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Welcome to Beaverhead County

Beaverhead County is the largest county in Montana with an area of 5,571 square miles encompassing 3.56 million acres of land, with approximately 69% under public ownership. Beaverhead County’s economy is driven by agriculture, tourism, and recreation. The county is number one in cattle production and perennial and annual forage production. MSU Extension is funded by a three-way partnership between Beaverhead County, Montana State University, and the United States Department of Agriculture. Beaverhead County 4-H has 230 members involved in 10 4-H Clubs. Members explore interests, participate in educational programming and build positive relationships with interested adults. Beaverhead county 4-H has 82 volunteer adult and youth leaders. 4-H empowers youth to take on leadership roles, speak in front of a group, run a public meeting, and engage in community service and service learning.

Adding value for agricultural producers in Beaverhead County:

The MSU Extension agent worked with a new cattle producer on a synchronization program of their calf crop to help realize $6,000 savings in bull costs. Cattle calved in a 56-day window, and synchronized calves sold a month early with 75 additional pounds of weight. A calf crop of similar age and weight can provide feeding, management and market advantages.
**Mental Health First Aid program**

In 2016, Montana led the nation in suicides per capita and has been ranked in the top five states for the past 30 years, with over twice the national average for the past decade. Beaverhead County, with neighboring counties Madison, Butte-Silver Bow, and Deer Lodge rank in the top 10 counties for suicides per capita. Suicide is the number one preventable cause of death in Montana children ages 10-14, and the number two cause of death in children ages 11-14, youth aged 15-24, and in young adults aged 25-44. Montana’s highest rate occurs in our Native American population and adults ages 45-64. Montana veterans have a suicide rate that is three times the national average. Montana recorded 518 suicides in the past two years, with 61 confirmed deaths during the first quarter of 2016. Over 90% of suicides in the state of Montana have been linked to mental illness. Major depression is at the top of the list; depression is treatable, and manifests itself in recognizable symptoms. In rural Montana, where healthcare services are scarce, mental health literacy is critical as family members and friends may be the first to identify changes in a loved one needing professional services.

In January 2017, Jackie Sutton became a certified MHFA instructor, she has co-taught 5 courses statewide with 117 participants, across four counties, and two of these courses were taught in Beaverhead County, reaching 68 participants. Participants in Beaverhead County scored an average of 68% on pre-class evaluations and improved to 99.8% in the post-class evaluation quiz. Sanders County participants scored a 65% pre-class and 100% post class, and Powder River County started at 62% and ended at 100%. One participant from the May class in Beaverhead County called in to report that she had been able to help a young adult seek immediate professional help a few days after completing class. She stated “Without the additional background this class provided me to help, I believe this young lady may have attempted suicide. You gave me tools to recognize and intervene on her behalf.” She went on to state that she was able to help get some additional counseling for the young woman’s boyfriend and younger sister. Participants trained in Mental Health First Aid have greater confidence in providing help to others and directing them to appropriate professional help. Ultimately anyone can make a difference in the life of someone with a mental health or substance use challenge, if they know what to say and what to do. Mental Health First Aid helps participants communicate with people in need, and provides direct mental health support in our communities.

MHFA Participants in June 2017 in Powder River County. Photo by Julie Riley
Extension Programs Benefit the Public in a Variety of Ways

Carcass Quality Improvement

In an effort to improve carcass quality and literacy in Beaverhead County youth livestock exhibitors and their parents, MSU Extension agent Jackie Sutton hosted a series of carcass quality workshops. Sutton visited each 4-H club and presented an educational program outlining animal selection, housing requirements, proper worming, vaccination, and antibiotic administration, feed quality considerations, and carcass quality. The carcass evaluation criteria were explored and members and parents participated in a hands-on demonstration measuring loin eye area, back fat measurements, and evaluating internal marbling. Beef, pork, and lamb ribeye and loin eye steaks were evaluated. Members learned to measure area with standard grids, to measure back fat and to evaluate color and marbling against standardized color guides. The class was presented 11 times to 168 4-H members and 69 adult participants. One parent stated, “I wish I would have had this information before we purchased our hogs, we would have gone a different direction.” Another 4-H family came into the office a week later to discuss proper nutrition strategies for their market hogs. Upon review of their previous three year’s carcass data they had discovered their animals had historically put down excessive back fat. “We know now that we were wasting money by feeding too much feed to our hogs in the pursuit of heavier weights rather than watching the hog’s frame size and finish.” Beaverhead County 4-H members raised 78 hogs, 40 steers, and 30 lambs. Beaverhead County 4-H members have captured the top steer carcass statewide for four of the past five years with steers bred and raised in Beaverhead county. In 2017, a first year hog member fed the second place lightweight hog carcass statewide. The overall quality of our carcasses over the past three years is starting to slowly improve. Beaverhead county 4-H leaders have identified carcass quality to be an area of concern within our market livestock programming. We will continue to explore options to create educational opportunities to improve the quality of the product we offer our livestock buyers.

Molli Miner, second place, Montana Lightweight Hog Carcass

Tracy Pauley, first place, Montana Steer Carcass
MSU Extension adds value for agricultural producers

Beaverhead County MSU Extension agent Jackie Sutton helped producers get back to basics. In prevailing drought conditions and dropping commodity prices, producers worked to manage available resources and optimize returns. Nitrate testing, value added annual and perennial forage, range condition monitoring and management, and artificial insemination and synchronization were topics of interest to producers.

- MSU Extension in Beaverhead County consulted with 25 producers, in 14 on-site visits and 48 in-office nitrate tests, including both quick tests and expanded nitrate strip testing. Pre-harvest nitrate testing and management gave 87% of these producers the information they needed to successfully harvest their annual forages with little risk to their cattle. Working more extensively with the remaining 13% of these producers with pre-harvest management and post-harvest testing, safe feeding and grazing plans were formulated. Just under 30,000 acres of barley, oat, and triticale hay and aftermath grazing was tested for Beaverhead county hay and cattle producers.

- Forage production in pastures, hayfields and on native range ground is an important piece to the economic puzzle for Beaverhead County. MSU Extension in conjunction with the MSU Cropland Entomology department monitored six fields of alfalfa for alfalfa weevil infestations, growth stages of the larva, and economic thresholds for control measures. This study positively impacted one producer by adding up to an additional ton per acre to his alfalfa crop, and benefitted a second producer in making economic decisions to control weevil annually to prevent the overwintering of the adult pest. Knowledge gained of the weevil’s life cycle in Beaverhead County will benefit all producers seeking to control weevil in the future.
Weed management and control positively impacts all crop and native forage production. Sutton trained 102 participants in sprayer calibration in 2017. Private applicators had four separate occasions to gather required recertification credits. Beaverhead County MSU Extension also co-sponsored a MWCA grant workshop and rangeland improvement class focusing on cheat grass control for 30 participants. Thirteen new private applicators were tested and licensed in Madison and Beaverhead County in 2017. Beaverhead County producers certified 450 acres of weed free forage, producing 1,350 ton of value-added forage.

A new producer sought help in adding value to their calf crop through the use of artificial insemination and estrus synchronization. Sutton helped develop a synchronization program and helped AI the cattle. The producer realized a $6,000 savings in bull costs, sold a very even group of synchronized calves a month early, with 75 additional pounds of weight. The cattle calved in a 56-day window and bred back at 97% within the first two heat cycles.

Exceptional Kids Helping

Beaverhead county 4-H members Kassidy and Shaylee Broere, in partnership with Gavin, Zane and Scarlett Garrison, planned and hosted the first annual Exceptional Kids Rodeo in Dillon in August. Exceptional rodeos are designed for children and young adults with special needs. It patterns safe, friendly, fun competitions after real rodeo events the kids are familiar with. The six exceptional contestants in Dillon participated in dummy roping, barrel racing, goat feeding, goat tail untying, pony tail braiding, and horse branding with painted hand prints. They also created custom artwork to thank rodeo sponsors. Kassidy got the idea to host an Exceptional Rodeo while competing in Tennessee at the National Junior High Finals Rodeo in June. Realizing our area did not have anything similar to offer special needs youth, she decided to start a similar event in Beaverhead County. Kassidy and her sister recruited their 4-H club, the Extension office, and the Garrison family to help. Kassidy stated “This gives them a rodeo that is all about them.”

“It’s really about us kids helping other kids have fun and introducing them to a sport we love.” The organizing “kids” gathered sponsors and were able to give each participant their own rope, and customized back number just like professional cowboys wear. Surveying the crowd, it was hard to tell whose smiles were bigger, the organizing 4-H members, the parents and adult audience, or the participating young people. Broere plans to make the Exceptional Rodeo an annual event and has already started gathering sponsors and ideas to include more kids in future events.

2017 Exceptional Rodeo Participants in Beaverhead County. Photos by Ruth Jackson
Food Safety Matters

The ServSafe program provides food safety education to foodservice managers. This training is now required for managers of all retail food establishments, private caterers, mobile food operators and temporary food permit holders by the State of Montana.

The Beaverhead County MSU Extension agent is certified to teach ServSafe Manager Certification courses and test participants, and to proctor tests online. Since becoming certified, she has certified 52 food managers with an average score of 82%. Giving the food industry leaders a local option to certify has decreased the financial burden this regulation has placed on their establishments and businesses.

In addition, the Beaverhead County MSU Extension office has purchased the equipment to test pressure gauges for home canning systems. Testing pressure gauges has opened doors to have food preservation safety discussions, resulting in the dissemination of educational materials to 12 households in the past year.
Welcome to Big Horn County

Big Horn County is a land of diversity. Rural and urban, rangeland and industry, past and present, creates a rich tapestry that makes Big Horn County unique. Encompassing over three million acres, Big Horn County includes the city of Hardin (county seat), Busby, Crow Agency, Decker, Ft. Smith, Lodge Grass, Pryor, Wyola, and the Crow and Northern Cheyenne Reservations. The Little Bighorn Battlefield and Bighorn Canyon National Recreation Area are two major tourism destinations within the county.

Agriculture and coal mining are the two primary industries within Big Horn County, both practicing sustainable production of food and fuel. Agriculture production in the county includes mainly beef cattle and farming dryland and irrigated acres. Common crops grown in the area include alfalfa, sugarbeets, and small grains such as wheat and barley.

The city of Hardin is the headquarters of Montana State University (MSU) Extension in Big Horn County. The two resident MSU Extension agents and the MSU SNAP educator work hard to cover the county providing research-based, unbiased information to 13,000 residents. Information taught includes food production, horticulture, nutrition, food safety and preservation, finances, physical activity and home skills.

Thanks to the generosity of the Big Horn County Commissioners, MSU Extension agents Molly Hammond and Holly Jay, SNAP educator Shirley Redding, and administrative assistants Jill Dale and Kelly Zier, are able to provide a multitude of services to the county. These services include administering the Big Horn County 4-H program, the community garden, teaching ServSafe, food preservation, alfalfa management, estate planning, pesticide information, crock-pot cooking, livestock pests, exercise, and rodent control classes. There are also several one-on-one clientele contacts throughout the year to answer specific questions to these topics as well as others. Each person the MSU Extension office staff assists, helps in creating a better community.

Little Bighorn River outside of Lodge Grass. Photo by Molly Hammond
Better Living through Enjoyable and Safe Physical Activity

The Centers for Disease Control estimates each year, millions of people 65 and older are treated in emergency departments because of falls. Over 800,000 patients a year are hospitalized because of a fall injury, most often a broken hip or head injury. Falls are among the 20 most expensive medical conditions, costing an average of $30,000. Costs only increase with age. The long-term effects of the fall such as disability, dependence on others, lost time from work and household duties and reduced quality of life are not considered in these costs.

Better Living Exercise classes were offered this autumn for the first time in Big Horn County. The Arthritis Foundation Exercise Program is a low-impact physical activity program proven to reduce pain and decrease stiffness. The sessions include gentle range-of-motion exercises that are suitable for every fitness level and ability. These enjoyable and motivational classes may be done either standing or sitting in a chair.

The exercise program helps participants keep joints flexible and muscles strong; maintain and increase balance; increase energy; improve well-being; and improve sleep. There were over 34 registrations taken for the classes which began in October and continued through December. The classes met twice a week for an hour and were led by Holly Jay, Family and Consumer Science MSU Extension agent, a trained leader for the program.

Better Living Exercise classes focus on providing a fun, safe and effective way to promote better health and lead participants in exercises that help them maintain independent living. Better Living classes have proven results such as decreased pain, improved joint function, improved balance, increased muscular strength, overall sense of well-being and better quality of life for participants. Participants also value the social interactions created in Better Living classes.

An educational component provides up-to-date information about arthritis self-management and exercise. The most popular aspect of the class is the relaxation activities that end each session. Participants look forward to this part of the class, and share that they “feel so good” and are “ready to face their day” after the relaxation exercises.

The program is grant-funded by the Montana Arthritis Foundation. Hand and ankle weights and exercise mats were purchased for use with this and additional classes to be held in 2018. Classes are held at the MSU Extension office in Big Horn County and are free and open to all.
Providing food safety knowledge through ServSafe training and food preservation workshops

The Centers for Disease Control indicates approximately 48 million cases of foodborne illness are reported each year in America. Data was also reviewed from foodborne illnesses related to botulism. Of the foodborne botulism cases reviewed, 44% were caused by home-canned vegetables. The review went on to state, “Botulism prevention efforts should be focused on those who preserve food at home.”

ServSafe classes help food service workers and managers learn about and understand how to prevent foodborne illnesses. Nine classes were taught reaching 109 people in 2017. These workers represent schools, restaurants, civic organizations, child care facilities or senior care facilities. Many participants use the certification to gain employment, continue employment or as mobile food vendors serving and selling food during community celebrations.

Manager classes are more intensive trainings offered for food service managers and those who oversee establishments. Participants take part in an eight-hour class and must score 75% or higher on the exam to become certified. Manager Training participants indicated they would, “train staff, develop policies, monitor and correct problems identified, be more diligent in sanitizing procedures and careful with holding temperatures.”

MSU Extension in Big Horn County provided eight food preservation workshops for adults and youth. Free pressure canner testing is offered at the Big Horn County Extension office throughout the year. MSU Extension agent Holly Jay has taken preservation training.

Preservation workshops share recommended food preservation practices. Each workshop includes an education component for preserving foods using a pressure canner, waterbath canner or through dehydration or freezing. The participants gain hands-on experience preserving foods for each method taught in the workshops. Lastly, participants take a sample of their efforts home to share with family and friends.

One participant shared she was afraid to use a pressure canner. She preserved low-acid food using a waterbath canner. (Low-acid foods must be pressure canned for food safety to prevent botulism.) After the workshop, she indicated she now felt comfortable using a pressure canner for low-acid foods and understood the risks of foodborne illness. Through these workshops, and her willingness to learn, she gained knowledge and skills that increased her confidence with using a pressure canner, which leads to a greater likelihood of her family not becoming ill by home preserved foods.

Many food preservation questions are asked via phone calls or walk-in clients. These conversations often lead to timely discussions of recommended practices. Approximately 25 individuals asked food preservation questions during home canning season. Because of ServSafe Trainings and food preservation workshops, successful participants have the knowledge to reduce the likelihood of foodborne illnesses in Big Horn County.

Food preservation workshop participants were able to take home the results of their class efforts. Photos by Holly Jay
One in every seven Montanans face hunger or food insecurity. Seventy-four percent of Montana adults eat less than five servings of fruit and vegetables each day, while 75% of American Indian Montana adults are overweight or obese. Big Horn County SNAP-Ed teaches low-income youth and adults at locations where they eat, live, learn, work, play and shop.

Shirley Redding, Nutrition Assistant, just completed our twentieth year of SNAP-Ed programming in Big Horn County. The SNAP-Ed program provides educational opportunities for youth and adults throughout the county.

Basic food safety, nutrition, and physical activities are incorporated into programming efforts in Lodge Grass, Crow Agency, Wyola, Hardin, Pryor, Fort Smith and St. Xavier elementary schools. The children sample healthy snacks and learn about MyPlate during six weekly sessions.

Adult classes teach participants about healthy eating, how to plan meals on a budget, food safety, shopping savvy and food preparation along with physical activity. Adult participants learn knife skills for preparing food along with basic cooking techniques to apply at home. Adults who complete a series of nine lessons can obtain an additional emergency food box from Helping Hands Food Bank in Hardin.

Redding collaborates by providing guidance for the Hardin Garden Board and Helping Hands Food Bank Board. River Valley Farmers Market participates in the “double the dollars” program, where each dollar of SNAP benefit is doubled when eligible produce is purchased by income-eligible families in Big Horn County. The SNAP-Ed program collaborates with community and statewide partners to leverage resources and increase program reach to eligible audiences.

The Big Horn County SNAP-Ed program empowers individuals to create changes through knowledge gained and applied, thus, making healthy choices for themselves and their families.
Big Horn County 4-H Program

The Big Horn County 4-H program had a great year once again. MSU Extension appreciates all the hard-working volunteers and leaders who make this 4-H program possible, and a huge success. We had an increase in participation from the previous year with 119 youth members and 52 adult leaders.

The major highlight of the 4-H year is the Big Horn County Youth and Open Fair. This event is the culmination of the year for many youth. There were over 730 project entries for fair. Thanks to our generous community, the animal sale generated $191,276, about a 10% increase from last year, that youth use to invest in their future.

Leading up to the fair, there are several other opportunities in which youth participate. Competition events include Fashion/Quilt Review, Demonstration/Speech Day, Cook-Off/Edible Arts, Big Horn County Horse Judging and Livestock Judging. Each of these competitions teaches youth life skills including decision making, critical thinking, and communication.

Youth that are 13 or older can participate in Montana 4-H Congress. Big Horn County 4-H had 16 representatives attend this summer event in Bozeman. Many participated in competitive events including Livestock Judging, Horse Judging, and Cook-Off. The Big Horn County 4-H Horse Judging Team accomplished a second place finish. There were also several workshops throughout Congress that helped teach youth further life skills including leadership and teamwork.

In preparation to take animal projects, members must attend an Animal Quality Assurance (QA) class. This year, Extension agent Molly Hammond held two QA classes with more than 40 participants. During this class, youth and families learned about good animal husbandry, including taking responsibility for their animals by properly feeding and watering, correctly administering injections if needed, how to read feed and drug labels, and many other aspects of responsibly taking care of an animal.

A new event held this year for 4-Hers between the ages of 10 and 13 was Tweener Camp. With about 20 participants, this event turned out to be a great success. The Big Horn County Junior Leader group started the first evening with Ice Breakers, followed by a campfire and games. During the Tweener Camp, youth also learned about bike safety, tying fishing flies, and tie dyeing t-shirts, each activity tailored after a project which can be taken through 4-H. This was a great event to keep younger members involved in the 4-H program and learn more about what 4-H has to offer.

Lastly, the Big Horn County 4-H program would not be possible without the support of the county commissioners, fair board, and the numerous adult volunteers and leaders who donate their time in helping to “Make the Best, Better.” The MSU Extension office thanks all of our local 4-H supporters for their commitment to helping youth in Big Horn County.
Pesticide programs and the re-certification cycle

As of December 31, 2017, Big Horn County Private Agriculture Plant Pest license applicators will be entering another five-year re-certification cycle. In order to be eligible to renew their license into the next cycle, they need to have attained at least six continuing education credits in this last five-year cycle by attending programs that are worth credits. Several programs worth credits were hosted by the Big Horn County MSU Extension office in 2017.

The first was the Alfalfa Pest and Renovation Workshop held in February, with over 25 attendees. Some of the information discussed included how to measure a good alfalfa stand, alfalfa field renovation, alfalfa fertilization, hay testing, and alfalfa pest identification and management. Over 65% of the participants gained a better understanding and knowledge increase of the topics covered during the program to help improve their alfalfa production.

During the first week in October, Big Horn County MSU Extension took part in the 2017 Pest Tour. With over 35 participants in the program at the Big Horn County Fairgrounds in Hardin, topics included sugarbeet disease management, herbicide modes of action and diagnosing herbicide injury, pesticide laws, and groundwater protection, prairie dog management, and how to clean pesticide sprayers.

The last couple classes held for license applicators to obtain credits were Pesticides and Alfalfa Management at the end of November, and Livestock Pests, Weed ID and Pesticides, in the first part of December. Each of these programs had about 20 participants in attendance. The Pesticides and Alfalfa Management program taught applicators about pesticides in the environment and how to prevent off-target damage through drift or leaching. They also learned about alfalfa pests and an integrated pest management approach for each of the common pests seen. During the Livestock Pests, Weed ID and Pesticide program, applicators learned about a few of the most common and problematic external cattle pests and their control, plant identification basics and identification of noxious weeds found in Montana, and about pesticide formulations and surfactants.

Each program throughout the year related to pesticides helped enhance the knowledge of Private Ag Plant Pest license applicators. These programs help ensure applicators can understand and are following the pesticide labels, and using pesticides judiciously in production agriculture, as well as keeping themselves safe while doing so. With changing technology and research, it is important to keep applicators up-to-date with information so they can continue to do their part in making agriculture sustainable.

Left: Alfalfa field. Right: Pesticide education class. Photos by Molly Hammond
Montana Noxious Weed Trust Fund Grant

The Montana Noxious Weed Trust Fund (NWTF) Grant Program was established to help fund noxious weed research, education projects, and cost share noxious weed control for local cooperative working groups within the state of Montana. This spring, a local cooperative in Big Horn County was awarded a two year, NWTF grant worth $30,000 to help combat a noxious weed invasion of leafy spurge, spotted knapweed, and a few other invasive plants.

Leafy spurge is a difficult weed to control because of its deep roots, reaching as far as 26 feet down in the soil, and its ability to shoot seeds out 15 feet away from the parent plant. The large root system helps leafy spurge plants reserve energy during stressed periods such as drought and/or control measures such as herbicides. Once leafy spurge seedlings are established, they are able to grow rapidly and outcompete most range plants. Leafy spurge is able to establish in a variety of habitats including riparian areas, grasslands, and steep mountain terrain, adding to its ability to propagate successfully.

Because of leafy spurge's ability to establish and outcompete range plants, it can have a large negative effect on range production and therefore livestock and wildlife grazing as well. The financial assistance provided by the Montana NWTF grant, in cooperation with working through the commissioners of Big Horn County, helps the working group producers sustain a control program and be proactive to control leafy spurge infestation for the betterment of their rangeland.
A tributary to the Big Horn River. Photo by Molly Hammond

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Montana State University Extension is an ADA/EQ/AA Veteran’s Preference Employer and provider of educational outreach.
Welcome to Broadwater County

MSU Extension in Broadwater County is a three-way partnership between Broadwater County, Montana State University and the United States Department of Agriculture. This partnership provides educational programs in the areas of Agriculture/Natural Resources, 4-H Youth Development, Community Development and Family and Consumer Sciences.

Broadwater County is a fast-growing county and currently has a population of about 5,747 (2016 estimate). The county encompasses 796,000 acres of a unique mix of agricultural land, small acreage subdivisions, rural communities and range or forested land. The county is also home to Canyon Ferry Reservoir, the most visited body of water in the state. About 45% of the county is public land, making the area a popular choice for hunting, fishing, hiking and snowmobiling. Primary industries include agriculture, manufacturing, mining and services. Townsend is the county seat and home to the MSU Extension office.

The county Extension office provides a unique set of services and educational resources to meet the diverse and changing needs of local clientele. The office houses one full-time Extension agent, Allison Kosto, and a part-time administrative assistant, Tammy Rauser.

The MSU Extension Office in Broadwater County extends unbiased research-based knowledge from the university to local citizens. Extension provides every resident access to relevant information and educational opportunities such as public services, workshops, community meetings, resources and more in the areas of agriculture and natural resources, youth development, community development and family and consumer sciences.
Embracing diversity in MSU Extension

A day in the Extension office is never the same. You never know who will walk through the door and what they will bring. For the first time, the Extension agent tracked clientele and content areas of office inquiries (walk-ins, emails, phone, text messages or social media). The graph shows the distribution of the topic areas (excluding 4-H). A majority of the time was spent working with pest identification and control (disease, insects and vertebrates), lawn, garden and tree care, crop and forage production (including nitrate testing and hay inspections), and weed identification and control. There were fewer inquiries in the areas of family and consumer sciences, estate planning and livestock and range management.

A variety of programs and services were offered to address local issues. Agricultural programs included a Crop School, Spring Pest Update, Small Acreage Management Institute and a Fall Rancher Roundtable. The Extension agent teamed up with the Master Gardeners to reintroduce Backyards of Broadwater, a self-guided lawn and garden tour of innovative landscapes in Broadwater County. A food preservation class on canning was held in the early fall. The office maintained the no-till drill, which seeded 435 acres during the year. Monitoring took place for the Orange Wheat Blossom Midge. One midge was caught early in the season, but the pest is has not caused any economic damage in the county.

While many parts of the state experienced extreme drought in 2017, Broadwater County was just on the edge. There was a wet spring and an extremely hot and dry summer. As a result, a few of the common issues of the year were locoweed, sweet clover, voles and tree health. By accurately diagnosing issues and providing management resources, individuals and businesses can save time and money avoiding unnecessary or ineffective pesticide treatment and fertilization.

Longtime Volunteers Receive Award

In September, John & Missy Rauser were recipients of the Montana 4-H Tribute to Volunteer Excellence Award for Lifetime Volunteers at Montana 4-H Leadership Forum. John & Missy have made a lasting contribution during 24 years of service to Montana 4-H.

John was a member of the Crow Creek Clover 4-H Club from 1972 to 1980. When their oldest daughter was of 4-H age, John’s former club had been inactive. Together, John and Missy revitalized the club starting with just five members. Because of their energy and excitement for 4-H, the club continued to grow and eventually split into two thriving clubs. The Crow Creek Clovers remains the largest club in the county today.

Another major project they took on was improving the 4-H building at the fairgrounds. They developed a vision to make the building a viable meeting place for the community. They worked hard to raise funds to add a kitchen and bathrooms. They continue to be dedicated to improve the building as needed. Recently this included an upgrade of the kitchen with new cabinets and appliances.

Individually, they have also made major contributions to the county 4-H program. John was on the Livestock Committee for 20+ years and Chairman when he retired. He was the countywide swine leader for many years and a member of the 4-H Council for 20+ years, holding nearly every office, but spent a majority of the time as Treasurer and President. Missy was extremely active on the 4-H Council for 20+ years serving as Secretary and President. She was instrumental in growing and leading the County 4-H Teen Club for 15 years.
Missy facilitated the County 4-H Exchange Program from 2001-2012, leading exchanges to Pennsylvania, Florida and Maryland.

