer of Wealth events.



Crow Men's Health Project

In the United States, the life expectancy of a Native American man is six years below the expectancy of a white male. This vulnerable population has health disparities that include diabetes, obesity, cancer, heart disease, trauma, addiction and mental illness. Such health problems can overwhelm a community. The Crow Men's Health Project is a collaboration between enrolled tribal members of the Crow nation and the MSU Extension Community Development Program. The Project is led by a five-member Crow Advisory Committee and works by enhancing and affirming both traditional and nontraditional men's roles to create a holistic, community-based movement that improves the overall health of the Crow (Apsáalooke) Nation.

A community health banquet with guest speakers, health-related information, and resources was attended by over 200 enrolled Crow Tribal members. Survey work was conducted to better understand current health trends in the community. A series of community "talking circles" and participatory leadership trainings have enabled community members to reflect collectively on community concerns and existing assets to begin implementing a series of action plans to alleviate health disparities.

Horsemanship training seminars have taught local youth specific skills such as animal husbandry, horseshoeing, bareback and saddle bronc riding, rope and lasso exercises, and equestrian science. These activities promote a cultural connection that the Advisory Committee views as integral to promoting a healthy lifestyle. A youth summit was organized and attended by 65 Crow youth with the intent of sharing relevant information and inspiring youth to act responsibly. Role models, including tribal member "Tuff" Harris who is a safety for the Pittsburgh Steelers, connect with youth to talk about healthy choices and healthy lifestyles.

The Advisory Council anticipates the impact of the program will be that Crow men are better able to deal with chronic health conditions that impede their ability to lead, parent, and mentor the next generation. They will be empowered with skills, strategic planning, and action to address health disparities and improve their quality of life.

Extension Excellence

The strength of Extension is in longstanding and trusting relationships with local communities across the state, and in specialists and professionals who work to respond quickly to emerging needs of families, producers, businesses and industry. Being part of the fabric of a community opens up real, direct conversations about problems, solutions, mitigating challenges and embracing opportunities for the future. These people and programs received national recognition for their work.

National Recognition

Montana's Solid Finances Team consisting of MSU Extension faculty: Joel Schumacher, Marsha Goetting, Keri Hayes, Julie Riley, Roubie Younkin, Nico Cantalupo, Mary Anne Keyes, Damon Bunting, Judy Johnson and Jennifer Wells received the National Extension Association of Family and Consumer Sciences, **2013 Dean Don Felker Financial Management Award**. The honor also included non-Extension team members: Janet Simon and Ruth French, MSU-Billings; Kathy Jaynes, MSU-Northern; Ann Guiditta, University of Montana and Mary Kay Bonilla and Lisa Albert, MSU-Great Falls.

Dr. Michael Vogel, Extension Housing and Environmental Health specialist (now retired), received the prestigious **Distinguished Service Award** from the national Housing Education and Research Association (HERA).

Dr. Sandy Bailey, along with Dr. Debbie Haynes and Dr. Bethany Letiecq in the Department of Health and Human Development, received the **2013 AARP Public Policy Institute's Financial Series and the Older Consumer Award** for their paper, "How can you retire when you still got a kid in school: The economics of raising grandchildren".

The Montana Grandparents Raising Grandchildren Project was recognized by Generations United as the 2013 winner of the **Grandfamilies Award** honoring an organization that has made an outstanding contribution to the field of grandparents and other relative caregivers raising grandchildren.

Barb Andreozzi, MSU Extension agent (now retired) in Deer Lodge County received the National Association of Community Development Professionals (NACDEP), **Distinguished Career Award**.

Dr. Rodney Kott, former MSU Extension Sheep Specialist was conferred the title of **Professor Emeritus of Animal and Range Science** at the March 2014 Board of Regents meeting.

The Local Government Center and Dan Clark and Paul Lachapelle were recognized in 2014 by the National Association of Community Development Professionals for their publication, "Montana Public Lands Guide: 2013" which was produced in partnership with the Montana Association of Counties. The publication earned first place nationally in the **Educational Piece – Team Category**.

The MSU Academic Quadrathlon Team tied for second place in the **National Animal Science Contest** in 2014 and won the Western Regional competition in both 2013 and 2014. Dr. Rachel Endecott, Extension Beef Cattle specialist, is the team's advisor.



Michael Vogel



Barb Andreozzi

2014 Provost's Excellence in Outreach Award

Sandy Bailey, professor and Extension family and human development specialist, and Joel Schumacher, agricultural economics/economics, were selected as the 2014 recipients of MSU's Provost's Excellence in Outreach Award.

Since 2001, Bailey has served as the MSU Extension Family & Human Development Specialist. In that role, she has developed many effective programs and innovative partnerships, including the successful Montana Grandparents Raising Grandchildren Project. Bailey began the program after finding that, due to family crises, more grandparents were taking on a primary parenting role for their grandchildren. In addition to other methods of support, the program trains support group facilitators and offers educational conferences and other resources for grandparent caregivers. Bailey also conducts research with the Montana Grandparents Raising Grandchildren Project.

Joel Schumacher has made outstanding contributions in two vital areas of Extension education: personal finance and energy, especially alternative energy. Schumacher has established himself as one of the top Extension specialist education experts in the country on alternative energy. In the process, he has worked closely with American Indian communities through a collaboration with Fort Peck Community College. One of his most significant contributions in the area of financial planning is his collaboration with Extension Economics professor Marsha Goetting to develop the "Solid Finances" employee education seminar series. The program was initially developed for MSU-Bozeman employees, but it has since spread across Montana.



Sandy Bailey



Joel Schumacher



Rodney Kott



Dan Clark



Paul Lachapelle



Rachel Endecott

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