Their contributions don’t stop at the county line. They were both on planning teams for Montana 4-H Leadership Forum. They assisted with Multi-County 4-H Camp by leading workshops and chaperoning. John served multiple terms on the Montana 4-H State Livestock Committee. As president of the Montana Pork Producers Council, he is a champion for 4-H in the swine industry and shares his knowledge at statewide programs.

John and Missy recently decided to step down from their leadership positions. They wanted to quit while volunteering was “still fun.” However, they remain an invaluable resource when called on, and left big shoes to fill. Undoubtedly, Broadwater County 4-H is better today because of their involvement.

Operation Rolling Cows

When it comes to disaster and emergency planning, you always hope that you never need to use your training. When the MSU Extension office organized a training on livestock truck accidents in September, participants never expected to use the information so quickly. However, on November 11, a semi-truck carrying calves tipped on its side on Highway 287. Freshly trained emergency responders and community members leapt into action, instituting the livestock truck accident emergency response plan.

The plan was created as part of a previous training, a partnership between MSU Extension, Disaster Emergency Services and Rural Fire Departments. The full-day training had over 50 attendees representing fire fighters, EMTs, law enforcement, ranchers, truckers, veterinarians, livestock inspectors and community members. Livestock truck accidents are unique. Human safety is always the top priority, but the safe and humane treatment of animals also becomes an important factor. The training focused on the livestock aspect.

The morning focused on discussion groups. Dr. Jeanne Rankin, MSU Extension Agro-Security Coordinator, led the group through a scenario, worked through the plan and allowed opportunity for discussion. Presenters talked about issues surrounding accidents including euthanasia, working with hogs and international shipments.
The afternoon of the training was hands-on. Participants walked through an upright cattle semi-trailer and learned about its structural design. A basic cattle-handling demonstration was done. A semi-trailer that had been in an accident was placed on its side so participants could discuss building a containment area, doing an extrication and practicing safety. On the evaluation, participants shared the most important concepts learned including construction, structure and inside design of a cattle semi-trailer, how to move cattle, knowledge of Canadian livestock shipments, to avoid lights and bright clothing, resources available, cattle line of sight and flight zones, euthanasia (don’t shoot between the eyes), and handling hogs.

After the November accident, the follow-up review provided further guidance for how our county can continue to strengthen our response plan to ensure the safety of emergency responders and the safe, humane treatment of livestock. Some of the outcomes included strengthening the community resource list and designing it so that each portion of the county is represented. The fire department had suggestions for improving safety on the highway during times of peak traffic. Without a doubt, because of the training, crews working on the accident, rescuing animals and working in the trailer were better prepared.

**Improving Small Acres**

In May, MSU Extension hosted the first Broadwater County Small Acreage Management Institute. The purpose of the program was to help small acreage landowners identify issues and develop solutions on their land. Topics included noxious weed law and identification, shelterbelts, healthy plant communities and grazing management. The program ended with a tour of a local property which has a year-round grazing rotation for horses on five acres. The property owners discussed their irrigation system, forage management, rotation and lessons learned from the process.

Because of the program, many land owners planned to make changes. According to the program evaluation, some of these included using different grazing practices, improved weed control methods, establishing a shelterbelt and using a more scientific approach to land management. A couple of the landowners followed up with MSU Extension after the program to work with the agent to develop weed or grazing management plans.

In addition to the program, the Extension agent spent a considerable amount of time working one-on-one with small acreage landowners with issues related to pasture and grazing management, pest identification and control, tree health and care, soil sampling and analysis, and range health.

John Ascheman talked about his irrigation system at the small acreage management training.
Safe, happy and healthy: Babysitters Train

In May, MSU Extension coordinated a Babysitting Class with the 4-H Military Program from Lewis & Clark County. Lack of quality daycare is an issue in Broadwater County, especially during summer months when children are out of school. The purpose was to train youth for the summer and throughout the year to help provide a more safe, healthy environment for children and infants. The two-day training focused on safety, child development, nutrition, entertaining children and business marketing. More than half a day was focused on safety, first aid and CPR.

Nineteen youth attended the class. The ages of participants ranged from 10-17. Participants were asked to share at least one thing that they will use and responses included:
- First aid (most common response)
- Child development - Be flexible with each age group and don’t treat them all the same.
- Using healthy snacks.
- Remain calm and cool.
- Always ask about allergies.
- I have the confidence to ask adults questions.
- Be safe. Always lock the doors.

Because of the training, several babysitters were able to obtain regular summer jobs. MSU Extension is now contacted by community members seeking babysitters and is able to help connect families to trained babysitters.

Growing 4-H Youth Development

4-H in Broadwater County is growing and expanding. During the 2016-2017 4-H year, 113 youth were enrolled in 4-H Clubs. Club enrollment has grown by 32% over the past two years. Because of the growth, a new club was formed during the fall: the Elkhorn Clovers 4-H Club. This is the first new club in the county since 1986, when the Winston Eager Beavers 4-H Club was formed. Additionally, 70 youth participated in non-traditional 4-H programs including a special interest program and school enrichment.

It is possible to reach this many youth through the contributions of 4-H volunteers working with MSU Extension. Capacity building and volunteer recruitment continue to be a central goal of the program. There were 39 certified adult volunteers serving in leadership roles this year. This represents an 86% increase in volunteer support, primarily new project leaders, over the past two years. Volunteers with Broadwater County 4-H contributed over 2,400 hours of time, and the value of their time to the 4-H program is estimated at over $50,000.

Photos by Allison Kosto
Broadwater County 4-H members shared the impact of 4-H through their 4-H stories:

- "In my cooking project, I learned basic cooking skills including how to measure dry and wet ingredients and safety practices while cooking."
  – Anna Beatty, 10 years old

- "I learned that in times of need, we as 4-Hers and community members need to band together to lift up those who need our help. We must love them and do everything we can to show them we care."
  – Allyson Kamps, 14 years old

- "…if it is one lesson I learned this summer, it is that showing isn’t about the banner, and it isn’t about the money, it’s about friendships and making memories. Because in the end, you are never going to remember every little thing you won, you are going to remember the people who helped you get there."
  – Kadyn Braaten, 14 years old

- "The leadership, confidence and skills I have gained from this organization have helped me tremendously to navigate social and educational experiences and will continue to do so as I move into my senior year and on to my college life."
  – Grace McDonnell, 17 years old

- "4-H has allowed me to make friends across the state, improve my leadership skills, and give me the confidence to keep taking new steps in my journey through life."
  – Tyler Noyes, 17 years old

2017 4-H Contest Extravaganza: Hooked on Cooking. Photo by Allison Kosto
Welcome to Carbon County

Carbon County is located in south-central Montana and has a population of just over 10,000. The county is dominated by the Beartooth Mountains and the Pryor Mountains. The Clarks Fork River, Rock Creek, Red Lodge Creek, and many other tributaries originate from the Beartooth Mountains. These rivers and streams provide water for agricultural irrigation, communities, and recreation. Prevalent industries of the county are agriculture, recreation, and tourism. Agriculture is the main industry in the county - livestock, small grains, alfalfa and hay production, and irrigated crops dominate the area. Most agricultural business in the county is owned by families who have lived in the county for many generations. Several areas of the county are being developed into small acreage properties and homes for residents who do not make a living from agriculture. In the last 10 years, this unique group has been growing in Carbon County. Their needs and interests vary greatly from more traditional agricultural producers; Extension programming has been adapted to meet these needs while continuing to support traditional agricultural producers. These population demographics exhibit a more diverse Extension clientele than in many Montana counties.

The combination of these groups creates a diverse and dynamic 4-H and Youth Development program in Carbon County. 4-H in Carbon County has been increasing annually, from 185 youth members to over 300 in 2017. With this dramatic rise in membership comes more demand for educational programs, as well as an increase in the scope of 4-H programming efforts. The educational needs of this group range from specific project areas to leadership and citizenship, to adult volunteer education.

The Carbon County MSU Extension office is located in Joliet and is staffed by Extension Agent Nikki Bailey and Administrative Assistant Sheri Hatten. Assisted by support from Carbon County Commissioners, Extension has met the needs of clientele across the county including a robust 4-H program, traditional agricultural producers, and new landowners. One of the exciting aspects of working in Carbon County is the opportunity to create programming that extends over many different areas of emphasis and groups of people.
Farm Business Planning Workshop Series

A need that has been identified in Carbon County is agricultural business planning and transition planning. A course entitled ‘Planning For On-Farm Success’ was brought to Carbon County to address this need. The classes focused on providing business planning, marketing, and financial planning for beginning agricultural producers and producers looking to make a change in their operation. One producer reported, “Classes like this are really informative and I always learn something new.” Planning For On-Farm Success was a nine-week mixed media series for beginning farmers and ranchers and agricultural producers looking to make a change in their operation. Half of the class was taught via webinar by the Community Food & Agriculture Coalition presenters and the other half hosted local speakers and activities. Workshops ranged from business strategies to farm law. Participants reported the largest gain in knowledge on topics of financing, managing on farm risk, and financial decision making. One young farmer reported, “The strategic planning section really opened up communication between family members and allowed us to develop a business plan.”

Private Applicator Training Classes

The Montana Private Applicator Training (PAT) Program is coordinated by MSU Extension through a Memorandum of Understanding between the Montana Department of Agriculture and MSU Extension. At the county level that means providing trainings for local landowners and agricultural producers on how to safely and effectively use pesticides that require this license. The current certification cycle ended in 2017 for the PAT license holders within the region, which increased the need for local trainings to recertify. The MSU Extension office in Joliet hosted and taught two local trainings this year with over 60 people attending. Trainings focused on noxious weed identification, pesticide mixtures, pesticide safety, pesticide in the environment, and more. Instructors ranged from MSU Extension specialists to local and neighboring Extension agents. By the end of these classes, agricultural producers and landowners in attendance not only received credits to recertify their Private Applicator License, they also reported learning new information about pesticides. One landowner reported, “Great presentation, it was informative and fun to participate and I learned some great material.” Another reported, “This was the best PAT program they have ever had.”

Local producers gained skills to apply pesticides safely and effectively on rangeland.
Unique Teen Leadership Opportunities

Over the past year, several new teen leadership opportunities in Carbon County have included a leadership trip to western Montana, a teen led 4-H Project Day, and an opportunity to present to MSU President Waded Cruzado and MSU’s College Deans on the President’s Bus Tour. One of the main goals of the 4-H Exchange program is to get youth outside of their comfort zone and expose them to new areas and cultures. This goal was achieved by exploring the western side of Montana on a bus tour in August. The exchange group explored and learned about natural science in Glacier Park, lived history in the Old Montana Prison in Deer Lodge, learned about local culture at Flathead Lake, and had fun at the Silverwood Theme Park in Idaho. This trip incorporated many life skills including teamwork, science, problem solving, and leadership. Teens worked with the leaders and Extension staff to plan and implement the trip. One 4-H member reported, “I have never traveled without my family before and I made some really cool friends and learned a lot.”

4-H Ambassadors is a program that provides opportunities for teens to develop their leadership and communication skills. The Carbon County 4-H Ambassadors set goals and projects at the beginning of the year and work with Extension staff, leaders, and district leaders to work toward these goals. The Carbon County 4-H Ambassadors planned and taught a day-long program aimed at getting members’ projects ready for the fair. Teens led workshops related to beef showmanship, robotics, swine showmanship, sheep and goat showmanship, rabbit and poultry showmanship, photography, and cake decorating. The day was a true success; younger members learned from older members and teens gained valuable leadership experience.

The Carbon County 4-H Ambassadors also planned and implemented a Prom Dress Drive to collect and distribute affordable prom dresses to teens in the community, promoted 4-H by visiting schools, planned and led a Clover bud Camp, and even spoke to Montana State University President Waded Cruzado and the Deans of MSU’s Colleges during their stop by Carbon County on the President’s Bus Tour. These teens, under guidance from the MSU Extension office, prepared presentations on the importance of 4-H and Extension and each spoke in front of this prestigious group. This opportunity instilled a sense of true accomplishment in the youth and showcased their true leadership and public speaking abilities. Each teen discussed the importance of 4-H in their lives and highlighted their education in leadership, communication, science, and organizational skills through 4-H.
4-H SEAL Leader Training

The need for trained volunteer leaders has increased with the growing 4-H numbers in Carbon County. To meet this need and promote positive youth development principals within the current volunteer base, MSU Extension agents in Carbon, Yellowstone, and Musselshell/Golden Valley counties created and implemented a training program for area volunteers. The first class focused on identifying the Real Colors of the volunteers and how their personalities relate to being an effective leader. The Real Colors Personality Test was connected to leaders’ work with 4-H members and ways to improve the 4-H experience. During the second class, participants learned about generational differences, the experiential learning model, and how to run a successful club meeting. Participants reported that information on generational differences was interesting and would aid work with youth and volunteers. The final class of the series was taught in partnership with the Montana State University Agricultural Education Division and the students and faculty of the Philosophy of Extension class and MSU Extension. This class focused on how to be a successful project leader. Local Extension agents worked with graduate and undergraduate students to design, implement, and teach a class focused around the needs of 4-H project leaders. This class provided a service learning and practical, hands-on experience to the university class and a unique training opportunity for 4-H leaders. Over 30 leaders from the three counties attended the trainings and gained information on how to become a better leader. New 4-H leaders were recruited and trained through this program and veteran leaders were given new tools for working with diverse audiences. Leaders who attended ranked the program with an A grade and one leader reported, “I really didn’t know what to expect. Great ideas! Excited to use some of these ideas to make the experience the best for each kid!”
Welcome to Cascade County

Cascade County, located in Central Montana, is one of the population centers in the state and is known as the “Electric City” due to its historical significance in regard to the hydro-electric generation plants and smelter activity. The Extension office is located in the county seat, Great Falls, which is on the Missouri River and is one of the pioneer cities in the state. The terrain is primarily gently rolling plains that are dissected by the Missouri River and its numerous coulees and tributaries. The Little Belt Mountains are found in the southeastern portion of the county.

Population of the county is approximately 82,300, which includes the rural area, the incorporated city of Great Falls and the towns of Belt, Cascade, Centerville, Fort Shaw, Monarch, Neihart, Sand Coulee, Simms, Sun River, Ulm, and Vaughn, many of which have complete K-12 school systems.

Cascade County’s economic base includes agriculture, military, education, small manufacturing, food processing, and many service industries. The majority of agricultural income is derived from crop production. According to 2014 Montana Agricultural Statistics, the county ranks seventeenth in crop production with over $56 million in cash receipts. Livestock production, primarily beef cattle, is also very important; generating over $78 million in cash receipts and ranking ninth in the state.

Great Falls is home to the Benefis Health Care System (one of the premier hospital and health care organizations in Montana), Malmstrom Air Force Base, and many cultural attractions including the Charles M. Russell Museum and Gallery, Lewis and Clark Interpretive Center, Paris Gibson Center, and the First People’s Buffalo Jump. Great Falls is a primary destination point for tourism. Outdoor recreational opportunities include fishing, hunting, boating, golfing, hiking, and historical exploration.

Cascade County Master Gardeners volunteered 14,976 hours at community gardens, farmer’s markets, greenhouses, and the Cascade County MSU Extension office.
The first annual Montana State 4-H Working Ranch Horse Finals was held in Great Falls with 47 4-H members and youth competing. The first day of the finals was for 4-H members enrolled in the 4-H Working Ranch Horse project, levels 1-4. 4-H members competed in roping, sorting, horsemanship patterns, and a knowledge test. On the second day, both 4-H members and youth not enrolled in 4-H competed in trail, pleasure, reining, and working cow horse in three age divisions and with their colts.

The planning committee gathered close to $10,000 in sponsorships in six weeks. They gathered donations from other sponsors for class prizes. 4-H members and youth were rewarded more than a ribbon or buckle; they earned rope cans, ropes, breast collars, bell boots, HorsLic buckets, buckles, cinches, headstalls, chinks, horse boots, and gift cards.

Competitions such as the Montana State 4-H Working Ranch Horse Finals do not just happen. 4-H Horse Leaders, Erlonna Erickson, Tater Erickson, Lisa Jassen, Lindsay Garpestad, Lisa Assels, and Charla Merja, along with Cascade County MSU Extension agriculture agent Rose Malisani, provided the horsepower to plan, organize, and implement the event. The committee arranged for two clinics each morning to teach youth about working cow horse and roping, organized volunteers to help with running gates, brought cattle in for sorting, hired judges, ordered prizes, visited sponsors, and promoted the finals.

The Montana State 4-H Working Ranch Horse Finals is an educational opportunity for youth and families to gather and compete while carrying on ranching traditions. Youth are taught how to properly work cattle, rope, horsemanship, stewardship, and commodore in the 4-H working ranch horse project. The project is the first step in teaching youth to provide other families with a safe food source and be stewards of the land while carrying on family ranching traditions.
Cascade County Horticulture, Agriculture, and Natural Resources Programs

Cascade County Master Gardener classes reached students from Cascade, Teton, and Chouteau Counties. Students learned about vegetables, trees, soils, and more. Three Cascade County residents attended level three classes at MSU. Cascade County gardeners volunteered 14,976 hours at community gardens, farmer’s markets, greenhouses, and the MSU Cascade County Extension office.

Vegetables grown in community and personal gardens were primarily donated to those in need.

Educational programs included Fort Keogh on the Road, Private Applicator training, Forest Stewardship workshop, Pulse 101 workshop, and Cropping Seminar. Eighteen cattle producers attended ‘Fort Keogh on the Road’ that covered topics on water, minerals, cow-calf production, Veterinary Feed Directive, and fire. The Pesticide Education Private Applicator training reached 40 attendees from Cascade, Pondera, Toole, Teton, Judith Basin, Glacier, Richland, Lewis and Clark, Gallatin, and Park counties. Attendees learned about licenses, laws, pests, safety, labels, calibration, and environment. The program is instrumental in teaching correct pesticide application education and safety.

The Forest Stewardship program was brought to Cascade County in May. Fifteen Montana residents attended the training to learn about forest ecology, fire management, insects, wildlife habitat, trees, understory, range management, forest health, and maintenance. The Pulse 101 workshop was organized and facilitated by the Golden Triangle Agriculture Extension Agents due to decreasing cereal grain contracts and markets. Two workshops hosted a total of 270 producers. Producers learned about pulse production, insurance, diseases, and contracts.

The annual Cropping Seminar covering the Golden Triangle was held in January 2017. The program featured MSU Extension specialists Mary Burrows, Peggy Lamb, Pat Carr, George Haynes, and John Miller, as well as Stephen Vantassel from the Montana Department of Agriculture. Twenty-five adults attended the Cascade County cropping seminar, where they earned applicator credits and learned about crops, economics, and pests.

Rose Malisani, Cascade County MSU Extension Agriculture Agent, assisted in over 2,000 calls of service in 2017. She conducted 54 nitrate quick tests, 21 shelterbelt consults (10,699 trees and shrubs planted), 1,684 phone calls, 88 office walk-ins, 102 one-on-one consults, inspected 148 Noxious Weed Seed Free Forage acres, mailed 36 samples to laboratories, and attended trade shows and conventions to provide outreach about MSU Extension.
Family and Consumer Programming in Cascade County

GrandCares: Caring for Grandfamilies

There are more than 1,600 grandparents raising grandchildren in Cascade County. The Grandparents Raising Grandchildren Project has been a successful program over the years as the need for education and resources continues to grow. Another program called the GrandCares program was an additional resource offered to this population. The GrandCares program is a research-based educational program that uses strength-based workshops that provide knowledge and tools for grandparents raising grandchildren with special needs.

The GrandCares program started in Cascade County in the fall of 2017. Eighteen grandparents and two great-grandparents, with grandchildren ranging in age from 3 to 18, participated in the six-week educational series. The program focuses on reducing the stresses, emotions, and challenges of raising grandchildren with special needs while incorporating the importance of self-care through action plans. With a variety of situations, many grandparents found that they were not alone in their struggles and feelings of loneliness or being stretched too thin. Some of the tools the participants use to help reduce challenges included assertive communication, positive self-talk, and action plans. Participants set a goal to take a small amount of time from their busy schedules to participate in something they enjoy like reading a book, going for a walk, or simply taking a nap each week of the program. One participant said, “It has been over 10 years since I have taken the time to sit down and read a book, I forgot how much I enjoyed reading!” Overall participants rated the program a 9.3 on a 10-point scale and because of this program, 11 of 18 participants reported taking time for themselves was the most important tool because it helps them to have a more positive attitude.

Raising a grandchild comes with challenging times, difficult conversations and frequent obstacles. The GrandCares program empowers participants to practice self-care to continue doing what they can with the utmost of love.

Freezer Meal Frenzy

The average cost of feeding a family of four is around $859 per month according to the USDA. This can be a large financial burden on families. Along with the financial burden, today’s society is fast-paced and often leaves very little time to develop a healthy, well-rounded meal plan. By utilizing freezer meals, a family can decrease their food budget, improve nutrition, save money, and put a healthy meal on the table in a short amount of time. The benefits of meal preparation can allow parents to spend more time with their children and less time in the kitchen.

Twelve individuals in Cascade County participated in “Freezer Meal Frenzy” in the fall of 2017. Each participant made four meals to serve a family of four. Forty-eight freezer meals were made in three short hours. Each meal cost an average of $4.89, making each serving cost just over $1. Each meal was carefully planned to meet the MyPlate standards and include a protein, grain, vegetable, fruit, and dairy. One participant stated, “This (freezer meals) requires some thought ahead of time but I am excited to spend more time with my kids, not the kitchen.” Another participant said, “I am excited to have ideas for meals and know that we don’t have an excuse for a fast food dinner.” Several participants left with plans to get together with other family members to make meals ahead for the busy holiday season because of this program.

As the cost of groceries increases and busy schedules arise, the knowledge and methods of food preservation through freezing can help any
household, small or large. When you have tools to make a week’s worth of dinners for less than $50, there is less wondering how one can feed his or her family on a tight food budget.

**Service-Learning Has Big Impact for Cascade County and Beyond**

4-H has three mission mandates promoted through 4-H youth development programs. They are science, healthy living, and citizenship. The 4-H mission mandate of citizenship includes service to communities through service-learning and volunteerism. Michigan State University Extension defines service-learning as a community service or volunteering that includes a structured educational component that helps youth to develop critical thinking and planning skills as they identify an issue they are interested in working on, then plan and conduct a service activity needed within their communities. According to Dr. Richard Lerner and his research team at Tufts University, youth that participate in 4-H are four times more likely to give back to their communities.

Cascade County 4-Her’s are an ideal example of youth who give back to their community. The Cascade County 4-H Ambassador Team took charge of one of the service-learning projects and engaged 4-H club members to make 5,000 hats for Teeny Tears. Teeny Tears is a service organization that provides donated comfort items to families grieving the loss of stillborn infants. Cascade County 4-H chose to make hats that were made and sent to Salt Lake City to be dispersed. Each family grieving the loss of a child were given two hats; one for the child to be laid to rest in and the other to be kept as a memento of their child. Hats were made by 4-H members during their club meetings and...
collected during the Montana 4-H Week of Service.

The Baby Blanket Project is another long-standing service-learning project in Cascade County. The project started in 1992 by Cascade County 4-H to provide receiving blankets to the Cascade County Women, Infant, and Children’s (WIC) program. To date, $20,000 has been raised to make over 5,000 receiving blankets for the program. In 2017, 185 blankets were made by over 60 Cascade County 4-H members.

These service-learning projects directly influenced 185 local Cascade County families and 2,500 families nationwide. Research shows that participation in service learning projects are associated with positive outcomes in five areas: attitudes toward self, attitudes toward learning, civic engagement, social skills, and academic achievement (e.g., Billig, 2009; Conway et al., 2009; White, 2001). The 365 Cascade County 4-H’ers that participated in these and other 4-H service learning projects in the last year have been positively impacted as individuals serving their communities.
Chouteau County is located in North Central Montana about 100 miles south of the Canadian border. Chouteau County was established in 1865 and was one of the original nine counties of the Montana Territory. Once being the largest county in the Montana Territory and second largest in the United States, Chouteau County is now an area of 3,936 square miles.

With a population of about 5,700, Fort Benton, Big Sandy, Geraldine and Highwood are the largest communities, with smaller communities in Carter, Loma, Floweree, Shonkin and Square Butte.

The terrain is primarily gently rolling plains that are dissected in the central portion by the eastward flowing Missouri River. The land is a complex mix of uplands, valleys, coulees and broad plains. In addition to the Missouri River, the Marias and Teton Rivers are additional surface water sources.

As part of the Golden Triangle where prime conditions produce bountiful crops, Chouteau County is Montana’s top producing county of winter wheat. With these statistics, it is no wonder agriculture production and agriculture-related businesses are the top industry.

Left to right: Shep Monument; Highwoods; Missouri River. Photos by Janell Barber
Youth development and agricultural education

National 4-H Western Heritage Conference and Championship Shoot Hosted by Chouteau County
If you were in Fort Benton in early August 2017, you might have thought you traveled back in time. The past came alive with 4-H contestants and other registrants exhibiting their 1860-1900 period clothing and western action shooting skills for the National 4-H Western Heritage Conference and Championship Shoot.

With 84 competitors and an additional 275 participants from Kansas, Missouri, California, Colorado and Montana, Fort Benton residents and other visitors to the area were exposed to a phenomenal representation of how 4-H links the history of the frontier west to our youth of today through hands-on learning.

The Montana 4-H state office, assisted by Chouteau County MSU Extension agents and staff, other area agents and local community members collaborated successfully with the Fort Benton Chamber of Commerce and Montana Agriculture Museum and Agriculture Center and other local community businesses. Numerous individuals lent their hands in presenting workshops, giving tours, judging, scoring and many other logistical needs.

It was a unique experience for our community members to experience and learn about the benefits of what 4-H youth gain in the Western Heritage Project. These included connecting the youth with the values and traditions of our past, creating an investigative interest in American Frontier history, which leads to personal research and increased knowledge of the Old West, and recognizing the accomplishments and importance of both men and women from a variety of cultures and races that contributed to the history of the Old West. Youth benefitted from hands-on historical learning and the economic impact on local businesses was beneficial as well.

Sustainable Agriculture
MSU Extension in Chouteau County provides research-based agricultural education and outreach to farmers and ranchers.

Agricultural education and outreach for farmers was achieved through The Golden Triangle Pulse 101 workshop, the Golden Triangle cropping seminar and MSU Agricultural Research Center / MSU Extension in Chouteau County (MARC/MECC) field days and Integrated Pest Management diagnosis and education.

Left to right, National 4-H Western Heritage Conference events:
Scavenger Hunt created by Chouteau County 4-H Ambassadors Andrea Rutledge and Jordee Bomgardner; candle making workshops. Photos by Janell Barber
A collaborative effort of the Golden Triangle MSU Extension agents made the Golden Triangle Pulse 101 workshop possible. Presenters educated 270 producers in Conrad and Fort Benton about pulse disease, pulse production, pulse management, inoculants and pesticides. A total of 63 producers noted changes they were going to make to their operation as a result of attending the workshop. A $130 per acre increase in profitability from pulse crops compared to winter wheat on 200 acres per farm, results in a $1,638,000 advantage over winter wheat. Enhanced management options help individuals and families improve quality of life through increased economic stability.

The Golden Triangle cropping seminar educated 44 producers about integrated pest management, crop disease, business management, cereal crop varieties and ground squirrel control. One producer will try different spring or winter wheat varieties ($40,000 estimated economic impact on one 2,000 acre farm). Again, enhanced management choices help individuals and families improve quality of life through increased economic stability.

MARC/MECC field days near The Knees, Loma and Highwood educated 58 producers on management of cereal grains and low pH soils.

Agricultural education and outreach for ranchers was achieved through a collaborative effort between the Chouteau County Livestock Protective Association and Chouteau County MSU Extension. Recommended by the Agricultural Advisory Council of MSU Extension in Chouteau County, Darrin Boss gave a presentation on cover crop grazing from a cattleman’s perspective. Two producers are going to adopt cover crop grazing as part of their grazing management system. Research has shown that haying a cover crop can yield a $55 per acre profit over crop fallow. Two ranches with 100 acres of cover crop could produce an $11,000 profit.

The Agricultural Advisory Council of MSU Extension voted in favor of Chouteau County MSU Extension purchasing a microscope for pest diagnosis and one-on-one teaching. Because of the purchase of the microscope and usage by the Chouteau County Extension Agent, one Chouteau County producer saved $2,000 in fungicide expenses by prompt diagnosis and verification of general fungi in chickpea. The producer had sprayed for Ascochyta blight 10 days prior and was concerned the blight had come back.
Healthy Matters

The Centers for Disease Control and Prevention estimates 48 million people get sick each year from a foodborne illness. Foodborne illnesses are preventable with safe handling of foods when they are stored, prepared and served. ServSafe is a food safety and food handling class, and Montana now mandates that food-related businesses meet minimum training and staffing standards. ServSafe training programs are available in different certification levels. Four ServSafe eight-hour manager classes were held over the past year. Of 11 attendees, 45% received a passing score and became certified. This certification ensures their knowledge of safe food handling practices, along with ensuring others in the food establishment will also prevent food from being contaminated with foodborne illnesses.

It is also important to practice food safety during home food preservation. The food preservation classes held in 2017 included canning Meals in a Jar and apples. In collaboration with the Toole County MSU Extension agent, we offered two classes in Shelby and two classes in Fort Benton. Participants received hands-on instruction using pressure canners, a steam juicer and some of the new Ball canning equipment, including an electric hot water bath canner, jam and jelly maker and a fruit and vegetable saucer. By showing the equipment, we were able to demonstrate time-saving and easier methods when canning food.

Many participants are surprised to learn there is new research on canning food safely and there have been improvements in canning equipment. This means the way they remembered their mother or grandmother canning may not be safe any more. Through our classes, we provide updated hands-on experiences and information for participants to use in their homes and share with others. One class participant had seen on social media that someone experienced a canning problem and shared it with our office. We shared correct information with the person who experienced the problem, and they were pleased to find out what happened and why, and what to do differently for their next canning experience.

Photos by Janell Barber
Chouteau County MSU Extension offered the Diabetes Empowerment Education Program (DEEP)™. DEEP assists people to feel empowered to take control of diabetes and their health. The six-week series of sessions included 14 participants. Topics discussed included: understanding the human body, understanding diabetes and its risk factors, monitoring your body, importance of physical activity, nutrition, diabetes complications, medication and medical care and the stress of diabetes and coping. The response after completing this series of sessions was highly positive. One participant said they obtained a clearer understanding of the class and had never heard it put so simply. Another participant had struggled for years to get their A1C to a level that was low enough for a medical-related procedure. She indicated this class and the support of the group helped her make the necessary changes to lower her A1C and was able to have the procedure done.

Learning in Progress with Local Youth

Chouteau County youth education and outreach was achieved through the following events:

- Chouteau County 4-H youth received Market Animal Quality Assurance (MAQA) certification and 4-H carcass management education. MAQA is a program designed to teach 4-H youth about producing a quality product. The goal is to assure livestock buyers that they are purchasing a safe, nutritious and good tasting product. Youth learn the importance of taking good care of their market animals. The end result is promotion of market animal quality, 4-H and the livestock industry.

- 4-H camp took place at the Kiwanis campground south of Havre. Seven Chouteau County youth and one Chouteau County camp counselor participated with Blaine, Phillips, Toole, Hill, Liberty, Pondera and Glacier counties. The camp was an excellent opportunity for youth to meet new people and develop confidence and leadership skills.

Photos by Janell Barber
Chouteau County Ag Days educated 100 fourth and fifth graders about the importance of agriculture to Chouteau County and the state of Montana. Planning for the event was a collaborative effort between Chouteau County MSU Extension, the conservation districts, school principals, FFA, 4-H, NRCS and Farmers Union. Youth learned about soils, making cheese, entomology, watersheds and livestock on the farm and ranch.

4-H youth participated in Project/Demonstration Day. Youth participated in hands-on activities and developed skills in gardening, photography, livestock production, CPR, food preparation and safety and public speaking. Sarai McCollaum, Miss Rodeo Montana 2017, spoke to the youth participants about her experience as Miss Rodeo Montana and the importance of public speaking skills in her role as Miss Rodeo Montana.

Chouteau County 4-H was represented by four youth delegates at Montana 4-H Congress in Bozeman. Two of our Ambassadors joined in early to attend pre-Congress and completed the State Ambassador Officer selection process. Andrea Rutledge from Big Sandy was elected President and hit the roads of Montana immediately to attend and help at many of the summer county fairs promoting 4-H and spreading its positive outcomes and opportunities. She continues traveling the state attending and presenting at many events, including the Chouteau County Agriculture Business Day.

The Legislative Breakfast and meeting our local Senator was a great educational experience for six Chouteau County 4-H youth members.

Chouteau County MSU Extension provided noxious weed awareness and hunter/land owner education to youth at Farmers Union Camp and at county hunter safety classes.

The Chouteau County 4-H Fair provided educational opportunities including project interview judging, posters and individual project displays, livestock judging, market livestock weigh-in, bred-heifer ultrasounds, market animal showmanship and confirmation, the heifer show, small animal show, round robin, awards ceremony, market livestock sale, 4-H carcass judging and working in the Chuckwagon.

Fundamentals for Farm Families Forum

Sessions at the Farm Families Forum included developing a disaster evacuation plan, varmint control, and farm safety. In addition, a panel discussion took place where experienced farm and ranch women shared information about their own experiences. Evacuation Planning was taught by Deborah Gessaman (Chouteau County MSU Extension).
Disaster Emergency Services). She addressed the evacuation supply list, child preparedness and pet preparedness. Stephen Vantassel (Vertebrate Pest Specialist for the Department of Agriculture) covered wildlife varmints that find their way into the home or backyard. Wildlife covered were mice, rats, skunks, raccoons, squirrels and snakes. Farm safety was hands-on and presented by Tyler Lane (MSU Extension Chouteau County), Chouteau County Farm Bureau and Chouteau County firefighters. Families learned how to safely utilize farm tools, pesticide personal protective equipment, fire-fighting tools and ATVs.

One producer wrote that farm and fire safety education was the most valuable. According to the Montana Department of Labor, 22% of 2014 fatalities in Montana happened on farms and ranches. Teaching farm safety awareness improves quality of life, economic stability, social stability and community development.

**Chouteau County Juniors and Seniors Learn about Agricultural Career Opportunities**

Chouteau County agricultural businesses educated 96 up-and-coming high school graduates on employment opportunities in Chouteau County in an effort to promote Chouteau County Growth and agricultural-related careers. Approximately 20 Chouteau County businesses educated juniors and seniors about agricultural career opportunities in Chouteau County. Businesses were represented by people in many professions at the event, including agronomists, elevator managers, insurance agents, agricultural equipment suppliers, agricultural engineers, agricultural technologists, bankers, financial planners, attorneys, entrepreneurs, animal scientists, agricultural education instructors, Extension agents and agricultural agencies. Andrea Rutledge, President of the Montana 4-H State Ambassador Team from Big Sandy was a guest speaker.

The Agricultural Business Day is a collaborative effort between Chouteau County Agricultural businesses, Chouteau County MSU Extension, Big Sandy High School, Fort Benton High School, Geraldine High School and Highwood High School. Our gracious sponsors included the Montana Agriculture Center, Chouteau County Farm Bureau, Montana Farmers Union and Montana Grain Growers Association.
Welcome to Custer County

The MSU Extension Custer County office serves the citizens of Custer County and our neighboring counties. The responsibility of the MSU Extension Custer County office is to provide education and leadership in programs related to family and consumer science, agriculture, youth development and horticulture.

Custer County is located in Southeastern Montana with the Yellowstone River flowing through the northern portion from West to East. Miles City is the center of commerce and is a transportation crossroads with I-94, U.S. Highways 12 & 59 and the BNSF Railway all passing through the community. Custer County is home to the Fort Keogh Livestock and Range Research Station, one of the largest Agricultural Research Service stations in the nation and serving the county’s 90,000-head beef cattle industry. The county includes approximately 12,000 residents and is a shopping hub for all of Southeast Montana.

Family & Consumer programming in Custer County

The Arthritis Exercise Program is a success story in Custer County. The program started three years ago and continues to grow. It is geared to those suffering from arthritis, but is appropriate for anyone who would like to increase strength and flexibility and improve balance. Most participants are over 65 and a few are over 90. Participants report greater mobility, less pain and better balance when attending the program. Currently over 30 individuals participate in the class.

Extension agent Tara Andrews has taught four cooking classes for the Healthy Lifestyle Class, which is sponsored by Holy Rosary Healthcare. To enroll in Healthy Lifestyles, individuals must be diabetic, pre-diabetic or suffer from high blood pressure or cholesterol. They learn about healthy cooking methods, try new foods and flavors, and all recipes are easy enough to re-create at home.

For the first time, Andrews taught a DEEP (Diabetes Empowerment Education Program) class this year. This is a five-week course geared toward those with diabetes, pre-diabetes and their family members. There were 10 participants who had the opportunity to interact with a local pharmacist and a diabetes educator. In addition, managing stress, maintaining a physically-active lifestyle, foot care, self-care and nutrition were covered. Participants reported that after the class they had a better understanding of diabetes, how it effects the body and what they can do to maintain their health.
Electric pressure cookers have become very popular in the last couple of years and Andrews has had requests to teach classes on cooking with a pressure cooker. She offered two classes this fall on pressure cooking and each one quickly filled to capacity. Pressure cookers offer families a way to cook a quick, healthy meal with a minimum of cleanup, making it more likely they will cook at home and enjoy a meal with their family.

Annie’s Project is another new program to Custer County. The goal of the six-week course is to empower farm women to be better business partners through networking and by managing and organizing critical information. Andrews worked with the agents in Powder River County to identify topics and speakers for the program. Many speakers presented in both counties, but a few were specific to our individual counties. The first class concluded in December 2017.

**Food Safety programming**

Each year, 48 million people in America get a foodborne illness, 128,000 are hospitalized and 3,000 die. Those numbers make foodborne illness a very important issue in all communities. People are eating more meals than ever away from home, so food safety training for restaurants, schools, hospitals and concession stands is extremely important.

MSU Extension agent Tara Andrews teaches ServSafe, a food safety curriculum, in a number of different venues. The eight-hour Managers course is offered three to four times a year to commercial enterprises that serve food. The four-hour Food Handler’s course is offered to the public three to four times a year. Andrews also teaches the Food Handler’s course at Custer County District High School for students in advanced Culinary Arts class, giving them a job skill they can use in the future. Andrews also teaches the Food Handler’s class to those incarcerated at Pine Hills School: three times a year to juveniles and four times a year to adults. It is important that those getting released from Pines Hills have a job skill when they return to their communities, and ServSafe provides one of those useful skills. The last group Andrews instructs are those who run concession stands around the community. She teaches a condensed version of ServSafe, which is geared to the types of foods served in concession stands and to some of their unique food safety circumstances.

In addition to 4-H responsibilities, Andrews provides non-traditional 4-H youth programming in schools and outside the schools.

Custer County’s Chef School has been going on for over 10 years and there are now teens who went through Chef School in second and third grades who help teach the program. In this program, we teach basic nutrition, cooking, food safety and manners. Students learn to cook healthy meals that they can go home and re-create for their families, encouraging families to eat together.

Andrews provides research-based nutrition classes for hundreds of students from kindergarten to high school. She maintains the Storywalk, which provides two stories each week from Easter until Halloween along the walking path at Holy Rosary Healthcare.
Youth Programming in Custer County

Each page of a storybook is laminated and mounted individually on a post along the path. The Storywalk promotes family time, physical activity and literacy.

Additional programs offered include sewing classes, Safe-Sitter, kitchen science and some STEM activities.

Livestock Judging - “Kids Like It!!”

Interest in the Livestock Judging program continues to build among the Custer County 4-H members. Driven by a strong commitment of both the volunteer coaches and the parents, Livestock Judging has grown from a small group of interested individuals to one of the most progressive programs in the state.

Custer County has more than 30 active youth participating in the Judging program. The organizing volunteers have weekly workouts with an internet-based homework assignment and activities for members to complete during each session. They participate in a number of competitions in the region, including the Black Hills Stock Show, Northern International Livestock Expo in Billings, contests in Western North Dakota, and Eastern and Central Montana.

Recent developments in the Miles City community have created new venues for the youth judging program to prosper. These include the new Miles City Livestock Commission (MCLC) facility and the Miles Community College Ag Advancement center. Utilizing the indoor facility at MCLC in February of 2017, the 4-H program was instrumental in growing the annual Beef Breeders Show (all beef livestock judging contest) into a premier opportunity that attracted over 100 youth.

New for the region, on December 28-29, 2017, Custer County 4-H and Miles Community College teamed up to offer the “Pioneer Livestock Judging Camp.” Over 70 youth participants were expected for the two-day educational event. The event is made possible during winter through the use of the Ag Advancement center, which is a heated learning center that consists of a 200x100 open arena and two large classrooms. The camp is open to all youth in the region, and focuses on the basics of Livestock evaluation with both technical lecture and hands-on instruction methods utilized during the camp.

The lessons youth learn through the livestock judging program include critical thinking, decision making and public speaking. The competitive nature of the activity, along with travel and recognition, provide a great incentive for youth to get involved. We will continue to support this growing program that benefits youth.

Custer County 4-H Members Competing at the NILE

House water testing helps ranchers manage drought issues

Water is essential to producing healthy livestock. 2017 brought one of the worst drought years in history, raising concern for livestock water quality. Water testing at Custer County MSU Extension became possible in 2012 with a meter which evaluates water for Total Dissolved Solids (TDS).

Through evaluations conducted at the Extension office since 2012, sulfate concentration has surfaced as the primary issue. When TDS is measured, sulfate usually is not greater than 50% of salts making up TDS. TDS testing in the Extension office showed many samples from our area testing in the acceptable range of TDS still had unacceptable sulfate levels through a laboratory analysis. Our sulfate levels range from 40-90% of TDS. This high variability established the need for sulfate testing capability in the Extension office.
A project was initiated in 2015 with Adam Sigler, MSU Extension Water Quality Specialist, to develop a protocol to utilize an inexpensive sulfate meter in the county Extension office. Three meters were evaluated which are designed to measure lower sulfate concentration than we are concerned with for livestock safety. Sigler created a dilution protocol and evaluated the meters for accuracy compared to laboratory results. Satisfactory results were achieved with the HACH Company’s meter, which proved best for our application. Field testing was implemented at the Custer County MSU Extension office in 2016.

Testing for sulfate risk became necessary for ranchers in this drought year. More than 45 water tests were completed at the Extension office, saving the need for $50 lab analyses on these samples.

Analyzing sulfate risk in 15 minutes provided ranchers the ability to safely manage livestock water as quality diminished throughout this drought year.

In 2017, the impact of this test was highlighted when we quickly determined sulfate toxicity for one producer who lost three cows and two calves. When the water source of the pasture he planned to move to was tested, it was high risk for sulfate as well. This testing allowed him to identify the cause of his losses and prevented further significant loss.

The TDS meter is still utilized to evaluate initial risk, and the addition of the sulfate test allows us to provide water risk information to ranches in a timely manner. Our estimate indicates this testing service prevented death of 25 animals in 2017 with a value of more than $25,000. Eliminating the need for laboratory analysis on 45 water samples resulted in a direct savings of $2250 for area ranchers.
The MSU Daniels County Cooperative Extension System is a non-formal educational program designed to help people use research-based knowledge to improve their lives. The service is provided by the state’s designated land-grant university, Montana State University. In Daniels County the educational focus is in the areas of agriculture, natural resources, family and consumer science, community economic development, and youth development, including 4-H.

Since 1922, MSU Extension has successfully provided a service to the citizens of Daniels County in Northeast Montana, facilitating programming to bring important tools to aid in decision making for production agriculture, estate planning, youth development, community health and more. Daniels County MSU Extension has provided a location where research-based resources are immediately accessible.

The Daniels County Courthouse is located in Scobey, the county seat. The building was built in 1913, the same year Scobey was relocated to a site on the Great Northern Railway, and originally functioned as a hotel. The two-story building, which had a false front, was the largest in the city at the time. Over the next seven years, the hotel passed through several hands. At one time, it became known as “One-eyed Molly’s House of Pleasure” after its most notorious proprietor, a glass-eyed woman known as One-Eyed Molly who supposedly ran a brothel from the hotel. When Daniels County was established in 1920, the newly-formed county purchased the hotel to use as its courthouse.

The courthouse was added to the National Register of Historic Places on May 4, 1995.

There is one K-12 school serving all of Daniels County, Scobey Schools.

Daniels County current population is estimated to be 1755. Approximately 26% of the population is 65 years old or older, and 22% is under 18 years of age. Ninety-five percent of residents have a high school degree and 24% have a bachelor degree or higher.

As of 2000, Daniels County was considered the most rural county in the continental United States as measured by the Index of Relative Rurality. It borders the southern line of Saskatchewan on the Canada–U.S. border.

Photo by Trevor Manternach, Flickr
Weeds and kids: both grow up too fast

When you ask kids if they have ever heard the phrase “You are growing like a weed,” 85 percent of the time you get a big smile and a resounding “YES!” Kids and weeds seem to grow up too fast, when given the right environment. In Daniels County, the kids learn early in life about weeds, especially noxious weeds, through coordinated efforts of MSU Extension, the Daniels County Weed District, the Natural Resource Conservation Service and Scobey Schools.

In 2017, Scobey School kindergarten and first grade students participated in a field trip that had several important objectives. The first objective was presented before students left the school: each group was given instructions on how to safely board and exit the bus. Upon arrival at the field trip site, the students learned how to exit a bus in case of an emergency, which meant practice using the back door.

Then the real fun began with the introduction to the plant world around them. The field they visited is one many of the students pass every day, but generally do not pay attention to what is growing there, as it essentially is just another field.

With this field visit, youth are instructed to go and search for different plants to see how many they can find without getting the same one twice. Once field gathering is done, the youth proceeded to lay out the plants they found.

The next step is to identify the plants as native or introduced species. Once the native and introduced species are separated, the leaders point out the noxious weeds, the impact they have on our agriculture and natural resources, and how each of us can help in the eradication or management of invasive plant species.

To reinforce what was learned on the field trip, the following week the kindergarten and first grade students participated in a classroom activity about noxious weeds. Surprisingly, many remembered what they saw and experienced the week before. The students enjoyed sharing the fact that several of the identified noxious weeds are growing in their gardens and backyards. All 45 students were given the official titles of “Weed Warriors” and were given t-shirts provided by the Montana Weed Control Association and markers to list their top noxious weeds on the back of the t-shirt. Topping the list of noxious weeds in Daniels County were field bindweed, leafy spurge, knapweed and Canada Thistle.

Photos by Connie Wittak
Identifying plants in pastures can prevent loss of livestock

Not all plant questions have such a positive identification outcome. During the summer of 2017, Daniels County was in extreme drought. Ranchers were challenged with finding pastures that may not have been normally used during the grazing season. Many of those pastures had not been managed for desirable plant species in decades.

Water hemlock, a wetland plant, is commonly found in wet meadows and pastures and along the banks of streams. Water hemlock is a native species, but is highly toxic and can cause a quick death in animals, including humans.

With drought conditions, the wet meadows are seen more prominently across the landscape, therefore improving the ability to see water hemlock infestations. Under normal conditions, animals have probably never grazed in areas where water hemlock grows, but when green forage is not available, the urge to graze anything growing can be problematic and deadly.

To facilitate awareness of water hemlock, MSU Extension in Daniels County provided a news release with photos to the local newspaper, the Daniels County Leader. In our world of social media, this is still a community paper that is read by a large percentage of residents.

Upon reading the article, a young producer called about the possibility that he had just turned cattle out into a pasture that might have water hemlock. In a matter of minutes after the conversation, the producer was already on his way to town with a sample to have identified.

The Extension agent was able to determine the plant found in the pasture was indeed water hemlock. The rancher immediately removed the livestock from the pasture. Also of concern was the possibility of the rancher’s young children becoming exposed. The pasture was declared off-limits for both livestock and family members.

Without MSU Extension making the farming and ranching community cognizant that water hemlock was indeed growing in Daniels County, the outcome could have been a lot different.
Plant Detective

The growing season generally means activity in the fields, yards and gardens throughout Daniels County and especially in the MSU Extension office. Planting and maintaining healthy vegetation, whether it be in a 1000-acre field or 4’ x 8’ raised bed, requires knowledge and understanding by the grower. That is where MSU Extension has become the resource for answers. Fielding questions on numerous potential crop problems will start with the local Extension Office. However, MSU Extension is not just one office in one county.

Agents seek advice from neighboring county Extension offices or an MSU specialist or researcher who provide a network of quick responses and solutions to problems.

When the office received a call from an avid gardener about her asparagus growing very strangely, an over-the-phone description called for a visit to the garden. Upon arrival, it was not hard to spot the deformed asparagus plant with a wide, flat stem. Cutting the asparagus plant down did not seem reasonable at the time, due to the oddity of the growth pattern, therefore photos were taken. The photos were sent to Toby Day, the MSU Extension Horticulture Specialist, and within a short time frame the answer was received.

The asparagus plant had a condition called fasciation. This odd disorder can result in huge, grotesque stems, which was the case with this asparagus plant. The results were shared with the gardener and the good news was that perennials that exhibit fasciation may be perfectly normal the next year, so there is no need to destroy the plant.

Ironically, this same plant was entered in the Daniels County Fair, winning grand champion in the horticulture “Novelty” Class.
Welcome to Dawson County

The Yellowstone River and Interstate 94 cut through the eastern third of this eastern Montana county. Glendive, the county seat, sits astride the Yellowstone River 35 miles from North Dakota and 150 miles south of the Canadian border. The county encompasses 1,523,387 acres with 1.38 million acres in farmland, producing mainly dryland wheat and barley, irrigated corn, sugarbeets, and cattle. With the recent collapse of the oil economy in western North Dakota and eastern Montana, the latest census estimates have set the county’s population at 9,327, a 3.1% drop from 2015 levels. The city of Glendive and unincorporated West Glendive comprise 84.1% of the county’s population. The county’s main employers include the Glendive Medical Center, BNSF Railway, and the Glendive Public School system. Dawson County is home to Montana’s largest state park, Makoshika, Dawson Community College, and the Makoshika Dinosaur Museum. The county offers excellent recreational activities and tourist attractions.

2017 State 4-H Leaders Forum

After a 28-year hiatus, the Montana 4-H Leadership Forum returned to Glendive in 2017. From September 29 to October 1, over 80 4-H leaders, Extension agents, and state 4-H staff converged on Glendive for three days of learning, camaraderie, and fun. The forum also provided a needed boost to the local economy suffering from the downturn in the oil economy by filling local hotels rooms and restaurants.

The 2017 event, whose theme was ‘Snapshots of Leadership,’ was a collaborative effort of Montana 4-H District IV Extension offices and county 4-H councils from Sheridan, Valley, Daniels, McConie, Roosevelt, Richland, and Dawson Counties.

The program began with registration, local tours, and a pitchfork fondue meal at the Dawson County Fairgrounds on Friday, September 29. Tours included the Glendive Dinosaur & Fossil Museum; a trip to Beaver Creek Brewery; a tour of several downtown Glendive businesses; the Prairie County Museum and Evelyn Cameron Gallery; a local ag tour; the Farm-to-Table Project and community garden; and even featured a dinosaur dig. The pitchfork fondue, partially-funded by local community partners, included steaks fried to perfection on the tines of pitchforks, hayrides, and a make-your-own smores bar. Over 100 forum participants and local 4-H leaders and their families attended the fondue.

Activities resumed Saturday morning on the campus of Dawson County Community College. Training modules, set up in a concurrent workshop format, included web-based 4-H orientation; livestock nutrition; using food to teach animal quality assurance; painted barn quilts; how to support new volunteers; building your community through clubs, projects, and service; marketing 4-H at the local level; traditional German/Swiss cooking; and developing small animal projects. The
The most popular workshop was the “STEM (Science, Technology, Engineering, and Math) for Your Club” workshop where participants were able to build their own solar bugs.

Saturday evening’s semi-formal banquet was well attended. In addition, 15 participants took advantage of the 4-H Leader’s College the next day after closing ceremonies. The state shooting sports leadership team also took advantage of participants already gathered by holding a shooting sports training. Fourteen volunteer leaders from across the state were trained in archery, shotgun, western heritage, and air rifle. Volunteers will take this knowledge to their communities and clubs to educate people within their individual areas.

Glendive Community Garden

The Glendive Community Garden is alive and thriving. The Highland Park site features 42 20-by-20 foot plots surrounded by a deer-proof fence, situated on a previously unused piece of county-owned property. For a $20 per-plot fee, participants have access to a 400 square foot chunk of tilled ground, gardening tools, hoses, and irrigation water. Scholarships are available to those who cannot afford the $20 fee. For the 2017 season, a $500 Paddlefish Caviar Grant was procured to cover some of the expenses and purchase additional equipment for the garden and its participants.

Currently, many program participants have been able to garden more than one plot. Participation increased enough in 2017 that we expect to limit the number of plots to one per family in 2018. We are already on the hunt for additional garden space within the community that could provide for additional community gardens once the current garden location becomes full.

Benefits to the community extend beyond garden participants. Local residents who helped set up the garden also planted and tended a large pumpkin patch and then donated pumpkins to a local grade school. Several gardeners donate produce to the community food bank and some sell their produce at the two local farmer’s markets.
Fallon and Carter Counties are in the farthest-most Southeast corner of Montana bordering North Dakota, South Dakota and Wyoming. These counties encompass 4,960 square miles of short grass prairies, gumbo buttes, and are home to a population of 4,037. Unique to Carter County are the Long Pines in Ekalaka, which is part of the Custer County National Forest and Medicine Rocks State Park, weathered sandstone rock formations that provide a natural home for wildlife and recreation area for people. Cabin Creek in Fallon County is the largest underground natural gas storage system in the United States. Additionally, southeast of Baker there are 13 wind turbines. Agriculture is a valued part of the community and the history of the area. Deer, elk, and antelope hunting bring people from across the county to the area.

MSU Extension is shared between Fallon and Carter Counties and strives to provide the resources on topics ranging from livestock and crop production, home and gardening, and family living to enhance the lifestyle in Montana’s short grass country.

Hands to Larger Services

Community service has always been a part of the 4-H program in both Fallon and Carter Counties. During the 2016-2017 4-H year, 4-H Clubs gave back to their communities by cleaning highways, sweeping and cleaning city streets, baking cookies for veterans, and making holiday wreaths for the nursing homes. Additionally, the Carter County 4-H Clubs applied and received a Rural Community Development Grant from the Montana Department of Agriculture and received generous donations from Homemakers Clubs and area businesses. They are using the donations to make improvements to the Carter County Fairgrounds and develop a picnic area in Alzada along Highway 323. This year Carter County 4-H youth used their welding and woodworking project skills to extend the showring, and build benches and tables for the playground at the fairgrounds. The clubs also worked with the County Commissioners to secure a location for the picnic area in Alzada. In April 2018, the group will plant trees at the fairgrounds and the picnic area in Alzada. They will complete the projects by building picnic tables for the picnic area in Alzada.

Carter County 4-H members completed two benches and tables for the Carter County Fairgrounds. Photo by Kodie Olsen

TOP LEFT: Carter County, by Elin Kittelmann
BOTTOM LEFT: Fallon County, by Maggie Bainter
Building life skills through 4-H youth development

COMPLETE
The Fallon and Carter Counties 4-H Programs aimed to increase the number of projects youth completed and improve adult involvement. Fallon and Carter Counties MSU Extension hosted an informational workshop to present member requirements, adult resources, proper meeting etiquette and general 4-H information. The same information was also shared at club meetings. Fallon County saw a seven percent increase in projects completed and 30 percent increase in the number of project awards given. Carter County saw a five percent more projects completed, with a six percent increase in project awards given. Additionally, 4-H adults were interested in being more involved in the program due to a better understanding of the opportunities and their responsibilities.

LEARN
To increase awareness in non-traditional 4-H projects, several project discovery workshops were offered. Workshops focused on robotics, electricity, photography and outdoor cooking. We also hosted workshops on popular projects such as woodworking, sewing, and food and nutrition to provide learning activities and challenges that supplemented 4-H project manuals. By exposing members and non-member to a variety of projects, it encourages youth to participate in 4-H.

4-H youth livestock producers have the important responsibility of producing a safe, wholesome product to sell at the fair. 4-H members are required to attend a Livestock Quality Assurance program every other year while they are enrolled in a livestock project. This year’s workshops focused on beef and swine, our two most popular livestock projects. Youth learned about nutrition, how to identify sick animals, and how to market animals and themselves. One hundred percent of 4-H members complete the Livestock Quality Assurance requirement each year.

COMMUNICATE
In 2016, Fallon County 4-H leaders and MSU Extension staff piloted 4-H project interviews at the fair to create an opportunity for youth to develop public speaking skills and share what they learned in their project areas. The 4-H leaders were able to use the experience and feedback from 2016 to develop a quality project interview process for 2017. Fifty-one percent of youth participated in the optional 4-H project interviews at the 2017 fair. Eighty-one interviews were conducted in 21 project areas. Those who participated became eligible to receive an overall project award if they excelled in their interview and received a grand champion ribbon on their exhibit. The youth that participated commented that it was “really fun” and encouraged other members of their club to participate next year.

Fallon County hosted a robotics workshop with Gregg Switzer to encourage members to participate in STEM projects. As a result of the workshop, Fallon County had 66 percent increase in robotics enrollment and we now have two robotics kits for members to use. Photo by Kodie Olsen

Four Food and Nutrition workshops were held, including “Cooking with Claudia.” Owner of Claudia’s Mesa in Bozeman, Claudia Galofre-Krevat’s presentation was focused on learning about lentils, heritage cooking and Montana agriculture. Photo by Kodie Olsen
Business from the Ground Up

The 2017 Soil-to-Skillet Program hosted by the Fallon and Carter Counties MSU Extension office, offered an opportunity to bring a diverse group of people together that have a common interest. Whether it be by using education, food, music, or hobbies, speakers at this year’s program had a passion for bringing people together to connect, grow, and be inspired.

Presentations ranged from finding your passion and niche to growing healthy communities, and from starting a small business to creating strong communities. Participants heard successful business owners who created a name for themselves, have promoted agriculture in a unique way, and who have strengthened their local communities.

Participants also partook in four hands-on workshops: making wool-felted dryer balls, how to make butters, how to make pollinator hotels out of logs, and a demonstration on no-till potatoes. They enjoyed a meal prepared using locally-grown beef and vegetables, served with Montana-made foods including Beaver Creek Brewery Beer Bread, Tumblewood tea, Flathead Lake Cheese, and High Five Meats Lamb Sausages.

The program inspired people to support local businesses and energized them to make a positive difference in their communities. As a result of the program, a local school invited one of the speakers back to talk about decreasing food miles in their school lunch program and providing more horticulture education in classroom. The local museum partnered with another speaker and received a $4,300 grant and continued discussions for partnering on community events in the future. Others learned how to promote, add value to, and sell their beef locally. The impacts of the program extended far beyond the event.

Drought Management Tools

2017 was one of the driest years in recent years, with less than half the normal precipitation, following a dry 2016. Agriculture producers were faced with difficult management systems and turned towards Fallon and Carter Counties MSU Extension for assistance, whether it was for testing small grains for nitrates, testing livestock water for total dissolved solids and sulfates, or balancing rations using alternative feeds.

NITRATE TESTING OF FORAGES

This year brought an increased concern for nitrate levels in small grains and other crops. High nitrate feeds that are fed to cattle can lead to chronic problems, abortion, or even death. MSU Extension has offered a free qualitative nitrate test for many years. In more recent years, Fallon and Carter Counties MSU Extension has adopted a quantitative...
test to give producers a more accurate estimate of nitrate levels in their forages. This year, 215 forage samples were tested—100 samples more than normal. Seventy percent of the samples were at 2,500 ppm of nitrates and were considered cautionary. Thirty percent of the samples were 5,000 ppm or higher and recommended to feed at no more than 50% of a ration to prevent health complications in cattle. The ability to give producers quick nitrate results helps with forage harvesting and balancing rations to minimize health problems in livestock.

LIVESTOCK WATER QUALITY TESTING
A quality and safe water supply is essential to the production of healthy livestock. If water is not suitable for consumption, it can adversely affect the growth, reproduction and productivity of livestock. Since 2012, there have been elevated levels of total dissolved solids, specifically sulfates, in livestock water. Some producers have been forced to fence off reservoirs and dams, having to come up with alternative water sources, or are unable to use pastures with water dangerously high in sulfates.

Producers are encouraged to test their water if they are questioning quality. MSU Extension in Fallon and Carter Counties tests for total dissolved solids and sulfates free of charge. In 2017, over 130 water samples were tested. At $45 for a Livestock Water Analysis done by a lab, we have helped save producers $5,850, plus the cost of shipping. Additionally, there is economic value in the number of livestock that may have been saved from drinking poor quality water and weight gain on calves that may have been improved if they were put on higher quality water.
Some major changes happened in the Fergus County MSU Extension office in 2017. After 33 years serving as the office manager, Bertie Brown retired. We welcomed Mary Miller into her place in August. With a little over 10 years serving as the Fergus County MSU Extension agriculture agent, Darren Crawford moved on to another career in May, and in November, we welcomed Emily Standley to the office. These two joined Denise Seilstad (Family and Consumer Sciences Agent) and Jennifer Saunders (4-H Program Leader).

The Fergus County MSU Extension office serves a population of 11,586 within the Fergus County boundaries. The MSU Extension office also has a working agreement with Petroleum County (population 491) to provide Extension education and 4-H services to the county’s clientele.

Fergus County is located in central Montana and covers 4,250 square miles. In addition to Lewistown, the county seat with a population of approximately 5,901, other communities include Denton, Grass Range, Moore, Roy and Winifred. Each community has its own school system. Agricultural production and business form the basis of the economy. Light manufacturing, timber and natural resources, health care, education and government services contribute heavily to the non-agricultural employment opportunities. The area is well known for tourism, outdoor recreation, hunting and fishing opportunities. Geographic features include mountains, spring creeks and mountain streams, foothills, large rivers, rough river breaks and rolling prairie. A big part of Fergus County MSU Extension is the 4-H program, consisting of 231 members and 59 volunteer leaders in 14 organized clubs.

Left to right: Emily Standley, Agriculture Extension Agent; Denise Seilstad, Family and Consumer Science Extension Agent; Jennifer Saunders, 4-H Coordinator; Mary Miller, Office Manager. Photo by Katie Hatlelid.
Community & Family Health and Wellness Education

Family and Consumer Sciences Education

Denise Seilstad, Family and Consumer Sciences Extension Agent has been serving the residents of Fergus County for the past 18 years. Many residents use the MSU Extension office for one-on-one consultations and questions ranging from food preservation and safety to financial planning.

ServSafe Food Safety education was provided to 372 people throughout the year. The full manager training certification was completed by 108 people, while 55 had the four-hour training, and 199 received the two-hour employee/concession training. More than a dozen pressure gauges were checked for safety throughout the year, helping keep food preservers and their families safe.

Three human services programs are provided to Fergus and Petroleum County residents. The Diabetes Empowerment Education Program (DEEP) served 28 people in Fergus County, providing six weeks of self-management education. Powerful Tools for Caregivers, an educational program for friends and relatives acting as caregivers for an adult with a chronic medical condition, served 12 caregivers. Living Life Well, a program for people with Chronic Disease, provided nine people with skills needed in day-to-day management of chronic health conditions such as arthritis, asthma, diabetes, and heart and lung disease to maintain and/or improve their ability to carry out activities of daily living.

Fergus County MSU Extension participated in a Healthy Hearts for Rural Women (Strong Hearts) research project with Cornell University. Thirteen women, over 40 years of age, physically inactive and overweight, were part of the study facilitated by FCS agent Denise Seilstad. Cornell University is currently compiling the data.

Strong People, Strong Bones is in its ninth year in Fergus/Petroleum County. This is an MSU Extension program which helps men and women slow down or prevent osteoporosis and arthritis by doing strength exercises. Two sessions meet twice weekly throughout the year, serving 35 to 40 people.

Community Education classes had 62 attendees over the past year, who learned about healthy, quick and economic meal planning and preparation, encouraging families to cook healthier, save money, and eat together.

The Safe Sitter Babysitting Workshop was given to 25 youth, ages 10 to 13, where MSU Extension teams up with Central Montana Hospital to teach youth the needed skills and medical education to be responsible, dependable babysitters.

Denise Seilstad teaching a cooking class.
Montana’s Longest Table

Pictured at right: Celebrating the relationship of Central Montana agriculture and the Lewistown business community at “Montana’s Longest Table.” The mission of the event:

- Foster relationships between the two entities
- Educate the public about the ties between agriculture and the businesses of Central Montana
- Have a fun and festive event

Jennifer Saunders and Denise Seilstad served on the newly formed “Ag Committee,” which is part of the Lewistown Downtown Association, and played key roles in bringing the new event “Montana’s Longest Table,” to Lewistown in June 2017. Ten Central Montana restaurants accepted the invitation to attend and serve a sample of one of their menu items. The committee organized sponsors to reimburse them for food expenses. The education committee invited local agriculture organizations to set up educational displays; they created table tents with “Ag Facts,” and they organized a “Kiddy Corral” petting zoo and activities.

Two hundred seats were available at the table, stretching down one block in downtown Lewistown, and the event sold out. People lined up and piled their plates (flat cardboard boxes) high with delicious food. Agricultural producers visited with the guests about the production of ingredients in the dishes. Children held chickens and petted calves, rode the bouncy horses, learned to swing a rope and had a great time. Music was provided by a local band. The committee felt they achieved the mission, creating a community event that fostered education and relationship-building, and plans are under way for the second annual Montana’s Longest Table in June 2018.

ONE-ON-ONE CONTACTS

Many residents of Fergus County use the MSU Extension office for one-on-one consultation. Questions range from food preservation and safety to financial planning, and from insect and weed identification to crop diseases. Agents Denise Seilstad and Emily Standley attempt to find answers or locate resources as much as possible. Often these questions guide local program planning, news releases, and more.

Jennifer Saunders and independent 4-H youth, Nathan Long.
4-H Senior Camp

Communication skills were the focus of the 2017 Fergus/Petroleum/Judith Basin County Camp for teen 4-H members. Demonstrations, illustrated talks, prepared speech, video, promotional packages, resume writing and job interviews were the topics of workshops provided by the MSU Extension staff.

Working in small groups, the teens prepared and presented demonstrations, illustrated talks and impromptu speeches. They brainstormed catchy introductions for various topics. They recorded video and learned how to use an editing program. The importance of positive first impressions were taught in the job interview and resume workshop. Promotional packages is a new competitive event being offered at State 4-H Congress, and the teens prepared by creating brochures, radio spots and TV commercials.

All of the teens left camp feeling more confident with their communication and technical skills, and more knowledgeable about the different 4-H communication competitive events available.

4-H Senior Camp members giving a presentation. Photo by Jennifer Saunders
Located in Northwest Montana, Flathead County encompasses 3,262,720 acres or 5,098 square miles. Approximately 94% of the land mass is national or state forest land, wilderness, agricultural, and corporate timber land. With Glacier National Park, the Bob Marshall Wilderness area and millions of acres of mountains and forest lands a short distance from any developed area in the county, there are thousands of miles of hiking, biking, cross-country skiing, and riding trails for year-round outdoor exploration. Two ski resorts, eight golf courses, Flathead Lake, and the Hungry Horse Reservoir exemplify several of the world-class attractions that have helped to make Flathead County one of the fastest-growing, and the third most populous county in Montana.

There are three incorporated cities in the county. Kalispell, which is the largest, has a population of approximately 22,052. Two additional major municipalities include Whitefish, with a population of 7,073, and Columbia Falls, with a population of 5,241. Countywide, the population has increased 22.1% from 74,471 in 2000, to an estimated 90,928 in 2010, according to the U.S. Census Bureau. Native residents are now greatly outnumbered by new residents. A large percentage of new residents are retirees and middle-aged professionals attracted to higher income jobs and lifestyle.

Attraction development has greatly increased in recent years contributing to the influx of tourists and tourism-based services, and moving the economic base towards Recreation and Tourism, and creating new jobs in the service industry. Flathead County’s population increases by 40% during the months of June through August. The health care industry has also seen considerable growth in the past 25 years, and is now the largest industry in the county, employing over 6,300 people. Growth in retail shopping opportunities has also made Kalispell a regional shopping center.

The MSU Extension office in Flathead County works closely with county commissioners as well as county departments to provide quality services in education and development throughout the area. Collaborating with local and federal agencies, non-governmental organizations, regional and national partners, MSU Extension staff and faculty in Flathead County continue to provide cutting edge and relevant educational outreach through a commitment to the emerging needs of their community.

(sources: Flathead County Government; Kalispell Chamber of Commerce)
Extension Programs Benefit the Public in a Variety of Ways

**Flathead County MSU Extension offers residents educational opportunities**

Dr. Emily Glunk, forage Extension specialist at Montana State University, demonstrated best management practices for maintaining superior pastures for livestock production. The workshop was hosted by a Flathead County horse owner in their pasture and attended by over 30 residents. Attendees learned how to identify grasses and weeds, how to use a measuring stick to know when to move animals on and off a pasture, and how to design fences that maximize forage use. Evaluations demonstrated that attendees learned information that they would put to use immediately to remedy problems on their own land.

A beginner beekeeping workshop was offered to residents wanting to learn how to start a hobby beehive. Speakers from Western Bee, the Montana Department of Agriculture and the University of Montana Master Beekeeping program presented an all-day class on a number of topics ranging from bee biology, to a year in the hive, how to assemble a beehive and how to diagnose diseases in the colony. Over 50 people attended this February workshop. This was the second workshop in the series and with over 150 people total participating, the risk of disease spreading to commercial apiaries is greatly reduced.

Montana State University Extension Flathead County agent Pat McGlynn, along with master gardeners, answered gardening questions at the third annual “Free the Seeds” event at the Flathead Valley Community College. Over 1,600 participants attended workshops, swapped seeds and gathered information from the master gardeners. The attendees felt more comfortable saving seed, transplanting, selecting varieties and testing for germination rates after the event.

McGlynn continued to teach about proper pasture management at a yak camp in May and at a back country horsemen meeting in April. McGlynn taught basic plant physiology to schoolteachers at Cayuse Prairie and Bigfork Middle School. McGlynn gave a research update at the Annual Flathead Cherry Grower meeting and the Annual Montana Grape and Winery Association meetings in April. Acting as a guide at the annual Forestry Expo in Columbia Falls, McGlynn taught tree identification to area fifth graders.
Flathead 4-H Provides Leadership Opportunities for Youth

Strategies that prepare youth for living in a global and ever-changing world are central to the 4-H “learn-by-doing” model. Leadership programs for 4-H members in Flathead County provide opportunities for youth to learn and practice skills that contribute to a future of success. Essential competencies of leadership such as self-confidence, decision-making, interpersonal skills, sense of community, and entrepreneurialism were introduced to over 1000 4-H youth members through educational outreach programs in Flathead County.

One highlight of the programs offered by MSU Extension Flathead County takes place at Loon Lake, located just east of Bigfork. Summer camp has attracted 4-Her’s from Flathead County for multiple generations. Twenty-four camp counselors completed eight hours of training and preparation to host 72 youth ages 8-12 for one week of summer camp. Counselors learned the stages of youth development and to successfully engage the campers they would be supervising. Conflict resolution, mediation skills, and the experiential learning model were also central to the counselor training curriculum. The design and implementation of the weekly program was done collaboratively by the counselors, 4-H Extension agent, and camp manager. An adventurous, social, and creative program upheld the time-honored tradition of youth mentoring and the passing-down of knowledge at summer camp.

In 2017, County Congress provided a stage from which 44 Flathead County 4-H members took part in a community tradition that allows youth to share their enthusiasm for 4-H projects and compete against one another in a constructive learning environment. In a range of events, including career communications, demonstrations, and livestock judging, youth put to the test skills they have developed at the club level such as public speaking, presenting oneself, and defending a position. Flathead County 4-H was honored in 2017 to have two youth representatives qualify at State 4-H Congress with their ‘how-to’ on public speaking demonstration, and then attend National 4-H Congress in Atlanta, Georgia.

Flathead 4-H members also took part in an interstate exchange, presented at local livestock training seminars, and represented their county as 4-H Ambassadors at area events. Every month at 23 4-H Club meetings across Flathead County, youth members work with experienced and committed leaders on the skills that will help to “make the best, better” for themselves, their clubs, community and world.

Loon Lake, Darrell Fenner 4-H Camp.
Photo courtesy of Ben Frentsos
**Family and Consumer Programming in Custer County**

**Centennial Celebration in Flathead County 4-H**

The 4-H program has been a cornerstone of youth development in northwest Montana for 100 years. Throughout 2017, 4-H youth, volunteer leaders, and alumni shared the storied traditions of this historic program in Flathead County. The Flathead 4-H Foundation, the fundraising body of Flathead 4-H, helped publish a series of monthly newspaper articles about 12 local families with historic ties to area 4-H programs. Some of these families have proudly worn the 4-H Clover for five consecutive generations. During the 2017 Northwest Montana Fair, 4-H alumni and fairgoers were treated to a birthday cake and the opportunity to explore images and artifacts from 4-H.

**Left to Right:** Centennial Celebration Display; 4-H at 2017 Fair Parade in Kalispell; Adopt-a-Road Sign donated by Flathead County. Photos courtesy of Ben Frentsos
clubs of yesteryear as part of an interactive display. Flathead 4-H was also represented by several clubs in the 2017 Northwest Montana Fair Parade in downtown Kalispell and was chosen to be the Grand Marshall of the parade.

Celebrating the centennial year was an opportunity to bring awareness of 4-H as a youth development program and to attract support for future programming opportunities for local youth. Cookbooks containing prized family recipes from Flathead Valley families were sold as part of a fundraising drive to support scholarships and activities for 4-H youth. The Flathead 4-H Foundation is also selling “Centennial” bricks for the new entryway at the Northwest Montana Fairgrounds in Kalispell, where the names of generous supporters of Flathead County 4-H will be inscribed in stone. The centennial year will also be remembered for a historic achievement of 4-H & FFA market livestock members, who at the 2017 Market Livestock Sale at the Northwest Montana Fair brought in a record-breaking $530,000.

As part of the 100-year celebration, 4-H clubs in Flathead County continued their tradition of giving back to their community by cleaning 114.5 miles, 14.5 more than their goal, of local roads and attracting recognition from the Flathead County Roads and Bridges department for their contribution. Additionally, over $1,500 was raised by the Flathead 4-H Foundation at a family fun day to support Montana families who suffered losses due to wildfires in 2017. Flathead County 4-H is committed to being a sustaining partner in developing our community by recognizing the traditions that have made our program strong and introducing innovative programs to build for the future.

Master Gardeners
Flathead County MSU Extension Master Gardeners formed a CORE group in 2017 to organize and plan activities and workshops for continuing education. The master gardeners learned about new varieties of hardy plants at Bibler Garden, volunteered at local community and school gardens, participated in a cider press and conducted an apple variety taste test at a Kalispell orchard. By continuing to increase their horticulture knowledge, master gardeners are able to provide even greater service to Flathead county residents and agencies. Master Gardener classes continue to be a high-demand educational opportunity for residents.
Welcome to Fort Belknap

Fort Belknap Indian Reservation is the homeland to the Gros Ventre (Aaniiih) and the Assiniboine (Nakoda) Tribes. Fort Belknap Indian Reservation is located 40 miles south of the Canadian border and 20 miles north of the Missouri River, which is the route of the Lewis and Clark Expedition. Fort Belknap Indian Reservation is the fourth largest Indian reservation in Montana. The Fort Belknap Indian Reservation encompasses an area consisting of 675,147 acres, which extends approximately 28 miles east and west and 35 miles north and south. The land is mostly rolling plains. The main industry is agriculture, consisting of small cattle ranches, raising alfalfa hay for feed and larger dry land farms. The Little Rocky Mountains, located at the southern end of the reservation, has two small communities. Hays, located at the southwest portion of the reservation, has both a public school (7-12), and a Catholic School, Saint Paul’s Mission, grades K-6. Lodge Pole, located at the southeast portion of the reservation has a public school, grades K-6. Fort Belknap has a tribal membership of 7,000 enrolled members.

MSU Extension, Fort Belknap Reservation: Federally Recognized Tribal Extension Program

The MSU Extension program on the Fort Belknap Reservation is one of the long-standing 33 Federally Recognized Tribal Extension Programs in the county. The role of FRTEP on the Fort Belknap Reservation has been historically integral to knowledge acquisition and skill development in the lives of tribal members at Fort Belknap for over 30 years. The Fort Belknap Reservation Extension staff have had a very busy year, providing education and outreach to many of the 3,500 members of the reservation. As agents worked to identify and prioritize the needs and interests of the reservation, community members of Hays, Lodge Pole, Dodson, and Fort Belknap Agency also showed increased interest in learning about and participating in various programs. Though it was a difficult year due to the drought conditions affecting our reservation, there seemed to be a steady interest in continuing to address our goals and objectives as we respond to the emerging needs of families, producers, businesses and industry. We continue to see how MSU Extension’s structure encourages true engagement and local involvement and expertise.
Food Sustainability Programming

The Growth of Fort Belknap Food Sustainability

Fort Belknap Reservation Extension food sustainability programming began initially with the community’s humble interest in a garden. During 2016, participants indicated they’d like to learn more about how to extend the growing season to produce more fruits and vegetables. This interest quickly grew into a series of efforts in 2017 directed at gardening, food preservation, traditional food rediscovery/use/preservation, orchards, high tunnels/greenhouses, cook-offs, and harvest festivals. A new collaboration with NACDC Financial Services allowed our communities to establish small poultry flocks, thereby increasing local egg production potential. Our First Nations grant provided home-based high tunnels for more experienced gardeners, as a foundation for next year’s peer gardener program. The Fort Belknap Food Summit was held in September, showcasing the community gardens, as well as providing a new, exciting, and continuing forum for local food issues. In 2017, more focus was placed on extending our current resources as well as initial discussions for creating new resources in 2018. We are hopeful that we may discover new collaborations in the coming year, as we have realized increased sustainability through our partnerships. A total of 667 people participated in 65 food sustainability events in 2017.

Rancher Roundup & Producer Outreach

Fort Belknap Extension conducted educational outreach workshops for local seasoned and potential cattle producers. Fort Belknap Extension co-sponsored with Fort Belknap Livestock Marketing Co-Op and Native American Community Development Corporation, the Rancher’s Roundup during the local Mid-Winter Fair. USDA, NACDC, INCA, FSA, MSU Extension, local bankers and local producers presented information to participants. This workshop brought eight presenters to one place, which eliminated travel costs for more than 26 producers. Eight local youth from Hays Lodge Pole High School attended and participated in the Agritourism workshop and learned additional ways to utilize their ranch and lifestyle. A new addition to the 2017 Rancher’s Roundup was a High Tunnel Workshop. Anniiih and Nakoda College Welding Department donated their space and tools to help teach the workshop. 10 participants went home with a constructed high tunnel ready for spring.

Fort Belknap Extension collaborated with Fort Belknap Livestock Marketing Co-op to provide economic opportunities to local ranchers and encourage new youth producers. The Montana Department of Agriculture Loan Programs provides opportunities for youth and beginning ranchers to apply for small loans. The Extension agent aided the completion of four Rural Ag Loans and three
Junior Ag Loans, bringing in seven new young ranchers with a total of $325,500 in new cattle on Fort Belknap. Along with financial literacy trainings, Private Applicator Training was conducted in collaboration with surrounding Blaine, Phillips, and Hill County MSU Extension agents. Eight individuals participated and became certified for the Private Applicator Licenses for weed/pest control. The 72-tree experimental orchard has grown to 83 apple, plum and pear. In the spring of 2017, the orchard produced over 53 pounds of fresh produce that went directly to the local community. Brent Sarchet, MSU Extension agent from Helena, is conducting the tree orchard experiment to find varieties that will produce in different climates throughout Montana. Sarchet conducted a tree pruning and grafting class at the orchard in the spring. 15 participants learned hands-on how to correctly prune a fruit tree and how to graft a tree.

Youth Development & 2017 Mid-Winter Fair - Music, Honoring Our Past

As most of Fort Belknap Extension involves families, the local youth did get opportunities to participate in some fun activities throughout 2017. The community gardens created a great avenue for the youth to get dirty, plant, and maintain the gardens. Ag in the Schools taught third to sixth grade students how to identify different seeds, plant a tomato and pepper starter, water/maintain, and plant their starter in the community gardens. The students’ plants were planted in the local high tunnels and harvested in the fall. Youth also learned about different varieties of squash. The hands-on lessons in school and after school increased the interest in community garden involvement in the summer. Over 134 youth participated in school, after school, and summer garden, nutrition, cooking, youth ag loans, noxious weed bio-control, and sewing Extension activities. Even though Fort Belknap does not have any 4-H clubs, the non-traditional youth participants enjoy their activities and leave with a better appreciation of our natural resources.

The 2017 Mid-Winter Fair was a huge success. Music was celebrated in many different avenues throughout the fair. The MWF opened with a family banquet highlighting the youth talent show. Youth from all over Fort Belknap Reservation shared their dancing, singing, storytelling, drumming, and art with the crowd. The next day, baked goods, pies, canned goods, and Chopped participants showcased their culinary skills. The youth enjoyed entertainment from a Hawaiian dance group on Youth Day. The Fiddle and Jig Night brought musicians and dancers from all local areas. The fair finished off with a Stick Game Tournament and Traditional Pow Wow. There was a little bit of everything for anyone. Fort Belknap will celebrate 50 successful years of Mid-Winter Fair in 2018.
Accessing Healthy Lifestyles

MSU Extension classes in cooking, sewing and other healthy lifestyle topics have been well-attended, with increased participant ownership of resources and direction. Extension staff have focused on instruction in many topics, all with the focus on cost-effective resource use. The participants continue to contribute to guiding the direction of classes, leading to increased enthusiasm and interest in the educational offerings. A sewing group was formed this year, allowing women to come together to make ribbon skirts, a garment that has traditional significance in cultural attire. Some of the women intend to produce the skirts as a small business opportunity. A young single mother began attending food preservation and cooking classes, and has become a steady, reliable presence within our community events. She was surprised by her own capabilities to provide for her family in a new and healthy way, while expanding her own social, physical, and spiritual resource base. Fort Belknap Extension has had 108 adult participants and 20 youth participants in 30 healthy lifestyle events.
The Fort Peck Reservation is located in the extreme northeast corner of Montana, on the north side of the Missouri River. There are 2,094,000 acres, and 10,381 residents. Poplar is the home to the Tribal Council headquarters. The Fort Peck Reservation is home to two separate Indian nations known as the Assiniboine and Sioux. The reservation is isolated from Montana’s populated areas as well as manufacturing centers, but does border oil and gas developments. The largest employer on the Fort Peck Reservation is the Fort Peck Tribes. The main economic driver is agriculture. The area is made up of farmers and ranchers, both Native American and non-Native American and the land is rich in natural resources and most recently, oil and gas development. Communities included on the Fort Peck Reservation are Fort Kipp, Brockton, Riverside, Poplar, Wolf Point, Oswego, Frazer, Lustre, and Reserve.

The purpose of the Federally Recognized Tribes Extension Program (FRTEP) is to support Extension agents who establish Extension education programs on the Indian Reservation and tribal jurisdictions of Federally-Recognized Tribes. This was enacted in 1990 by the “Food, Agriculture, Conservation and Trade Act” known more commonly as the Farm Bill. The mission is to empower individuals and communities to increase economic opportunities and quality of life, improve nutrition and health, and to protect and enhance natural resources and the environment. The FRTEP presence has been with the Poplar-based office since 2000. This is a collaborative effort with the Montana State University-county-based Extension offices and the Fort Peck Tribes. Agriculture, natural resources, nontraditional 4-H, and youth development are what our programs strive to strengthen for our people. The Fort Peck Reservation Extension Program aims to address the needs for sustaining traditional Assiniboine and Sioux values and practices, as well as technological advances that help strengthen best management practices. It also works to teach much-needed life skills via 4-H and youth programs to Fort Peck Reservation youth and families. This is needed to create healthy communities, schools, and families across the Fort Peck Reservation where poverty, suicide and school drop-out rates continue to plague Native American families. The program strives to address the need for positive leadership across the reservation.

Sunset over the Fort Peck Reservation.
Extension Programs Benefit the Public in a Variety of Ways

Advancing youth market projects: Collaboration with Richland County

The market project is a popular one for youth to take. They raise an animal from start to finish, learning about nutrition, market quality assurance, animal welfare, meat quality, and more. In the meat industry, it is widely discussed how to get larger ribeye size, tenderness, and intermuscular fat. This program was created to help teach another avenue of meat science using other cuts to add value to lesser discussed cuts of meat. It was also created because it has been discussed among many elders that our youth are losing a foundational level of knowledge of dressing out an animal.

The equipment for this project was obtained from a Montana 4-H Foundation Innovative Grant and Goss Richland County 4-H Grant. The four-part series teaches how to make fresh sausage, jerky, snack sticks, and summer sausage. The focus for this first year was fresh sausage and jerky making. Meat, spice, casing, and cheese supplies were utilized with donations and grants from local sources such as Fort Peck Housing, Richland County 4-H Council, and the Tribal Elder Program.

Students learn about different cuts of meat, muscle structure, food science, recipe structure, food safety, and packaging. The project is completely hands-on, so students cut the meat themselves, decide what kind of recipe to use and put it together from a variety of spices and cures, grind the meat, stuff the sausage in natural casing or dehydrate the jerky, and package the final product, complete with labeling.

Over 255 youth and leaders have completed one of the courses. Only 1% of them had ever made fresh sausage and only 22% had made jerky. The students were very intrigued by the process. Several skills were utilized including math skills to figure out recipe proportions, they remembered what temperature meat needed to be cooked to, understood food and equipment safety, and participants wanted to learn more about the process.

Bovine Connection-Innovative Programming with a Practical Twist

The Bovine Connection committee consisting of MSU and NDSU Extension agents, Roosevelt County Conservation District, and the Roosevelt County NRCS office offered an educational program for area producers and agri-businesses to inform them of upcoming changes and challenges in the livestock industry.

The day of the program we woke up to weather conditions that were less than favorable for some speakers to make it, but were able to use Skype. It did not deter the 70 participants who trudged through the circumstances to get there. Our first interactive presentation was about strategically culling and how it can impact your herd. The next
speaker discussed the Veterinary Feed Directive. He stressed record-keeping, a good relationship with your veterinarian, and being a sound steward of your cattle.

Fort Peck Reservation Extension agent Wendy Becker gave a presentation on the new value-added beef cut “The Bonanza Cut,” the flat-iron steak, the tri-tip, and the sirloin. The sirloin was discussed because it is being revived in the marketplace as a lean cut of meat. She discussed cooking techniques, nutritional aspects, unique qualities of the cuts, and how they have added more to the value of the carcass. During the break, everyone was able to sample the cuts.

Another speaker discussed production efficiency in beef cattle. He reported on research compiled from several trials at the livestock herd in Ft. Keogh. He talked about fetal programming, how restricted diets will affect future livestock generations, and how it is important to keep mineral nutrition consistent.

The final speaker of the day was Dave Pratt from Ranch Management Consultants. He presented: Ranching for Profit-The Three Secrets to Increasing Profit. His strategies were 1) decrease overhead 2) increase gross margin, and 3) increase turnover.

Participants were mainly cow/calf operators with 100-500 head. All evaluations indicated the bovine program was helpful and they will likely use some information for future decision making on their ranches. Finally, all of the programs provided at the Bovine Connection appealed to all of the participants, all of the subjects were useful and timely to evaluators. With the deadline fast approaching for the Veterinary Feed Directive—being well-informed is crucial. An increase in the value-added cuts showcase also showed what beef check-off dollars have pursued in terms of turning education and research dollars into higher dollar meat cuts.

**Financial Fun on the Fort Peck Reservation**

The program that the Fort Peck Reservation Extension office conducted was financial literacy about credit scores and job skill development. The program focused on what credit is, how we obtain it, use it positively, and the program included two games to reinforce learning the objectives.

A collaborative effort for funding equipment needed, room fees, meals, refreshments, and booklets, was provided with help from the Montana Financial Education Coalition, Fort Peck Housing Authority and Resident Opportunities and Self Sufficiency Grant.

Over 66 students participated in 10 different classrooms, and 45 adults participated in two-day long Tribal Financial Literacy workshops. The program materials included the book “Building Native Communities-Financial Skills for Families,” from the First Nations Development Institute, and two games developed from Luke Erickson of the University of Idaho, called Credit Score Millionaire, and an app called Night of the Living Debt, and the Montana 4-H Communications Curriculum.

Time was spent going over the basics of credit, and how it affects everybody, then we used the two games for reinforcing the objectives. The adult program allowed the participants to
receive incentives from housing, as well as CEU credits from the college. Participants learned how to fill out job applications, prepare for interviews, and build resumes. From the evaluations, there was a 100% increase in knowledge of building good credit, 100% increase in the participants ability to increase their credit score, and 100% plan to regularly obtain their credit report and work to improve their credit score, 100% plan to teach others about how to build good credit.

Many of the students and adults had great questions that were thought-provoking and real-life situations. They brought up things that others in the room weren't aware of, or had never had to think about. Some of the comments and specific actions to be taken from the class evaluations were:

- They are going to learn to set an appropriate spending limit.
- They want to be careful on how to use a credit card and use it wisely.
- To start building credit and have a successful future.
- Keep my credit score higher and pay off bills and loans
- Use a credit card wisely and build my credit score positively.
Hello everyone! My name is Josh Bilbao and I am the new Agriculture Extension Agent for Gallatin County. I am very excited to be back in Montana working with MSU Extension and share my agricultural expertise in Gallatin County.

I was born and raised in Livingston. I attended college here at MSU where I obtained my BS in Wildlife Management and my MS in Range Management. I also worked at the university in a research capacity for three years, where we worked with topics such as prescriptive grazing, weed management and wildlife habitat improvements.

I moved to Colorado after I completed graduate school, where I spent eight years working for both Boulder County Parks and Open Space and the City of Boulder Open Space and Mountain Parks. My main areas of focus were in water resource management, plant ecology, wildlife habitat, education, IPM and agricultural lease management. I managed ag leases that ranged from large scale cow/calf operations to small acreage organic vegetable farms, and just about everything in between! Much like the vision of MSU Extension, our goal with the ag lease program was to be a trusted source of unbiased information to improve the quality of the agricultural operations on the City’s property.

I look forward to working with all of you to grow and develop the agriculture and horticulture programs in Gallatin County.
Gallatin County 4-H teaches youth life skills

Gallatin County 4-H Goes Viral
The internet is full of videos that can help you fix your car, do a craft project, or just make you laugh. Gallatin County 4-H has started creating videos to help members and families in 4-H. The enrollment process through 4-H Online and then selecting a club and project can be overwhelming for families new to 4-H. Now there is a short five minute video that walks families through the enrollment process. This has helped families understand the enrollment process as well as clarifies and reduces questions for the Extension office during enrollment.

Each year, the first week in October is National 4-H week. Members and volunteers are encouraged to show their support and raise awareness of 4-H in their community. A video was created to give volunteers and members ideas and resources they could use when planning their event during National 4-H Week. Gallatin County 4-H is excited to start offering more videos as a method of communicating with stakeholders. The 4-H staff is exploring other needs and opportunities to use short videos as a way to communicate.

Photo by JaNaie’ Veca
4-H educates adults as well as youth

The Gallatin County 4-H program takes pride in teaching youth life skills they will need to succeed in life, but there is also a focus on continuing education for adult volunteers. In 2017, Gallatin County 4-H held six youth and adult workshops, along with three combined workshops for both adults and youth. By hosting a workshop for both adults and youth on the same night, attendance has increased as entire families can participate in workshops. The youth workshops are led by one of our 4-H Gallatin County Ambassadors, with a focus around citizenship. Youth have done community service projects, learned about the legislative process in Montana, and how they can better serve their community through 4-H.

At adult volunteer workshops, guest presenters have taught workshops on a broad range of topics, which are chosen from input provided by the Gallatin County 4-H Unlimited Leaders Council. Topics have included: Using Technology in Your Club, Teaching Life skills, Sportsmanship, and Building Communities. The benefits received from attending trainings are the education from the workshop along with networking and building relationships with other volunteers within 4-H. It is vital to the success of 4-H that volunteers continue to learn and grow, just like the youth in the 4-H program.
Community Compass Newsletter

The Gallatin County MSU Extension office started a community newsletter called ‘Community Compass’ in the spring of 2017. The newsletter is quarterly, and follows the seasons. The Community Compass features articles from the three program areas within Gallatin County MSU Extension. The Gallatin County Weed District has served as a guest contributor for the newsletter as well. There is also an “Ask the Agent” section where agents answer a common question they receive during that part of the year.

The mission behind the newsletter is to display the wide breadth of programming offered by Gallatin County MSU Extension. Many of our current clients and partners participate in only one of the program areas offered in Gallatin County. The newsletter educates current and potential clientele about additional opportunities from MSU Extension, as well as season-specific education on topics from 4-H Youth Development and Agriculture and Natural Resources.

Photo by JaNaie’ Veca
Welcome to Glacier County

Glacier County is home to Glacier National Park, the Blackfeet Indian Reservation, 75 miles of an international border, and thousands of acres of small grains and pulse crops and rangelands that support beef production. The nearly 13,500 county residents are largely involved in agriculture, oil and gas, and tourism industries. This past year, MSU Extension in Glacier county has reached constituents through agriculture/natural resources, youth development, horticulture, urban integrated pest management, and community development programming and one-on-one teaching.

2017 brought the addition of two new employees to the Extension office, Jodi Duncan and Mandi Henderson. Duncan is a familiar face to many, having previously served as an Administrative Assistant in the office and been a 4-H leader for nearly 20 years. Duncan is now the SNAP-Ed instructor for the Blackfeet Reservation, Glacier and Toole counties, based out of Cut Bank. Henderson is the administrative assistant, bringing great customer service experience and creativity from her time at the Blackfeet Community College library and with the National Park Service. There has also been some office cleaning and painting done these past few months which has brought a fresh update to the department.

MSU Extension in Glacier County continues to focus on meeting the needs of the community. Programming highlights this past year included the annual Cropping Seminar, Beef Cow Profitability Seminar for farmers and ranchers, and cooperating on hosting Montana's Next Generation Conference and a pulse workshop. MSU Extension continues to monitor Orange Wheat Blossom Midge throughout the county in wheat fields. Staff completed 40-plus nitrate quick tests for producers, representing 8,000 acres of hay production, and provided numerous pest and disease identifications and recommendations. Programming extended beyond agriculture to include a Mental Health First Aid class, Tree and Lawn Care seminar, and both a Level 1 and Level 2 Master Gardener series. Approximately 40 percent of office visits, phone calls, and consultations were agriculture-related, 40 percent were about 4-H, and the remainder were related to Urban Integrated Pest Management (IPM) and horticulture.

Each day, MSU Extension in Glacier County strives to identify local needs and provide the needed resources to serve its citizens.

Photo by Kari Lewis
4-H Leadership Lunches develop teens’ leadership and communication skills

In many small towns, students hustle from school to sports to homework, which often makes fitting in 4-H a challenge. Because of this, the 4-H Leadership Lunch was developed, where middle school and high school 4-H’ers meet during their school lunch hour to enjoy a lunch courtesy of the 4-H Council and to participate in leadership development activities.

In its first year, Leadership Lunches have helped members develop skills in parliamentary procedure, communication, responsibility, accountability, and more. Members have spent time learning about their personal leadership style and how they can develop that for use within their club and community. The Leadership Lunches have provided a platform for members to develop specific skills and increase their confidence in them. For example, members learned fundamentals of public speaking and practiced impromptu speaking at the Leadership Lunch which then tripled participation in the county Communications Contest from the previous year.

Over 90 percent of 4-H members who attend school in Cut Bank have attended a Leadership Lunch. All members who have attended Leadership Lunches agree that it has helped them improve their leadership skills, communication skills, and develop confidence in their abilities as a leader, and nearly 70 percent of members strongly agree that it has helped them better understand how other 4-H’ers look up to them.

Participating members agree that the Leadership Lunches have helped them feel more a part of 4-H and develop stronger relationships with other 4-H’ers. One middle school 4-H’er commented...
that because of the lunches they have a sense of camaraderie with their fellow 4-H classmates and a unique bond that they may not have otherwise.

One high school 4-H’er remarked they would recommend the Leadership Lunches for anyone who is in 4-H to help them with leadership skills. “The Leadership Lunches have helped me a lot with my communication and my leadership skills. You learn to not be the person that never does anything. Instead it has made me want to be a part of many different things involving 4-H and school activities. It has given me the confidence to speak publicly.”

The 4-H Leadership Lunches demonstrate the value of adapting to busy schedules and providing a means to connect Extension staff and 4-H members on a regular basis. “It is a fun and great time, and you learn a lot and make more friends with the same interests,” said one middle school 4-H attendee.

**Busy year for Glacier County 4-H**

Glacier county’s 70-plus 4-H members were busy this past year with numerous projects, community service, and leadership-related activities throughout the year.

4-H members contributed in a variety of projects and activities to give back to their club, community, and world. Locally, 4-Her’s raised nearly $500 for the Senior Center through their Soup and Bread luncheon, to raise money for meals for homebound senior citizens. 4-H clubs particularly reached out to the Glacier Care Center throughout the year with members shopping for and distributing gifts at Christmas, creating Valentines cards, and decorating St. Patrick’s Day cookies together. Other local service projects included raising nearly $250 through a bake sale for the Cut Bank Animal Shelter, delivering decorated Easter cookies to local businesses, and baking nine dozen homemade rolls for the Community Thanksgiving dinner.
On a statewide and national level, 4-H provided support to those affected by wildfires both in Eastern Montana and Kansas. ‘Coalter’s Calf Bucket Challenge’ was a fundraising effort spearheaded by junior leader Coalter Littrell to provide funds to a Kansas 4-H club to raise calves orphaned by horrific wildfires this spring. The project collected funds of $1,150 that were sent to purchase feed, milk replacer, and supplies.

Throughout the year, members participated in an animal nutrition and fitting clinic, small animal showmanship clinic, overnight youth horse camp, Cloverbud camp, multi-county 4-H camp, and had the opportunity to tour the CHS feed plant in Great Falls to see the feed manufacturing process.

Members honed their leadership and communications skills through club involvement and leadership trainings. Twelve members competed in the county Communications Contest and each member competing at the Marias Fair completed an individual project interview with a subject matter expert in their project. Nearly 20 members competed in the Roundtable awards interviews where they interviewed with fellow members before a judge, explaining their goals, project work, and learning experiences.

Glacier County members were very successful on a statewide level this year. Sarah Thies and Addisyn Bengtson’s 2016 Marias Fair hogs ranked fifth and sixth in the state heavyweight category for carcass quality. Myla Cundall was named the state fashion revue winner at the Montana 4-H Congress in Bozeman and Sarah Thies was a state 4-H Foundation scholarship winner. Coalter Littrell, a Glacier County beef breeding member, was named a NILE Merit Heifer winner and will receive a heifer calf from Connelly Angus of Valier.

RIGHT: Destini Anderson completed her first year in the swine project and has added shooting sports, sewing, and scrapbooking projects this year.

LEFT: Coalter Littrell spearheaded ‘Coalter’s Calf Bucket Challenge’ which raised $1,150 to provide funds to a Kansas 4-H club to raise calves orphaned by horrific wildfires this spring.

Photos by Kari Lewis.
The summer Beef Cow Profitability Seminar and Tour focused on tools for increasing ranch profitability and revisiting proven technologies that are often overlooked by producers.

Karla Jenkins, University of Nebraska – Lincoln Cow-Calf and Range Management specialist, covered underutilized tools to improve ranch profitability, specifically calf implants, vaccinations and pre-conditioning for the nursing calf, and cull cow marketing options. A common misconception regarding implants is that implanted calves are discounted at sale time, however a recent four-year study analyzing Superior Livestock Auction prices illustrated no difference in price between implanted and non-implanted calves. In addition, implants can add 15 to 30 pounds at weaning, which translates to an extra $10 to $20 per calf. Assuming an average herd size of 250 cows/producer for Glacier County and $15/head additional profit, implants could add $3,750 to the average producer’s profit.

Jenkins also shared the impact that pre-conditioning calves on the ranch has on their success in the feedlot, and how that ties back to the price that ranchers in Montana receive for their calves. In addition, Jenkins covered strategies to increase cull cow revenue. Cull cows typically make up 15 to 30 percent of a herd’s revenue, and their impact on herd profitability should not be overlooked.

The tour included a visit to Guy and Heather Meiwald’s ranch west of Cut Bank. The Meiwald’s have implemented Management Intensive Grazing (MIG) on their irrigated pastures in recent years. Through the MIG process, they have been able to increase production and take in pasture cattle, without spending money on fertilizing their pastures. On their own cows, they moved to a May/June calving period and use terminal bulls, which has allowed them to reach production goals while decreasing their inputs. The Meiwald’s shared how MIG has affected their livestock production, fertilizer costs, and ranch profitability. Guy has developed numerous time-saving techniques to implement MIG and use electric fencing, and he shared those with participants. One rancher commented, “I really liked seeing all the cool, innovative practices Guy was using.”

As a result of the seminar and tour, one producer planned to increase their number of pasture rotations to increase the rest period between grazing events, another planned to implement the use of calf hood implants, and another rancher said he would market cull cows earlier in the fall to capitalize on traditionally higher cull cow prices.
Spotlight on SNAP-Ed with Jodi Duncan

There are many facets to MSU Extension, including the Nutrition SNAP-ED program. This is the Montana State University Extension Supplemental Nutrition Assistance Program – Education, which supports low-income Montanans in making the healthy choice the easy choice when it comes to nutrition and physical activity. We know that 77 percent of Montana adults do not participate in enough physical activity to meet guidelines, that 74 percent of Montana adults eat less than five servings of fruits and vegetables each day, and 29 percent of Montana children ages 10 to 17 are overweight or obese. To combat these challenges, SNAP-ED teaches low-income youth and adults how to eat, live, learn, work, play, and shop within their communities to make healthier choices.

Locally, Jodi Duncan is the SNAP-Ed instructor based out of our Glacier County office, with primary responsibilities of serving the Blackfeet Reservation, in addition to the Cut Bank and Shelby communities as time permits. She started this position in September, and certainly hit the ground running. In October alone, Duncan taught a total of 30 different classes, which reached 460 individuals. In November, she reached 681 individuals in 40 classes. Over the fall season, Duncan taught first, third, and fifth graders at the Babb Elementary School, Vina Chattin Elementary School in Browning and elementary schools in Cut Bank and Shelby.

Each lesson that Duncan teaches focuses on both nutrition and physical activity. Students are given the opportunity to sample a healthy food during each class, which has exposed many students to fruits and vegetables that they may not normally try. Some examples of the sampling’s that students tried included whole grain trail mix, vegetable soup, yogurt parfait, and a peanut butter yogurt dip with apples.

Statewide, the MSU Extension Nutrition Education team reached 8,152 Montanans with direct education efforts in this last grant year. There were 920 adults who participated in the Eating Smart, Being Active series and 7,103 youth who participated in the Youth Understanding MyPlate series in first, third, and fifth grades across Montana.

It’s exciting to hear the stories of first graders who want a second helping of vegetable soup, or the kids that see Duncan in the grocery store or tell her that they had their parents pick up a fruit they tried in class. The SNAP-ED program is just one more way that MSU Extension is making a positive and healthy impact in Montana communities.

Jodi Ducan has been an active 4-H leader in Glacier county for nearly 20 years. She has recently brought her experience with youth to the classroom where she shares nutrition education with elementary students in Browning, Babb, Cut Bank and Shelby. Photo by Kari Lewis
MSU Extension provides tools to increase healthy food production

Availability of low-cost fresh fruits and vegetables in rural communities is often limited, and Glacier County communities are no different. To provide clients with the knowledge to produce fresh fruits and vegetables, extensive horticulture programming was offered.

For the first time, a Level 2 Master Gardener class was offered in Glacier County. The class focused on Integrated Pest Management for the six participants. In addition, a Level 1 Master Gardener class hosted 13 participants who gained introductory knowledge on fruit and vegetable production, soil sampling, lawns, gardens, and trees. The Level 1 and Level 2 classes drew participants from Cut Bank, Browning, East Glacier, and Toole county to Cut Bank for 16 weeks of classes.

At the request of the USDA Extension office on the Blackfeet Reservation, a gardening class was offered through the Blackfeet Community College (BCC) with the objective of helping people produce fruits and vegetables for the farmer’s market. This would help increase access to healthy food on the Reservation, and also provide student interns knowledge for managing the greenhouse, which grows 2,500 plants annually. The class was taught by MSU Extension staff and a Master Gardener volunteer, and focused on planning and preparing for a garden, managing a garden throughout the growing season, and harvesting. As a result of the course, all participants planned to grow vegetables—ranging from spinach and tomatoes to squash, peppers, pumpkins, beets and broccoli.

Participants cited the most valuable knowledge gained as learning to harden their plants before transplanting, timing of planting, to rotate plant locations within a garden to lessen disease and insect issues, and that they could utilize the MSU Extension office as a resource for weed and insect identification and disease diagnosis.

A final highlight for Glacier county gardening enthusiasts was a tree and lawn workshop with Toby Day, MSU Extension horticulture specialist. Fifteen homeowners learned proper tree planting, care, and watering techniques and mowing, irrigation, and fertilizer management for lawns. An in-field pruning demonstration helped participants learn which branches to prune.

In addition to the horticulture programming offered, there were 80-plus horticulture and Urban IPM consultations completed via phone, e-mail, office visits, and site visits. MSU Extension and the Master Gardeners assisted with the coordination and distribution of 1,150 pounds of Montana certified seed potatoes, which helps ensure diseases are not introduced to the Montana potato industry from out of state.
contact us:

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Montana State University Extension is an ADA/EO/AA Veteran's Preference Employer and provider of educational outreach.
Welcome to Granite County

The MSU Extension Granite County office has a slightly new look. After 22 years, long-time Extension agent Dan Lucas is no longer in the office as he has moved into the MSU Extension Western Region Department Head position. Granite County native Ben Hauptman returned to the area to start as the new Extension agent in May of 2017 after having served four years as the Blaine County MSU Extension agriculture/natural resource and 4-H agent.

Granite County is a rural natural-resource-supported county in central Western Montana. Winter and summer recreation draw visitors to the scenic beauty year-round, while agriculture is the economic base. Georgetown Lake provides a variety of recreational experiences, and is next door to the Anaconda-Pintler Wilderness. The population of the county is about 3,000, and the County Seat of Philipsburg has a population of around 900. The other incorporated town in Granite County is Drummond, with a population of around 300. Montana State University Extension in Granite County is supported by three strong and important partners. County, state and federal funding sources work together to assure that MSU Extension in Granite County has the resources to provide timely and relevant education addressing locally-identified issues. Montana counties provide about 40 percent of the funding to support local offices, state funding provides about 40 percent, and federal partners about 20 percent. Like many Western Montana communities, the Granite County area has a rich mining past, but agriculture has provided the base of economic activity through the boom and bust cycles associated with historic mining.

Granite County . . . Montana at its best!

Scenic view of Georgetown Lake with the Pintler Mountains in the background.

www.msuextension.org
Noxious weed education in Granite County

Granite County Focuses on Noxious Weeds

Once again, the Granite County MSU Extension office partnered with NRCS, and the Granite County Conservation District to host the 10th Annual Noxious Weed Clinic. Controlling noxious weeds is a high priority for landowners and managers in Granite County. This year’s clinic brought in speakers from around Montana to talk about a variety of topics. People attending learned how to identify noxious weeds of concern to the area, how to make herbicides more effective, about biocontrol agents, and ATV safety. Over 40 attendees also received six Private Applicator Credits, which allows them to stay up-to-date on their Private Applicator License certifications. Evaluations showed that participants benefited from visual aids and tools to demonstrate range management principals, and noxious weed identification.

In addition to educational programs, residents in Granite County have begun to utilize biological control as a tool to control noxious weeds. In the spring and summer of 2017, a cooperative effort between Granite County MSU Extension, the Montana Biological Control Association, and area landowners, was made to collect and disperse biological control insects within the county. One insect species in particular that was released was Mecinus janthiniformis (Dalmation toadflax stem weevil). Thousands of these weevils were released among neighbors to control an infestation of Dalmation toadflax on terrain that was too steep and rough to spray by hand. This effort saved landowners the expense of aerial application of herbicide or the purchase of biological control insects in order to control this invasive plant.

Dalmation toadflax infested with stem weevils.
Granite County 4-H learning in Granite County

**Granite County 4-Her’s share in hands-on learning**

The 2016 Granite County 4-H program is comprised of 72 members and 15 leaders participating in various projects. The 4-H program in Granite County combines efforts to share the unique hands-on learning experience that is 4-H.

Members in the Granite County 4-H program have the opportunity to share in hands-on learning at several different county events: Project Possibilities, Foods Fair, Stir-Ups, Quality Assurance, Countywide Demonstrations, IPYA Presentations, and the Skill-A-Thon.

Project Possibilities is a countywide event that provides the opportunity for members to try new projects. Maybe they always wanted to do a woodworking project but did not know how to start. They might have a budding interest in robotics but aren’t sure if they can do the programming. Each year the 4-H Council identifies three projects that may be brand new to the 4-H program, or ones that might have low enrollment, and provides hands-on experience to allow members to give it a try.

The Skill-A-Thon is another county event that is hosted by a different 4-H club each year. The members are divided into diverse learning groups to create a balance of both skill, knowledge, and mentorship. Different project stations are set up, ranging from woodworking to cooking. The members must answer questions at each station and then move on to the next station and set of questions. The 4-H teams compete in earnest and develop friendships and experiences that will help them excel.

Foods Fair and Stir-Ups are two more countywide events where members enrolled in the food projects get together and share their love of cooking. Foods Fair is a “special ingredient” cooking event. This special ingredient can be a vegetable, a spice, or even a fruit. A cooked entry must contain that ingredient. This challenges the members to think outside of a normal cake box with their baking. While judging is taking place, the members are learning the skills that will tie into the next cooking event.

Stir-Ups is an actual hands-on cooking event. Members make different dishes according to their age. They must bring all ingredients from home. All cutting, measuring, dicing, and slicing must be done by the member. It is a great way for all the food project members to show off their newly acquired skills in a fun, competitive manner.

Trevor Rouse competes at Stir-Ups.
Montana State University Extension is an ADA/EO/AA Veteran’s Preference Employer and provider of educational outreach.
Many things in Hill County stayed the same in 2017. A few highlights include: population (16,500+); top employers: U.S. Border Patrol, BNSF Railroad and MSU-Northern University; and the county’s ranking as the second highest wheat producer in the state. However, change occurred also. Perhaps most notable is Hill County has two new Extension agents. Shylea Wingard (MS, Ag Economics, Purdue University) from Ennis, MT, replaced Nicole Gray as the agriculture and natural resources agent on July 16. Jasmine Carbajal, (MS, Teaching ESL, University of Arizona) from Beloit, WI, replaced Katrin Finch as the family and consumer sciences agent on Sept. 5. Both agents will share 4-H and youth development duties.

Wingard hit the ground running by starting work the week of the county fair. Carbajal started right after Labor Day and immediately began arranging the local 4-H exchange program with Pima County, AZ. Both agents had previous work experience, thus enabling them to assess needs and provide programming and assistance to Hill County constituents during the fall of 2017. Wingard and Carbajal bring a unique background, perspective, and energy to Hill County. They look forward to providing education and outreach to improve economic and social well-being to folks along the Hi-Line in 2018.

Agriculture

Hill County producers faced many challenges in 2017. Drought, fire and low commodity prices left a few producers questioning the financial feasibility of their farming and ranching operations. Some dubbed it “the year kochia wouldn’t die.” Others remained steadfast, planted pulse crops or cover crops for diversification; some explored other risk management options. By fall, Hill County was designated a drought disaster area so federal relief programs became available at USDA-FSA and USDA-NRCS. Despite the variability of the year, most farmers who contacted the Extension office seemed to appreciate their “lifestyle” choice and still maintained optimism. One farmer summed it up well, “things might be a little tight right now, but we’ll get by, we always do.”

Harvest also came earlier than usual (mid-July). Crop yields and market prices were lower than previous years. Crops and pastures were dry, hay tonnage was low and watering holes dried up. Just before Labor Day, the East Fork Fire erupted in the Bears Paw Mountains and burned 22,000 acres. Agricultural land wasn’t all that suffered this past summer. Local gardens endured flea beetles, sun scald and extreme heat. Trees suffered twirps, withered leaves, and an October 2 storm that dropped 15 inches of snow, causing extreme...
breakage and a 17+ hour power outage. Extension programming responded quickly to the needs of the community. Early 2018 workshops will continue to address these ongoing issues with a cropping seminar that offers soil fertility, pesticide use and cover crop grazing education, along with PAT credits. Another early January workshop will host MSU’s Animal and Range Science professor, Dr. Clayton Marlow, to address “Grazing Management and Decision Making Following Drought and Fire.” More education will be offered at local grower meetings regarding pesticide labels, record keeping and safety.

While farming and ranching is filled with uncertainty, one thing should remain certain in 2018: MSU Extension in Hill County will strive to offer relative and applicable programming and services to its constituents.

Family and Consumer Science (FCS) Education

Carbajal began her FCS role by getting training for Serv Safe, participating in canning classes, and networking for the Grandparents Raising Grandchildren program in September. The Center for Mental Health Research and Recovery (www.montana.edu/cmhhrr) offered a rural mental health information event in October. Quickly recognizing suicide, depression and mental health were local concerns, Carbajal focused on this need. She assisted the Liberty County agent, Jesse Fulbright, with a youth program called YAM at Chester High School. She also offered adult Mental Health First Aid Training in November to 25 participants from Havre, Rocky Boy and Harlem. Backgrounds varied from law enforcement to education to healthcare. This training provided informed resources to community members capable of assessing mental health symptoms.

Collaboration and co-programming were developed with Havre High School’s Family and Consumer Science teacher, as well as MSU-Northern, Rocky Boy and Bullhook Community Health. Carbajal taught 16 local high school seniors a four-week nutrition and finance series, covering topics of food needs vs. wants, food budgeting, eating away from home, and budget finances. Twelve students reported that since participating in the series, they are now able to identify unhealthy habits when eating out, able to differentiate a food want and a need, able to look up the nutrition facts on fast food menus and know ways to maintain good credit scores. Carbajal looks forward to the opportunity to offer more mental health and consumer-based programming in 2018.
Hill County 4-H Summary

Hill County 4-H had 114 members in 10 clubs in 2017. Livestock projects and the Great Northern Fair are always highlights. The Nebraska exchange kids were hosted in June, making lifelong friendships. The 4-H year got more exciting for youth and adults in August when the old Chuckwagon building was torn down and construction began for a new building. It will be 150’x40’ and will serve as a community event center that will house a commercial-grade kitchen and 4-H shooting sports area. This major capital improvement project is the result of six years of planning, fundraising and effort by Hill County 4-H and the community.

Also new and exciting in 2017 was the chartering of Rocky Boy’s new 4-H club, Four Bodies; grant funding by the state 4-H Foundation for a local robotics program and shooting sports; and member participation at the first annual State Ranch Horse Competition in Great Falls in September. Plans for 2018 are generating more interest and participation in aforementioned programs and volunteers look forward to cooking burgers in the new Chuckwagon.

Hill County 4-H Members Excel at State and National Levels

Cassie Gibson placed second in Cattle Sorting at the inaugural State 4-H Ranch Horse Show in Great Falls.

4-H Ambassador Sydney O’Neil placed second in the state Steer of Merit Competition, Carcass Division (breeder was Chad Murnin of Bar Star Cattle of Loma, MT). There were a total of 762 entries from 38 counties and one reservation. Only 91 received elite status.

Amelia Beard placed sixth in the Montana Swine Symbol of Excellence (light) Carcass Competition (breeder was Habets Show Pigs from Ledger, MT). Only 221 hogs out of 1520 met the standard of excellence.

Angelina Toth attended Montana 4-H Congress in Bozeman in July. She competed in quilting and won first place with a quilt she made for her grandmother. It was her first time to attend Congress. This honor earned her another chance to travel and learn – an expense paid trip to National 4-H Congress in Atlanta in late November.
SNAP-Education

SNAP-Educator Rhonda Gregoire organized 30 educational programs in 2017 in the communities of Havre, Box Elder and Rocky Boy. “My Plate” and other educational programming was taught to 458 children and adults. Out of the classroom, Rhonda is often recognized by child participants as the “Vegetable Food” lady. She taught 201 classes in 2017 and exceeded her original goal by 80 percent (112 classes). Rhonda has worked as the SNAP-Ed coordinator for Hill County since 2002 and her services are very much appreciated. MSU also recognized her for 15 years of service at an awards ceremony.

Photo courtesy of USDA
Welcome to Judith Basin County

Judith Basin County is located in central Montana in a fertile basin between the Highwood, Big Snowy, and Little Belt mountains. The county population is 2,016. The principal communities are Stanford, Hobson and Geyser. Numerous other small communities are in the county. Judith Basin County’s economy is based on agriculture. The major components of this industry include livestock, small grains and forage production. The county ranks tenth in Montana for beef cattle numbers, tenth in winter wheat production, fifteenth in barley production, twenty-fourth for spring wheat production, fourth for alfalfa hay production, and twenty-first for other hay production. Timber and mining enterprises take place on a small scale. The MSU Central Ag Research Center is located in the county. The Judith Basin 4-H programs consist of 90 youth members and 29 volunteer leaders in four organized clubs. The county offers a variety of recreational opportunities, which include hiking, hunting, fishing, camping, snowmobiling and skiing. A major ski area is about 45 minutes from Stanford. The Judith Basin was the home of the legendary western artist Charlie Russell. Many of his paintings were scenes captured by the artist between Lewistown and Great Falls.

Stanford and nearby Utica have several museums of interest. Recreation opportunities abound in the nearby Lewis and Clark National Forest, Judith River Wildlife Management Area and Ackley Lake State Park. The Judith River Wildlife Management Area, at the edge of the Little Belt Mountains, is a good place to view large elk herds in late fall and winter. Raynesford is an agriculturally-rich area. The homesteading boom from 1908 to 1915 and the extension of the Great Northern Railroad played an important role in the development of this area. Moccasin also began as a homestead community. In 1908, the Montana State legislature created the Central Montana Agriculture Research Center, three miles west of Moccasin. The purpose of the center was to teach dryland farming techniques to newly arrived homesteaders. Even after the homesteaders bust, the center went on to develop machinery and new crops, improving the area’s wheat yields.

Many Finnish homesteaders settled in the Geyser area at the turn of the century. In earlier days, it was a stagecoach-stopping place on the trail from Great Falls to Lewistown. In 1920, Geyser became a rail line station, when the old town was moved to its existing site.

South of Utica
Cropping Seminar

Each year, the agents in the Golden Triangle organize and carry out a week-long, traveling workshop on cropping. Topics vary from year to year, depending on what is of interest to producers in the area. In 2017, Dr. Mary Burrows, MSU Extension Plant Pathologist, George Haynes, MSU Professor and Ag Policy Specialist, Dr. Stephen Vantassel, MDA Vertebrate Pest Specialist, and a representative from each area’s Ag Research Center were presenters.

Burrows covered a range of topics, with focus on pest identification centering on a hands-on disease identification activity. Haynes focused his talk on the current market climate in agriculture, and some tips for passing the family operation on to the next generation. Vantassel presented various techniques to control pocket gophers, ground squirrels, and voles. Dr. Pat Carr of the Central Ag Research Center presented variety trials underway at CARC.

Of the 30 producers attending, several hold pesticide applicator licenses. This meeting is a point-earning opportunity for the continuing education credits these license holders need for recertification. Being in the last year of the renewal cycle in Judith Basin County, this was one of several opportunities for credits this year.

Pulse Production Workshop

MSU Extension hosted a Pulse Production workshop in February in both Conrad and Fort Benton. This was another collaborative effort by the agents in the area. With decreased commodity prices in cereal grains, there is additional interest in raising pulse crops. This workshop addressed many production and marketing challenges, especially for beginning producers. The workshop reached 270 producers, and covered production, marketing, insurance, disease management, and common mistakes with chemicals and inoculants and concluded with a producer panel. There is a good probability that there will continue to be an increasing number of producers growing pulses in this region. More pulse production education will be offered in the coming years as MSU Extension rises to meet this need.

Impact: A total of 63 producers noted changes, or that they were going to add pulses to their rotation as a result of attending the workshop. Pulse acres present a potential $130 per acre increase in profitability compared to winter wheat, and at 200 acres per farm, could result in a $1,638,000 advantage over winter wheat. Enhanced management options help individuals and families improve quality of life through increased economic stability.
State 4-H Horse Show

In September of 2017, Fergus and Judith Basin Counties hosted the State 4-H Horse show in Lewistown at the Fergus County fairgrounds. This event gives 4-Her’s across the entire state a chance to compete against each other. Beginning on a Thursday, 91 contestants, their families, and 121 horses came to Lewistown and the fairgrounds to compete. Competition at this state platform is the culmination of a year of hard work, chores, training, and learning the skills necessary to compete at their best. At an event of this size, youth also learn new networking skills and ways to improve while watching other competitors. Many of these youth look forward to the competition, and seeing the friends they’ve made at past shows is the icing on the cake.

This event takes a tremendous amount of coordination and behind-the-scenes effort. There were a group of volunteers who made up the show committee that did a sizeable amount of work to lay the foundation for this show in a very short amount of time. At the dinner Saturday night, over 200 plates were served. The local economic impact created by events such as this one will be felt in Lewistown for several months. Hosting 200+ people for four days creates increased opportunities for commerce in the area.

Nitrate Tests

The Judith Basin County MSU Extension office conducted over 30 Nitrate QuikTests this year. There was a serious drought from June to September, and many producers chose to hay their winter wheat crops rather than let them finish to grain. When cereal grain crops have been fertilized to meet grain production requirements, there is a high likelihood that drought stress causes the plant to tie up nitrogen fertilizer in the form of nitrate. A high concentration of nitrates can be fatal to animals. There were several tests that came back near or over the safe nitrate margin. Testing this forage saved producers from potentially losing valuable animals and helped to maintain a high calving success rate. For example, if testing for nitrates saved just five producers two calves each; then those weaned calves this fall at 650 lbs. would have been worth about $1.70/lb. In total, that would have been $9,350 that was saved for those producers.

Quality hay makes happy cows!
Pesticide Education

This year the Judith Basin County MSU Extension office reached over 200 people with pesticide education opportunities. This was the final year in the renewal cycle for Region 5, in which Judith Basin County lies. License holders have five years to obtain their renewal credits, and the last year is usually a busy one for each region. Six different meetings were held this year, covering topics including: biological control, record keeping, pesticide safety, water quality and use, vertebrate pest control, disease identification, and integrated pest management techniques.

The producers and private landowners in the county work hard to keep weeds managed and under control. The license they hold ensures they get the latest information and safety updates that the industry has to offer. MSU Extension offers a vital service in handling the training and re-certification of these license holders. These meetings are a great way to offer new information and refresh what has been learned previously. It is also a great way to interact with county residents and learn about any other issues or questions that are important to the area.
Montana State University partners with Lake County to provide quality education programs and services which bring MSU to our residents. Local Extension agents respond to citizens and stakeholders by developing, implementing and evaluating educational programs that address local needs and issues.

The following statements summarize the program goals of MSU Extension in Lake County for 4-H youth development, agriculture, healthy living, natural resources, community economic development, and family and consumer sciences.

- Prepare youth with life skills for the future so they can be productive, positive and contributing adults.
- Develop through trainings, experiences and activities the youth and adult leaders necessary for a viable and engaged 4-H program.
- Ensure sustainable agricultural enterprises on multiple levels.
- Facilitate avenues for Lake County residents and families to improve their financial literacy, knowledge of consumer debts and needs while caring for themselves and their families through all stages of life.
- Encourage healthier lifestyles and prevention of chronic diseases through promotion of positive health-related behaviors and self-care.
- Enhance natural resource conservation and management by achieving defined objectives.
- Expand access to Extension education and knowledge resources by meeting organizational goals and objectives affecting program quality and delivery, accountability, resource management and employee professional development.

Lake County Scenery......something in every direction!
4-H is more than a livestock sale

Family camps continue to be a highlight of the Lake County 4-H program. One camp focuses on developing family caring and values with Cloverbud-aged 4-H members, five to eight years old, and their parents. The second program focuses on the 4-H Shooting Sports program and is developed and led by 4-H volunteers. Both of these camps are open to participants from across the state of Montana. Local volunteers and volunteers from other counties and the state 4-H program attend to share programs and teach campers. These camps provide 4-H families a time to reconnect while learning more about 4-H and the projects they are enrolled in. All participants reported quality time spent with their families. As well, at least six adults have become certified shooting sports leaders because of their attendance at camp.

For the third year in a row, a Lake County 4-H member traveled internationally through a 4-H opportunity. Mesa McKee, member of the Pistols and Ponytails 4-H Club in Polson, traveled to Finland in the summer of 2017. Mesa bonded closely with her Finnish family while leaning about Finnish culture and more. She reports she also learned a lot about her own leadership skills while traveling internationally and hopes to share these skills in our 4-H community. Knowing Mesa, she is!

According to a recent survey by the State 4-H Office, parents of Lake County 4-H members reported many benefits for their kids from their participation in 4-H. One parent said his kids now “have a better understanding of hard work and how it pays off.” Another parent shared, “because of 4-H experiences, my child knows how to stay calm and communicate clearly even in a pressure situation.” And “our 4-H member has had more practice presenting in front of people and communicating with adults, which has led to better confidence when speaking in front of both children and adults.” As with most things, the more effort and time one gives to something, the more they are able to receive from their effort.
Garden Adventures

More than 75 young people participated in an after school curriculum involving them in the science of gardening. These after school adventures created experiences with soil, seeding a garden, weeding, insect safaris, measuring plant growth and caring for trees. MSU Extension Lake County partnered with the Boys and Girls Club of the Flathead Reservation to reveal the excitement of science in gardening for youth ages 8-12. Each Wednesday for six weeks, members of the Boys & Girls Club would participate for half an hour in classroom instruction then run top speed outside to apply the knowledge gained to the garden. Also, each week members received something from the learning activity to take home, such as a moss garden, wheat seedling garden, plastic insects, even a trophy for completing the course.

Both youth and adult aids enjoyed the hands-on activity. Guest insect specialist instructor Launa Benson expressed how valuable it was for her to answer the questions youth came up with and take part in their excitement. Flower gardens planted by youth were on display throughout the summer for them to revisit and to showcase the activity.

Healthy Life Choices

Healthy life choices help people, young and old, at all income and educational levels, get the most out of every day and the duration of their life span. Helping individuals and families lead authentic and healthy lives by sharing research-based information is the primary purpose of MSU Extension Family and Consumer Science programs in Lake County.

Nori Pearce, MSU Extension agent, presented a wide variety of programs, activities and information in an effort to reach the diverse audience who live in Lake County. Class participants range in age from five to over 80 years of age, and include many cultures and races. Classes taught in 2017 included the Diabetes Empowerment Education Program (DEEP), Powerful Tools for Caregivers support programs, culinary arts, food preservation, financial education, estate planning and Tai Chi for Better Balance. All of the participants in the Better Balance program have reported better balance and body strength after attending the program for six weeks or more.

Food Preservation: Nori Pearce is leading the development of a statewide Master Food Preserver program. This program will train volunteers and staff members in proper USDA food preservation methodology to assist MSU Extension agents with the numerous questions and concerns associated with canning, freezing, drying and fermenting foods. Curriculum from Washington State University, University of Alaska, and Colorado State University is being used in the development of the curriculum for this program. Training agents to prepare volunteers for this opportunity will begin in early 2018 when the curriculum is published and ready for distribution.
Making healthy plants and animals in Lake County

**Extending the knowledge it takes to have healthy trees**

Gardeners, landscapers, home growers, and small orchardists are all in need of tree care and maintenance education. MSU Extension Lake County, with help from trained Master Gardener volunteers, conducted tree maintenance clinics to enhance knowledge and care methods of fruit trees, shade trees, and shrubs. Each spring the necessity of pruning attracts residents to attend demonstrations and lectures on pruning, fertilization, rodent control, disease management and fruit quality. Using trees in public areas such as the Ronan City Park and Polson Water Department gives the class an opportunity for hands-on learning opportunities.

Certified Master Gardener Mona Rae Tuhy, said, “I enjoy teaching other people how to care for their trees, some of us can be passionate about the trees and shrubs we own. An added plus is to be able to contribute to the health and vitality of public trees by holding demonstrations in the city park.”

Rick Jennison, Certified Master Gardener, said, “As a certified arborist I am always willing to share my knowledge about trees and tree care. The class attendees generally become good friends if they aren’t already. It sort of creates a community of tree enthusiasts.”

**Cattlemen’s Education Series**

Cattle producers have a multitude of subject matter they need to be familiar with to be as efficient as possible. The 2017 Cattlemen’s College highlighted “How to get more grazing from your grass.” This four part series incorporated slide presentations along with a ranch tour. MSU Extension Lake County, in cooperation with the Western Montana Stockmen’s Association, invited guest speakers to explain the adaptation of intensive grazing systems that are being used on range and irrigated pastures. Fifty producers took advantage of all four lectures and attended the tour. Rancher Paul Guenzler commented, “Even if you adapt one or two new methods into your grazing program you can benefit your operation.”

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Tree pruning clinic.

Branding day in Lake County.
Protecting Our Cherry Industry

Montana’s cherry industry secured its place in world markets by establishing a Pest Management Area (PMA) to help assure Montana cherries are free of fruit flies. Markets in the United States and around the world prohibit the importation of fruit containing pests, particularly the western cherry fruit fly. Lake and Flathead Counties instituted the PMA as a required step in holding to a zero tolerance policy for all cherry shipments through grants and funds from the Flathead Cherry Growers, Inc.

Beginning in 2017, MSU Extension Lake County was selected to conduct public education associated with the PMA. All lands within two miles of Flathead Lake are identified as comprising the PMA. Anyone owning a cherry tree in this area needs to understand the importance of controlling fruit flies. Direct mailing to home owners, site visits for one-on-one discussions, newspaper articles, and radio spots were all methods employed to inform the public about fruit fly control.

Weeds are not just a rural problem

Weeds infesting urban areas can be just as costly and destructive as weeds in agriculture areas. Noxious weed education is important for weeds that appear in town as well as in the countryside. From a grant secured through the Montana Noxious Weed Control Trust Fund, Lake County Weed Control and MSU Extension in Lake County have improved the awareness and control of noxious weeds in Polson, Ronan and Saint Ignatius by working cooperatively with city officials and homeowners to eradicate noxious weeds.

The Urban Weed control program began in 2015 and continued through 2017. During the program, 120 infestations on private properties were treated with control options, improving the aesthetics and reducing the spread of weed seeds. As a result of the program, a public dog park in Polson has had success with keeping the noxious weed whitetop under control, thus reducing the risk of dogs carrying seeds from the park back home or to another area.
James Farrier gives a lesson on pig bathing.

Braydon Zempel and his prize-winning steer.
Welcome to Lewis and Clark County

Thank you for your support of Montana State University Extension. MSU Extension is a partnership between Lewis & Clark County, Montana State University and the United States Department of Agriculture. This three-way partnership provides educational programs in the areas of Agriculture, Natural Resources, 4-H Youth Development, Community Development, Family and Consumer Sciences, and Supplemental Nutrition Assistance Program (SNAP) Education Programs. In these pages are some highlights of the 2017 educational opportunities in Lewis & Clark County.

Lewis & Clark County Extension welcomes Maureen Theisen as new Administrative Assistant.

After working 16 years as the Extension Administrative Assistant, Janet Cerovski retired in December 2017. Janet has worked with several Extension Agents, 4-H volunteer leaders, 4-H members and families throughout the years. Her contributions to the Extension office have been significant. She has been an integral part of the office and will be missed. We wish her a happy and relaxing retirement. Maureen Theisen was hired as the new Administrative Assistant for the Extension office in November 2017. We are excited to welcome her to our team.

Community Support Community Impact. Together impacting the lives of people in Lewis and Clark County.
What is going on around Lewis and Clark County?

**Strong Women - Healthy Hearts**
The Strong Women - Healthy Hearts series of classes has become an increasingly popular program thanks to a beneficial partnership with St. Peter’s Hospital. In 2017, the 12-week series of classes was provided twice at the hospital; once in the Spring and once in the Fall. This program is a cardiovascular disease prevention program that aims to help midlife women reduce their risk of heart disease through fitness and nutrition education. Roughly half of the class participants were referred by their physicians at St. Peter’s. Half of each class includes discussion around eating for heart health and hands-on cooking activities. During the other half of the class, participants engage in aerobic activity by walking outside or dancing to music. Community instructors certified in leading exercises such as yoga, Nia, and meditation were also invited to give participants ideas for exercise options outside of class.

Class participants had Body Mass Index (BMI) measurements taken by St. Peter’s Wellness Team and completed surveys at the beginning and end of both classes. A total of 36 women enrolled in the course in 2017 and 19 finished the 12-week series. In both SWHH classes combined, there was an average of 2% decrease in participants’ BMI. One notable participant lost 20 pounds and six inches off her waist in the 12-week period. A high BMI has been linked to an increased risk for certain diseases such as heart disease, high blood pressure, type 2 diabetes, breathing problems, and certain cancers. The women also took a 6-minute walk test to see how many yards they could walk in a total of six minutes at the first and last classes. At the last class, there was a 15% total increase in the number of yards participants could walk in six minutes. According to class evaluations, because of taking this class, participants intend to read food labels, exercise more consistently, add more beans and grains to their diet, decrease bad fats, and eat dinner at the table. There is currently a waiting list for the next class, which will start in Spring 2018.

**Reaching Clients Through the Master Gardener Program**
The Master Gardener Program has completed its eighth year in Lewis & Clark County. Since the spring of 2010, 349 people have taken the Level I course, 119 people have taken the Level II course, and 20 people have taken the Level III course in Bozeman. The Level I and Level II course are taught in Helena every year. The Level III course is taught in Bozeman in the summer.

Since 2014, the same evaluation form has been used for the Level I Master Gardener course, so we are able to summarize the course evaluations for the last four years. The Master Gardener program has been very effective at introducing Extension to clients in Lewis & Clark County. In the course evaluation we ask, “How familiar were you with MSU Extension prior to taking the Master Gardener
master gardeners working at an informational booth. photo by brent sarchet

course?" The four-year average of this question indicates over 60 percent of the people taking the course were familiar with Extension, but have not utilized Extension services or taken courses. Over seven percent had heard of Extension, but didn’t know what Extension did, and over four percent had never heard of Extension.

The evaluations indicate that the Master Gardener program is introducing clients to other Extension programs. In the evaluation we asked, “Do you plan to attend future MSU Extension programs and courses,” and the average indicates that over 90 percent planned on attending other courses.

The course has consistently been well-received; with the average of 66 percent indicating the course exceeded their expectations, followed by 30 percent indicating the course met their expectations. Brent Sarchet, Lewis & Clark County MSU Extension Agent and Toby Day, MSU Extension Horticulture Specialist, the two presenters for the course, have been evaluated with a 4.7 and 4.8 (1 – 5 scale) respectively for the four-year average.

The course has benefited participants in more than just an increase in knowledge (97 percent); participants have indicated a financial benefit (25 percent), social/networking benefit (35 percent) and a health/well-being benefit (45 percent) to taking the course.

Probably the best indication of the program’s impact is that over the last four years, 99 percent of participants indicated they would recommend the course to others. Word of mouth has been the most effective way of attracting clients to our Extension programs.

applied research and demonstration plots give clients hands-on education opportunities

by brent sarchet

since 2010 I have been surveying class participants to determine their preferred learning styles. consistently, about 60 - 70 percent of them indicate that their preferred learning style is kinesthetic/hands-on, which means the typical PowerPoint teaching methods aren’t sufficient for the majority of the class. kinesthetic teaching requires a significant investment from the instructor because not all information can be easily taught with kinesthetic methods. to be an effective teacher, I realized that I had to develop the tools and resources that at the time were not available in order to teach with kinesthetic methods.

starting in 2011, I began work on a research/demonstration/community garden next to the Lewis & Clark County Extension office, and that same year we started conducting vegetable variety trials, which we found was a need through surveys.
Research and demonstration plots, cont.

of Master Gardeners. The garden site continues to be developed further every year since we conducted vegetable variety trials. The most recent addition is a strawberry variety trial that was planted in the spring of 2017. I have been able to utilize the site for numerous classes, everything from vole and pocket gopher management, to weed management and season extension. Having a place where we can talk about, and then look and touch what we are talking about, has been extremely beneficial.

In collaboration with Toby Day, MSU Extension Horticulture Specialist, and others, we have developed 12 fruit tree research and demonstration plots across the state. There are three locations in the Helena area, and plans to add another site in Augusta in the spring of 2018. We have hosted field days at these sites and have used them for teaching topics such as pruning, fruit tree fertility, grafting, irrigation and pest management. The orchards have also been a nice backdrop for other programming and special events that we have done such as food preservation and the MSU President’s bus tour.

Two small fruit research and demonstration plots were planted outside of Helena in the spring of 2015. The research project was being led by Zach Miller, Western Agriculture Research Station Supervisor/Researcher. The small fruit plots have many fruit species, such as Haskap and Aronia that many people are not familiar with. Having the opportunity to utilize the research plots in my teaching has been extremely useful and has helped make me a more effective teacher.

Kids Love Kale

In conjunction with the SNAP-Ed Nutrition Education Program, the Extension office helped to establish the Harvest of the Month Program at a couple of schools in the Helena School District this year. The Harvest of the Month Program promotes local Montana products in Montana schools. This fall, the FCS Agent/SNAP-Ed Instructor has been working with Central Elementary School in Helena to promote the Harvest of the Month Program. The Upper Montessori classroom has been tasting the Harvest of the Month featured products during SNAP-Ed nutrition lessons and then promoting them to their classmates at lunch. For the month of October, they tried a kale salad in the classroom. They then served kale chips, made by Sodexo food service, to their 200 classmates during lunch and asked them to vote if they ‘loved it, liked it, or tried it’. The verdict: students overwhelmingly loved the kale chips.

In the Spring, the Harvest of the Month Program was promoted at Helena Middle School with 600 students participating. The seventh grade Life Skills class was awarded a $250 Harvest of the Month mini-grant to help administer the project. With the funds, the class tried the Montana-grown products in the classroom and then promoted to their classmates in the lunchroom. During the month of March, when Montana beef was promoted, the class had an “Iron Chef” style cooking competition. The students used Montana-raised beef and created their own recipes as a team within an allotted amount of time. The students experienced hands-on food safety including cooking meat to the right temperature and being careful not to spread bacteria through cross-contamination. The teams were then judged by a panel of school administrators, parents, and teachers. The winning team, “Pinwheel Tacos,” had their recipe featured at lunch prepared by Sodexo food service. The Helena Independent Record also visited during lunch to do a story and publish the winning recipe.

Students at Central Elementary voted, and they loved kale
Food Preservation in the Orchard

There were quite a few opportunities for food preservation education with Lewis and Clark County Extension this fall. One featured program was the “Apple Harvest Celebration” provided in partnership with the county agriculture agent, FCS agent, and Johnson’s Nursery and Gardens north of Helena. The afternoon event included two talks, “Growing Fruit Trees in Montana” and “Preserving Apples.” Activities included a walk through the orchard at Johnson’s Nursery and a discussion around what is needed to care for and grow fruit trees. There was also an overview of food preservation safety, equipment, and different processes to preserve apples including freezing, drying, and canning. The talk ended with samples of locally-harvested apples made into jelly, pie filling, apple butter, and applesauce. Participants also enjoyed fresh apple cider pressed by Master Gardener volunteers. There were roughly 50 people in attendance.

Other food preservation classes included partnerships with Jefferson County and Broadwater County to provide canning classes. These neighboring counties do not have a Family and Consumer Sciences Extension agent, so these partnerships help our counties work together to provide programming where needed. After the canning class in Townsend, participants recorded a 100% increase in understanding the importance of utilizing USDA standards for preserving and processing foods safely. One participant noted that she will, “be conscientious of our elevation and adding time to the boil for preservation.” It is very important to adjust recipes to account for elevation in Montana so that our foods are processed at the right temperature to kill potentially harmful bacteria and viruses.

Another food preservation partnership was with Rock Hand ACE Hardware in Helena. The store opened their warehouse for a food preservation lecture with the FCS Extension agent and Helena Community Gardens. ACE Hardware supplies a large selection of canning supplies in Helena and promotes the resources the Extension office provides. The lecture included an hour-long discussion on food preservation safety and equipment. Participants also saw a demonstration using the Extension office pressure gauge tester. This is an important tool to make sure we are processing our foods at the correct temperature and pressure to avoid food-borne illness in our canned foods.

Pressing local apples at the Apple Harvest Celebration
Fruit Tree Research & Education Project Concludes the Fifth Year

Fruit is largely lacking in most local food systems in Montana. Montana has 33 of 56 counties that have food deserts. The USDA defines food deserts as parts of the country vapid of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers’ markets, and healthy food providers. Brent Sarchet, MSU Extension agent in Lewis & Clark County and Toby Day, MSU Extension Horticulture Specialist, along with statewide partners, are leading the effort on fruit tree research in the state. The work started with a Montana Department of Agriculture (MDA) Specialty Crop Block grant in 2013 ($23,288), followed by a MDA Growth Through Agriculture grant in 2014 ($9,932). Together these grants funded the establishment of 10 fruit tree cultivar research sites. An additional Specialty Crop Block grant was received in 2014 to conduct research on historic orchards ($127,680). In the fall of 2016, another Specialty Crop Block grant was received to partner with Montana PBS to develop a film on fruit research in Montana ($80,000). The video series will feature tree fruit and small fruit research that is being conducted across the state. Sarchet and Day released a publication *Growing Fruit Trees in Montana* (EB0222) in the winter of 2015. The publication has been very well received by the public with over 1,830 copies distributed to date. The publication will be updated every three years as additional data is collected. The fruit tree research and education efforts are encouraging future orchard plantings and supporting existing orchards. Six orchards have been established as a result of the research and education work. Establishing localized fruit production will help address the issue of food deserts in the state. Fruit production is an enterprise that farmers and ranchers can adopt to assist them in diversifying their operations.
Welcome to Liberty County

Covering 1,458 square miles through the heart of the Hi-Line region of north-central Montana, Liberty County’s heartbeat is strong. Liberty County MSU Extension works with many different entities in the county to ensure that needs in agriculture, family and consumer science, 4-H and community development are met. Collaborative efforts with the Liberty County Commissioners, Chester-Joplin-Inverness Public Schools, the local conservation district, and other public entities have resulted in successful, far-reaching programs that, conducted solely by one entity, would not have been as impactful. Working together has aided in helping Liberty County MSU Extension reach a goal of being a resource to all those that reside within the county borders. From teaching about mental health awareness in school and personal hygiene in Hutterite schools, to making sure the agricultural community is kept abreast of current issues, to working on community development strategies, the name of the game in Liberty County is all about being a team.

Liberty County residents lean on each other for support. Photo courtesy of Janice Hendrickson.

Working with county government and citizen advisory groups, MSU Extension in LIBERTY COUNTY provides services at the local level.
Promoting Proper Handwashing

During the months of January and February, Liberty County MSU Extension and the Liberty County Superintendent of Schools visited five Hutterite colonies. Hutterite children in kindergarten through eighth grade were taught about proper hand washing techniques in a way that introduced them to how easy it is to spread germs if they didn't wash their hands properly. Part of the exercise focused on how easily germs spread by having the Extension agent use glow lotion on his hands and then touching common items such as light switches, door knobs and desks to illustrate how many people come in contact with those items and then how easily germs spread when hands aren’t washed properly. Students were then given a small dab of glow lotion and asked to rub it onto their hands. Students were then asked to wash their hands well and come back to examine their newly washed hands under the black light. The black light showed the children where they didn’t properly wash, such as under their fingernails, on the backs of their hands and on their wrists. Through the exercise approximately 60 youth and 10 adults from five Hutterite colonies between Toole, Liberty, and Hill counties were taught how to wash their hands correctly using a 20-second rule and came away with cleaner hands than those that washed according to everyday habits. As Hutterite colonies are structured communally, it is hoped that absenteeism due to sickness will drop in the elementary schools as well as the spread of germs from household to household.

Youth Aware of Mental Health

The mental health of communities and specifically junior high and high school age youth has seen a rising awareness in recent years. While Liberty County has fortunately not seen any youth suicides in many years, there have been instances around the county of adult suicide and depression. With this in mind, the Liberty County MSU Extension agent attended a weeklong training about mental health awareness in order to learn how to better help the constituents of Liberty County. To promote a better understanding of how to maintain positive mental health and how to help those around them, Liberty County Extension partnered with Chester-Joplin-Inverness High School and Liberty County Commissioner Maureen Wicks to...
The Youth Aware of Mental Health program kicked off in Liberty County in the fall of 2017.

offer the 5-hour long curriculum to high school freshmen and sophomores. The curriculum, titled Youth Aware of Mental Health (YAM) showcased an interactive program for youth promoting increased discussion and knowledge about mental health and the development of problem-solving skills and emotional intelligence.

Over the three-week course, 22 youth gained an awareness of mental health and suicidal thoughts and developed problem-solving skills in relation to those issues. An emphasis of the course was learning how to distinguish between those and other problems as well as how to help their friends through these situations. Youth also gained confidence in themselves relating to how they can make a difference in the lives of those around them.

Climbing the Hill of Teen Leadership

Learning to lead is a key component in Liberty County 4-H. Through three organized clubs and approximately 55 youth members, youth have many opportunities to lead through example and deed. 4-H teen leaders, identified as 4-H ambassadors or prospective ambassadors, met monthly with the Liberty County MSU Extension agent to learn how to be better leaders. This was done through open discussion, project book work and real-life situations, such as participating in emceeing at 4-H events. With 2017 being a legislative year, the two Liberty County Ambassadors had the opportunity to visit the state capitol in Helena to learn more about the legislative process. While there, they were able to: meet with their state legislative representative; be instructed about the process that a bill undergoes to become a law; and also, have the opportunity to attend a legislative session to better understand parliamentary procedure and the ability to solve conflict respectfully and efficiently.

Through this and other leadership opportunities, youth learned about their own strengths and weaknesses. It is hoped that youth now better understand how they and those in their community can actively participate in being leaders in their respective spheres of influence.

Liberty County Ambassadors Emma Wickum and Ellyssa Tempel enjoy a day on Capitol Hill with House Representative Jim O’Hara.
Plotting to Make Liberty County Agriculture Grow

Liberty County sits in the heart of the Golden Triangle, one of the main agriculture producing centers of Montana. According to Montana Agricultural Statistics, Liberty County is ranked seventh and fifteenth in durum and spring wheat production in Montana. Research trials in those two crops were started in Liberty County several years ago. However, local producers did not have the opportunity to see the trials in a field setting. Liberty County MSU Extension and the Northern Agricultural Research Center collaborated on a spring wheat and durum variety plot tour in July to bring in Peggy Lamb, Research Scientist in Agronomy at NARC to share research-based information on spring wheat and durum wheat varieties for the Liberty County area. Dr. Maryse Bourgault, the new Cropping Systems and Agronomy researcher at NARC, spoke about her research focus and plans she has for developing agriculture by working with local producers.

The 12 producers that attended developed a better understanding and awareness of current and upcoming spring wheat and durum varieties that could prove to be economically important to them. As producers look towards varieties that improve yield and other important production factors, Liberty County will continue to be a leader in agricultural commodities around the state of Montana.

Participants learned from the Northern Agricultural Research Center about cereal and pulse crops in Liberty County.
Making Shelterbelts New Again

Shelterbelts in Liberty County, in many instances, were planted 50 years ago. While shelterbelts have served landowners well and continue to fill an important purpose from a moisture retention perspective, many existing rows are in various degrees of decline. Dr. Peter Kolb, MSU Extension Forestry specialist, came to Liberty County in October to present a shelterbelt renovation workshop in two segments. Hour one explored how to care for trees. This one-hour session provided basic tree physiology information as well as practical information on selecting and planting trees. Understanding the basics of how a tree functions and what it needs with regard to light, water and nutrients to grow and stay healthy helped anyone who has ever had trees to take care of.

The second hour was outdoors south of Chester, where the group addressed the basics of pruning trees to keep them healthy, designing a shelterbelt and techniques to renovate older ones. Determining optimal spacing for different species and assessing whether pruning or replanting was needed was the first step in the discussion, which then led into varieties of trees that are good options for shelterbelts.

Eleven participants in the workshop learned basic tree care and handling techniques. This was followed up by actual experience looking at existing shelterbelts to analyze how they could be renovated and improved.
Participants in an initial private pesticide applicator training get used to putting on the necessary personal protective equipment needed for spraying restricted use pesticides.

**Making Sure Pesticide Safety Doesn’t Drift**

As farming operations continue to turn over to the next generation, there is a continuing need to educate and certify new private pesticide applicators in Liberty County. A cooperative effort between several county Extension offices and the MSU Pesticide program resulted in a private pesticide applicator training in February which drew 20 participants from five counties to learn about pesticide safety and application. Components of pesticide education were broken into one-hour segments. Topics covered included understanding the private applicator license, reading the label, pesticide safety and handling, pesticides in the environment, pertinent pesticide laws, calibration of different sprayer systems, nozzles and integrated pest management.

As a result of the eight-hour course, 15 individuals obtained their private applicator license and five applicators received six education credits towards their existing license. Having obtained a license for the first time, or having received enough credits to recertify, will keep applicators legal in their application of restricted use pesticides.
Jefferson County has something for everyone. Located in Southwest Montana, Jefferson County prospers with natural resources. The economy base includes production agriculture, wood products, and mining. Jefferson County is a recreation haven. From rivers for fishing and floating, to hiking and climbing in the mountain ranges, to large motorized and non-motorized trail systems, there is something for everyone to discover. The communities of Boulder and Basin are home to several radon health mines and ghost towns. The Lewis & Clark Caverns State Park and the Elkhorn State Park are both located in Jefferson County. The county fair is held each August in Boulder, the county seat.

National Geographic Greater Yellowstone Marketing

The Greater Yellowstone Geotourism Program is a marketing collaboration of the Montana Office of Tourism & Business Development, Wyoming Office of Tourism, and the Idaho Division of Tourism in partnership with National Geographic. Launched in 2009, the Greater Yellowstone Geotourism Program has distributed over 750,000 printed maps and promoted over 375 sites and businesses on the program web site to travelers worldwide. Businesses, convention and visitor bureaus, Chambers of Commerce, and other organizations representing the economic interests of communities and destinations have the opportunity to participate in the program and receive free exposure. Working with Tim O’Donogue, Program Manager, MSU Extension agent Micky Zurcher contacted Jefferson County businesses and destinations. Included on the web site are Elkhorn State Park, Iron Wheel Guest Ranch, Boulder Hot Springs, Borden’s VRBO, Boulder Heritage Center, The Ranch Bed & Breakfast LLC, and Tizer Gardens.
Extension Programs Benefit the Public in a Variety of Ways

Making Boulder’s Future Bright

The 2016 Study Circle and Action Forum, better known as the Making Boulder’s Future Bright project, continues its work under the Boulder Transition Advisory Committee (BTAC). MSU Extension Agents Micky Zurcher and Tom Harrington continue to provide logistical support to the BTAC.

In 2017, Boulder residents had several opportunities to participate and use their voice to help the Making Boulder’s Future Bright project move forward to action. The Master Plan priorities coordination meeting in December 2016 set the stage for the 2017 Boulder economic requests at the State Legislature. In April, Boulder was awarded $500,000 from the 2017 Montana State Legislature.

In March, Tash Wisemiller from the Main Street Montana program spoke to the BTAC and helped to create a vision for the future of downtown Boulder. Zurcher, along with a group of Boulder Downtown Business owners and the City of Boulder, worked together to write a grant from the Montana Main Street Program. The City of Boulder was awarded the grant for $20,000 in October and hopes to complete their Downtown Master Plan by June of 2018.

The work of BTAC also helped to build a team which was selected for the Building Active Communities Initiative workshop held in Butte in May. This seven-member team represented Boulder and learned ways to help make Boulder safer for pedestrians and bicyclists. Zurcher was a part of this team and helped to write the grant.

In June, Making Boulder’s Future Bright was awarded the Western Region National Association of Community Development Extension Professionals (NACDEP) Excellence in Community Development Work Team Award. The award was presented to Chair Drew Dawson and MSU Extension Agents Tom Harrington and Micky Zurcher. Additionally, Tara Mastel and Micky Zurcher created a poster titled “Community Rebranding” summarizing the Making Boulder’s Future Bright project to date. They were awarded the People’s Choice Poster at the Community Development Society and National Association of Community Development Extension Professionals (CDS/NACDEP) joint conference held in Big Sky in June.

A proposal to present at the World Community Development Conference at Maynooth University, Kildare, Ireland, was submitted in September. The proposal was accepted and Drew Dawson, BTAC Chair, and Zurcher will travel to Ireland in June of 2018 to discuss the journey and process of Making Boulder’s Future Bright.
The March North County Round Table on social media identified Facebook as the number one social media platform used by those businesses in attendance. In response, MSU Extension Agent Micky Zurcher set up a Facebook for Business 101 course at the Jefferson High School computer lab in May.

Facebook is a widely-used social media app. With over a billion users, it is simply too big for business owners to ignore. The Facebook training course was a comprehensive, fun way to immerse business owners in this top social network. The class provided basic steps to increase attendee's social media marketing for their business. The class was taught by Julie Jaksha, the Director of the Small Business Development Center for Headwaters RC&D.

The September meeting was held at the Jefferson City Community Center in Jefferson City. The topic was on Energy Efficiency, presented by Howard Skjervem from NorthWestern Energy. The 20 participants learned tips on how to save energy this winter.

**Groundwater Study**

Water resources are an important part of the Madison and Jefferson County landscape and are essential to agriculture, recreation and future growth. Understanding the groundwater resource interaction with surface water will help better manage this valuable resource. Extension has been assisting the two legislative approved groundwater studies in the Boulder and Jefferson Watershed areas. The Boulder study report and a summary brochure indicate there is an opportunity for groundwater recharge that could help with late season stream flows and the report is available on the Montana Bureau of Mines website. Local discussions are ongoing to look at implementation of the findings. The Jefferson River study is progressing and preliminary findings indicate there is an opportunity for groundwater recharge that could also contribute to the water temperature reduction that would be a positive impact on the river fishery.
4-H Fair Returns to Jefferson County

For many years the kids of Madison and Jefferson counties have exhibited their 4-H and FFA projects at the Madison County Fair in Twin Bridges. As the new 4-H year began the Fair Board and Extension office staff came to realize they would have a big dilemma. It was a good problem to have as it suggested that 4-H and FFA programs were beginning to thrive again in the counties after previous years’ lulls. In the past the Extension office, the Fair Board and others involved with fair actively worked together to encourage local kids to sign up for 4-H, FFA and/or open classes to fill the available spaces offered for exhibits on the fairgrounds.

On the other end of our counties, Boulder had been hosting the Jefferson County Fair for many years. 4-Her’s were always welcome and encouraged to exhibit their projects, but for the past approximately 10 years the fair was mostly made up of adult and open class exhibits. There was plenty of room for extra exhibits at the Boulder fairgrounds and the Fair Board had been working diligently with the county to come up with ideas to improve the Jefferson County Fair attendance and experience.

Upon hearing about the space issues at the Twin Bridges fairgrounds and the need for improvements at the Jefferson County Fair, the local Boulder 4-H club leaders took action. They took a vote amongst the families in their club and after a brief discussion, graciously announced that their club members would be staying in Boulder for the upcoming fair. The Jefferson County Fair Board was ecstatic when hearing the news and plans quickly went into effect. Pens were repaired and arranged in the livestock/poultry barn to accommodate all of the expected animals and a special 4-H section was added to the Indoor Exhibit Building. There was a temporary show ring constructed, judges were hired and ribbons ordered. Once word got out to the public, it seemed like everyone was excited to attend the upcoming fair and interested in viewing all of the 4-H kids’ exhibits.

At the end of the summer, everyone loaded their projects and headed down the road and into town rather than making the trek to Twin Bridges. There were compliments given to the Commissioners, Fair Board and the local 4-H club, as well as praise for bringing a 4-H fair back to the Jefferson County Fair.

With the success of the 4-H kids showing at the Jefferson County Fair and the need to open up some spaces at the Madison County Fair, everything worked out well for the Extension office and Madison County Fair Board. This may have meant planning and helping organize two fairs for Extension staff, but with the help of the many volunteers, everything was a success and plans for the new year are in full swing.
Total 4-H Club Membership: 322
- Clover Bud members - 41
- Graduating seniors - 13
- FFA students (2 chapters) - 30
- Adult Volunteers - 42
- Youth Volunteers - 31

Total 4-H Youth Participants (duplications eliminated): 318
- Gender of 4-H Youth Participants: Male - 162, Female - 156

Place of Residence of 4-H Youth Participants:
- Farm - 163, Towns of under 10,000 and rural non-farm - 155

Total Number of Market Animals at Fair
- Market Swine - 126
- Market Beef - 36
- Market Lambs - 25

Indoor Projects Top 5
- Photography
- Leathercraft
- Foods & Nutrition
- Family and Consumer Science
- Shooting Sports

Shooting Sports Top 5
- Archery
- Air Rifle
- Air Pistol
- Shotgun
- Western Heritage

New Indoor Project Interest
- Robotics
- Welding
- Small Engines
- Leadership
- Cake Decorating

Number of Participants Attending Fair (4-H and FFA) - 253
Entries at Fair - 1078

Entering the ring
Pipestone Creek Sedimentation and Jefferson Slough Eurasian Milfoil

Extension supports the Jefferson River Watershed Council with these two legislative approved projects. The Pipestone Creek sedimentation project is helping to restore the creek banks and place the waterway back into its original channel to reduce sediment buildup downstream that has contributed to flooding events and creation of conditions for the noxious aquatic weed, Eurasian Milfoil, to establish a nursery. Left unchecked, the noxious aquatic weed impacts the fishery, recreation and the overall health of the Missouri River drainage. The eradication of the noxious weed involves an innovative test to relocate the existing slough channel to increase the water flow to help move sedimentation downstream. The project has also involved the replacement of culverts with a new highway bridge, enhanced irrigation diversions, aquatic herbicide applications and stream bank reconstruction. The cooperation with local landowners and several public meetings are good examples of stakeholder communication resulting in a successful public/private partnership.
Welcome to McCone County

McConne County MSU Extension provides non-biased, research-based education to constituents in the county and neighboring areas. In 2016, McCone County MSU Extension offered programming in Agriculture, Natural Resources, Family and Consumer Science, and Youth Development. McCone County was established in 1919 and was named in honor of state senator George McCone.

McConne County encompasses 2,594 sq. miles. Circle is the single incorporated town in the county and is also the county seat. The county has a population of 1700 people. Agriculture is the primary business in McCone County.

Clouds in McCone County, photo by Tandi Kassner
4-H Youth Development

McConed County has four 4-H clubs with 48 members and 15 leaders. 4-H continues to offer opportunities with events and activities throughout the year.

Enhanced life skills are gained through club meetings, project work, judging events, summer camp, mini-congress, market quality assurance, Rec Lab, club trips and outings, special interest group meetings, shooting sports events, training’s and educational workshops, the county fair, fundraising events, a livestock jackpot show and the achievement program and banquet.

Involvement in 4-H allows for hands-on experience through project work. That hands-on experience develops skills for life, and guides decision-making for post-secondary institution selection or career choice and professional development.

The 4-H program also allows many opportunities for adults to be involved in life skills development of youth through project leadership as well as assisting the various projects and activities.

The 4-H Cloverbud enrollments continue to rise with increased interest and participation. In the 2016-2017 year we had five Cloverbuds. We have added many new options for Cloverbuds to work on throughout the year and to bring to fair. 4-H Program Assistant Tandi Kassner promotes 4-H and gives hands-on efforts working with each member to introduce them to what 4-H is about, as well as working diligently to meet the needs of each member within their project.

Nikki Heide, Kama Urton and Candy Milroy have been a great asset to our horse program. During the winter months they meet to work on project books and this year they hosted a horse clinic. During the summer months, they meet at least once a month to work on horse and rider assessments, showmanship, and general riding skills, maneuvers and riding patterns for fair.

McConed County has four active clubs. Ambitious Ants, Green & White, and Washington Warriors are our oldest clubs and the Redwater Wranglers is a fairly new club.

4-H members work on a few countywide fundraisers throughout the year, including fruit sales in the spring and selling Greytak calendars in the fall.

ABOVE: Washing steers, photo by Beth Conroy
CENTER: Shooting Sports, photo by Danielle Harper
RIGHT: Got my goat, photo by Sheena Thoeny
Agriculture

McConne County MSU Extension offers programming that addresses production issues, nutrition, forage testing, water testing and marketing for livestock producers. Programming is also offered for crop producers dealing with specialty crops, weed control, rental rates, and general crop production topics. Face-to-face programming is done through producer meetings and workshops, as well as one-on-one consultations in the office and/or at the farm or ranch.

A very effective means of communicating with the producers about a wide variety of issues is the weekly newspaper article, “Notes from Nelson.” The focus of this weekly column is current agricultural issues. The issues addressed often result in calls or visits to the Extension office to further discuss topics.

The severely dry summer of 2017 brought concerns of high nitrate levels in area forages. From June through November, approximately 160 forage samples were tested for nitrate content in the McConne county MSU Extension office. Of the samples tested, approximately 1/3 contained nitrates at a level that required special management, a small percentage of which required hay bales to be burned.

A very popular service of MSU Extension continues to be in the area of weed, plant and insect identification.

Samples are brought in on a regular basis. Samples that cannot be identified immediately are submitted to the Schutter Diagnostic Lab on the MSU campus in Bozeman.

Livestock water quality continues to be a local concern. Educational programming was offered to help make livestock producers aware of water quality concerns.

A major programming focus for the past year has again been in the area of All Terrain Vehicle (ATV) safety. ATV’s are widely used on most Montana farms and ranches. Farmers and ranchers, as well as their employees and family members, are involved in too many accidents involving ATV’s, resulting in serious injury and deaths. Approximately 675 youth and 102 adults were involved in ATV safety-related events through the McConne County MSU Extension office. Nine events were held, including ATV Safety Rider Courses, school presentations, and farm safety camps. A special request was received from the University of Wyoming Extension for permission to use printed and web-based material previously developed by McConne County staff.

Other specific programming efforts included addressing stocking rates, rangeland noxious weeds, alfalfa management and cover crops.

Long day of forage testing, photo by Tandi Kassner
Family and Consumer Sciences

Day-to-day office contacts in the area of Family and Consumer Sciences most often involve basic food safety, home canning, estate planning, home gardening, plant care and home weatherization. Many of the daily contacts address economic concerns. With today’s economy, making the dollar go further will be as important as ever in most households.

McConne County has four Family and Consumer Science Clubs with a total of 37 members. Those members are active in a number of community functions: fundraisers, community service, nursing home resident functions, college scholarships, and providing bingo, prizes and premium money at the county fair.

Our local Homemakers groups include the Friendship, Prairie Elk, Brockway and the Triangle Club. Each club is active within the community and donates time and services, as well as money, to several charities.

The Diabetes Empowerment Education Program (DEEP) training was held in February. The six-week course reached 12 people, with 10 of those completing and graduating the course. Local Extension staff and guest speakers presented a wide array of education segments addressing diabetes and tools to manage life with diabetes.
Welcome to Meagher County

The Meagher County (White Sulphur Springs) 4-H Council has initiated a capital fund drive to build a covered area for the 4-H and FFA show and sale held in late July of each year. Presently there is no structure to use during inclement weather for exhibits, demonstrations, shows and sales of 4-H and FFA market livestock. Existing barns for housing livestock are over 60 years old, and for the past decades the demonstrations have been held under a rented tent and the show and market sale is held outside with the risk of inclement weather. This proposed structure is also designed to be available for many community activities and events in the future.

We have proposed a modest pole-barn structure design. The pole structure is planned to be 54’ x 80’ with a proposed meeting room to be built in phase two. This structure will be built on county land at the Meagher County Fairgrounds.

We would like to have the structure serve several other purposes during the year as a place for future farmer’s markets, outdoor instruction and education for 4-H and FFA students with livestock handling, Livestock Quality Assurance education, dog training and handling, robotics, marksmanship demonstration, equine handling and trail riding clinics with instruction.

We presently have 62 students enrolled in over 125 exhibits or livestock entries for this year. The program is growing with three added programs, with the hope a new structure will allow more programs and encourage more students to utilize the opportunity to demonstrate and exhibit livestock in future years. When completed, this structure could serve many needs for both the White Sulphur Springs community and educational instruction for students and adults for multiple uses. With additional funding, plans for restrooms and a meeting room are planned later.

Presently over 85% of the needed funds to complete the structure have been raised since February 2017, and we are receiving donations weekly. Bids will be let in January 2018 with a plan to start building by May 2018.

Photos by Bob Sager
Mineral County and MSU Extension

The Cooperative Extension Service of the U.S. Department of Agriculture (USDA) was established in 1914 and the land-grant universities in each state were given charge of its mission; non-formal education designed to help people use research-based knowledge to improve their lives. In Montana, local county Extension offices are the off-campus arm of Montana State University (MSU) and act as the conduit of knowledge between the University and the public, meeting local needs to help people help themselves. A cooperative agreement between federal, state, and county resources enables local Extension agents to develop and present programs in the areas of agriculture and natural resources, 4-H youth development, economic and community development, and family and consumer sciences.

Kevin Chamberlain and MSU mascot, Champ, celebrate during the 2015 MSU Extension Annual Conference.

The first full-time Extension agent for Mineral County was James E. Wilson, who began serving the people of Mineral County in 1947. In the 70 years since that time, 15 agents have provided organizational structure and programs to meet changing local economic and social needs. The longest serving agent, Kevin G. Chamberlain, announced his retirement in July of this year, a culmination of 28 years in Mineral County. During his tenure as agent, MSU Extension expanded community and economic development services, introduced forest stewardship programming, facilitated collaborative efforts with federal and state land managers, industry, and community members; and championed the need for an additional half-time agent position in Mineral County.

As in the past, MINERAL County and MSU Extension continue to move forward, serving local needs and preparing for the future.
Business planning assistance

A Successful and Tasty Business Plan

Services provided by MSU Extension include business planning for new and established businesses and grant writing and administration for county efforts. In collaboration with Lake County Community Development Corporation (LCCDC) and Sanders County Community Development Corporation (SCCDC), Mineral County MSU Extension provides free workshops ranging from computer software such as Quickbooks and Excel, to business principles such as Cashflows and Marketing Strategies to assist participating business in Mineral County. 2017 has deemed itself to be a successful year for many Mineral County businesses. The Mineral County Revolving Loan Fund has assisted two local businesses with new loan packages and received loan payoffs from four small businesses, bringing the total loan packages processed by MSU Extension to eleven. In addition, MSU Extension staff assisted 17 business clients with over 100 hours of contact time.

Extension’s role in economic development often takes years to gauge impacts and evaluate results. One of the businesses that profited from MSU Extension support and instruction in business is Western Montana Specialty Foods. Mary Ippisch started the business in 2010, producing her Bitterroot Zucchini relish in the Mission Mountain Food Enterprise Center located in Ronan. In June of 2017, the business was able to become a licensed processing facility in full production, supplying her signature relish in a variety of sizes to vendors and food service providers including area schools, even so far away as MSU-Bozeman. The relish is also distributed to Glacier and Yellowstone National Parks. The company’s ultimate goal is to reach the national arena with her “Made in Montana” product.

The End of one Era, the Beginning of Another

November 17, 2017 marked the end of an era for Tricon Timber, LLC, the only sawmill still in operation in Mineral County. The mill began as an idea in the late 1980s before becoming a small log operation that utilized the lodgepole pine that had become so abundant in the area as a result of the 1910 fire. Tricon was updated and revamped many times over the years and with a recent $10 million renovation, reached production levels of almost 10 times the original target. Tricon developed rail reloads throughout the state with locations in Trout Creek, Helena, Livingston, Laurel, and Huntley. They have been at the forefront of stewardship and forest restoration in western Montana, creating access to a sustainable and renewable resource while reducing forest fire fuels which have plagued our area in recent years. The original plan to produce about a million board feet per month, became a highly respected sawmill, one of the largest and fastest mills in the state of Montana, producing at its best 140 million board feet annually. The workforce of Mineral County is about 2,500 and Tricon employed about 24 percent that workforce.
In December of 2017, Tricon Timber, LLC was acquired by the well-established company Idaho Forest Group out of Coeur D’Alene. As the first facility outside of Idaho, there is a great focus to continue the manufacturing excellence Idaho Forest Group has come to be known for in the wood products industry. This is a healthy, growing company – big enough for its national and international markets, but with hometown ethics and pride in a job well done. Excellence is the goal in caring for natural resources, employees and customers. According to Erol Deren, Idaho Forest Group V.P. of Sales & Marketing, “The St Regis sawmill acquisition supports our continued growth and will be an excellent strategic addition to our existing operations in Northern Idaho.”

MSU Extension continues to facilitate the Mineral County Resource Coalition (MCRC), a collaborative forum of local residents and USFS personnel concerned about proper management of more than 782,000 forested acres in Mineral County. Tricon Timber played a major role in helping Mineral County’s voice be heard by congressional staff as well as federal and state agencies; facilitating many meetings with local government and the timber industry to express the importance of managing local forest resources. The USFS has an estimated 350-400 thousand acres of production forest in Mineral County with a sustainable yield of approximately 120 million board feet. With the largest employer in the county changing hands, we look forward to seeing what the future holds for our economy.

**First it grows, then it burns**

A cool, wet, spring followed by higher than average temperatures and over two months with no precipitation kept the Extension office busy fielding calls about dry conditions in fields, gardens, and forested acres across Mineral County. Irrigated and non-irrigated crops alike suffered stress that many producers were unable to prevent. Yields for these crops were low to non-existent but irrigated crops fared better over the course of the season.

Unfortunately, conditions in the forests around Mineral County did not fare so well. Although no stranger to wildland fires, 2017 was particularly memorable for most people in Mineral County. The Sunrise fire started on July 16, just 11 miles southeast of Superior. It was considered “contained” by the end of October after coming within three miles of Superior and consuming more than 26,500 acres at an estimated cost of $31 million. While mostly consuming timber on federally managed lands, it did impact approximately 1200 acres of private forestland, some of which was sustainably managed under the Extension Forest Stewardship program. Additionally, the number of people and livestock displaced by fire suppression efforts over the course of two months was unusually high for the area. Fortunately, friends, family, and neighbors all worked together to alleviate hardships for those displaced and very few community resources were needed. Other wildfires in the area filled the valley with heavy smoke, reducing air quality considerably and stressing many residents. Once the Sunrise fire was officially contained and rehabilitation efforts could begin, Extension began working with landowners on forest assessments, revegetation plans, and other resources to begin the long road to recovery for wildfire-impacted areas.

**TOP: Alfalfa yields decreased in first cuttings due to heat stress and inadequate nutrient uptake.**

**BOTTOM: The Sunrise fire southeast of Superior on August 15, 2017. Photos by Dave Brink.**
Sometimes it’s the little things

“What is this?” Even in the age of instant access to information via the internet, many people still prefer input from reputable and knowledgeable sources. MSU Extension is recognized as that very sort of authority when it comes to diagnostic services in agricultural and natural resource areas. Mineral County MSU Extension fielded over 170 requests for identification and information on various plants, animals, and diseases thereof; as well as soils and feed analyses. Plant and animal identification is typically handled internally with confirmation from the Schutter Diagnostic Lab at MSU if necessary. Plant diseases, soil and feed analyses, and more technical requests are often submitted either to the Schutter Lab or other facilities. Some samples are brought into the office, some arrive via email, but the clients requesting field visits often yield the most impressive results.

A visit to a landowner near DeBorgia, Montana, who requested assistance in managing pocket gophers serves as one such example. The MSU Extension agent provided research-based information on management options, demonstrated proper control techniques, and assisted the landowner in learning new skills. An added bonus was the discovery of a common, but seldom seen, native snake, a rubber boa. The landowner was most impressed at the discovery and information made available on what had been an unforeseen diagnosis.

Field visits like these often require a lot of time but the direct benefit to the public cannot be dismissed. Local Extension agents are accessible to the public at all times merely by the fact that they live in and are recognized by their communities as knowledgeable sources of information. These are the impacts that are important to the lives of residents of Mineral County.

Rubber boa, a native snake, found during a demonstration of pocket gopher control techniques. Photo by Dave Brink
Missoula is known as the Garden City because of its ability to grow local food crops. In the early days, fruits and vegetables were marketed to surrounding mining communities. Today a number of stores and restaurants use locally-grown food crops, and producers can market through seven farmer’s markets.

Missoula County has a population of 116,130 people. Missoula, the county seat, has a population of 72,186. The major industry for many decades was timber. That has declined significantly since the early 1970’s and Missoula has become a regional trade center. Additional categories of economic importance are educational services, health care and social services. Ninety percent of the wage and salary workers are employed by small businesses of 20 employees or less. One out of four people are self-employed.

Subdivision since the 1970’s has resulted in many small acre parcels of land. The current GIS data shows 5,936 individual landowners in Missoula County that own five acres or more of land. The 2012 Census of Agriculture reports 637 farms in Missoula County with average sales of $21,355 per farm.

Due to the interest and concerns about invasive species, the MSU Extension office and Weed District are combined into one department. Considerable effort has resulted in new tools and sustainable methods of managing invasive weeds, such as the biological weed control program. The concerns about invasive aquatic species has brought new challenges. Through the encouragement of the Governor, the department has provided statewide leadership in organizing a Montana Invasive Species Council.

Youth education is an important part of our program. The 4-H program is very important in Missoula. Changes are under way that will enhance our abilities in working with 4-H youth and families. Youth education in natural resources and local-grown foods through the schools and non-profit groups is also an important part of our work.

Recently, the department collaborated with a number of partners to conduct a statewide landowner natural resources value survey. The results will be used in organizing upcoming programs.

These highlights are a brief look at the programs we do. We encourage people to contact us for information and to consider becoming involved in programs of interest.
Missoula Plant Clinic keeps residents in the know about plants and their pests

The Missoula County MSU Extension Plant Clinic provides leadership and educational opportunities to the public on the identification and integrated pest management practices (IPM) of plant diseases, pests and related plant health problems through the coordination and management of the Plant Clinic. The clinic:

- Performs weekly scouting trips, checking on pest levels that challenge gardeners, landscapers and homeowners in maintaining healthy plant communities and environment.
- Traps for insects such as the codling moth, cherry fruit fly and currant/gooseberry fly to give Missoula County residents timely information on when to spray for those pests to control damage to fruit. This information helps reduce unwarranted pesticide use.
- Updates the Pest Alert Hotline, which is distributed through email, Missoula County MSU Extension website and phone recording.
- Provided information for 1,600 calls, walk-in clients and emails this year including information on soil testing, pruning, plant identification, and pest control.
- Collaborates with the YMCA’s Gardening for Kids Camp. Thirty children were given magnified bug viewing containers to examine provided lady bugs. We talked about good and bad bugs in the garden and what role bugs play.
- Assisted the City of Missoula Parks department by training 10 volunteers how to maintain plants in traffic circles.
- Participates in two radio talk shows answering horticulture questions from listeners.
- Partners with FCS Agent Kelly Moore in teaching four Lunch and Learn classes: subjects include Stevia, fruit leather, beet growing and harvesting, and growing herbs.
- Held a class for 10 people on how to grow salad greens in containers (Seed to Salad).
- Works with the local native plant society and U of M maintenance on diagnosing problems in their native plant garden at the University of Montana.
Partnerships: Refining Outreach through Social Understanding

In 2013, the weed district brought together an interdisciplinary group of natural resource managers, social scientists, and conservation leaders to work collaboratively to find ways to improve outreach effectiveness and enhance natural resource stewardship in Montana. Natural resources issues identified by the group included mitigating the impacts of wildfire, wildlife conflict and invasive weeds. With funding provided by the Missoula County Weed District, Montana Department of Natural Resources, Gallatin Valley Land Trust, Defenders of Wildlife, Montana State University Extension and the Montana Department of Agriculture, the group partnered with the Human Dimensions Lab of the University of Montana to conduct a statewide survey that could provide a better understanding of landowners’ attitudes and values toward key natural resource issues, constraints, and preferences for information sources. This information could then be used to clearly identify groups of Montana landowners most in need of assistance and develop audience appropriate messaging and information for them. The survey was completed in 2016, and here are the results of Landowners’ perspectives on weed control across Montana.

- 70% of landowners said they always checked their property for weeds.
- Almost 90% of landowners believed their personal actions could help control weeds, only 31% of respondents believed that controlling weeds on their property would motivate their neighbors to take action.
- While 70% of landowners reported checking their property for weeds, only 40% of landowners thought their neighbors were taking action.
- 80% of landowners are willing to use herbicides to help control noxious weeds on their property; only 44% of landowners were willing to apply for a government grant program to do so.
- Friends and family and general internet search were the most popular sources people used to get info. Workshops/classes and federal government were the least popular sources.

Survey Methods:
We administered a mail and internet survey following a Dillman tailored design method (2004). Our initial sample included 4,424 Montana landowners from across MT. We stratified the state by combining the seven MT Fish, Wildlife and Parks regions into three regions: East, Central, and West. In each region we sampled about 1,500 landowners. We drew our sample from the MT Cadastral database, a spatially explicit statewide database of all landowners. We had a response rate of 30%, and a final sample of 1,328 responses. Please contact Dr. Alexander L. Motzolf with any questions (alex.motzolf@umontana.edu).

Below is a diagram showing the different types of landowners across Montana.
Montana Biocontrol Coordination Project
The Montana Biocontrol Coordination Project works to provide the leadership, coordination, and education necessary to enable land managers across Montana to successfully incorporate biological weed control into their noxious weed management programs.

In 2017:

- 35 days were spent collecting insects
- Nearly 500 land managers assisted in collecting biocontrol agents
- 7 species were collected (Mecinus janthiniformis, Mecinus janthinus, Agonopterix alstroemeriana, Aphthona spp, Oberea erythrocephala, Larinus spp, and Cyphocleonus achates)
- 3 additional species were brought in and released in Montana (Chrysolina spp, Hylobius tranversovittatus, and Puccinia punctiformis)
- 40 Montana counties collected or received insects
- 14 other states received insects (Colorado, Washington, Idaho, Nevada, Oregon, Arizona, Utah, New Mexico, Wyoming, Nebraska, South Dakota, Minnesota, Tennessee, and New York)
- Approximately 2.5 million insects distributed
- 16,520 acres treated (following rule of: 5 acres treated for every 1 release)
- $550,000 approximate market value of distributed insects
- 15 workshops were coordinated or presentations were given in Columbus, Kalispell, Miles City, Missoula, Ovando, Deer Lodge, Dixon, Condon, Philipsburg, Whitehall, Browning, Fishtail, and Utica
- Over 300 participants were involved in these workshops or presentations
- Nearly 6,750 miles traveled throughout Montana for workshops and collections
**Grocery shopping tours with Missoula EFNEP**

The Expanded Food and Nutrition Education Program (EFNEP) provides free classes to low-income families in Missoula County. Class graduates have the opportunity to attend a grocery shopping tour. Families receive a $10 gift card and are challenged to make a healthy meal consisting of all five food groups according to MyPlate. EFNEP partners with Super Walmart, a store that is convenient and familiar to families. During the 2016-2017 fiscal year, nutrition educators Julia Goar and Bonnie Medlin conducted six tours.

Recently, while touring the bread aisle, Bonnie Medlin asked her participants to grab the bread they normally buy and identify the fiber content. MyPlate teaches that a whole grain product is defined as 3g of fiber or more. One of her participants was shocked to discover that her normal bread purchase only contained 1g of fiber. She was tricked into thinking the bread was whole grain based off the color of the bread. The participant then chose to buy a loaf of whole grain bread with a higher fiber content.

**Missoula EFNEP 2016-2017 Statistics**
- 95 families graduated.
- 89% of families had a positive change, eating more of the five food groups. Graduates ate more food with fiber, calcium, and Vitamin A.
- $8.12 is saved in healthcare costs by a family who graduated from EFNEP.

**Family and Consumer Sciences 2017 Program Highlights**

- **Powerful Tools for Caregivers.** Two sessions were offered in spring and fall, in partnership with MAS (Missoula Aging Services). Twenty participants got information and peer support in groups. Participants are better able to utilize resources shared in class to ensure improved self-care during the challenges of family caretaking.
- **DEEP (Diabetes Empowerment Education Program).** Two sessions were offered in spring and fall with 15 participants. University of Montana Pharmacy School seniors presented updates on diabetes medications and management progress. Empowerment strategies are adopted by participants to better handle the challenges of diabetes self-care and management. The Community Diabetes Education Program presented the doctor-referred program for those with diabetes to continue to expand their diabetes awareness.
- **Strong People.** Two, six-week sessions of low impact exercises and strength training (with a nutrition component) were offered for an average of 6-8 seniors ranging in age from 55-94 at River Ridge Senior Apartments. Several participants expressed their excitement about having more energy and endurance as a result of the program.

![Missoula EFNEP nutrition educator Bonnie Medlin leading a shopping tour at Walmart.](image)

![Canning demonstration and pressure gauge testing at Caras Nursery.](image)
- ServSafe. This program was taught in May and November to 25 participants from Missoula and Ravalli Counties, in partnership with Ravalli County MSU Extension at Bitterroot College.

- Lunch and Learn. Offered from October through May, these one-hour lunchtime classes gave information and demonstrations on local foods, and how to grow and cook them. Classes like ‘Seeds to Salads,’ and ‘Growing and Eating Fennel’ averaged 8-12 participants.

- Canning Class Series. Three weekly evening classes were offered for making: pickle relish, apple pie filling, and pressure canning chicken at Moonlight Kitchens. Participants said they would continue canning classes throughout the year if offered. Several had never canned before and are planning on continuing as a result.

- Cooking Classes and Canning Demonstrations were given at the Indian Health Center Wellness Fair at University of Montana, Ace Hardware, Montana Outdoor Recreation Expo, Nine Mile Community Center Food Preservation Update, Good Food Store Local Foods Fair, Missoula Aging Services Senior Corp Volunteers FCS Program Update, and Missoula Food Bank. Tests were done on 45 pressure gauges.

- Missoula County MSU Extension FCS served as the Western Montana host site for Women In Agriculture (WSU sponsored), with 20 participants from around the state.

- MSU School of Nursing Project. Missoula County MSU Extension FCS served as a preceptor for two nursing students who worked on children’s pre-diabetes education.

**Ambassador program helps 4-H teens succeed at life**

The 4-H Ambassador program in Missoula County teaches teens how to be better leaders, communicators and community-minded citizens. Participation in the program causes teens to be more confident, outspoken and aware of their position as role models in the community. Seasoned 4-H Ambassadors make new friends more easily, they force themselves outside of comfort zones and they participate in statewide 4-H events at a much higher rate than non-Ambassador 4-H teens.

By their own admission, through responses to questions on the 4-H Ambassador application, 55% of applicants wanted to participate in the Ambassador program specifically because of the leadership development opportunities. Another 55% of applicants indicated a desire to give back to the 4-H program from which they had gained so much, by promoting 4-H in the community and mentoring younger members.
Several quotes from Ambassador applicants are noteworthy:

- I remember being a little kid and looking up to those who wore the ambassador shirts. I want to be that leader for the kids now. To be the leader I needed when I was younger.
- Being an ambassador has helped to develop my leadership, communication and public speaking skills. It has also motivated me to become the best person I can possibly be.
- I learned that there are different kinds of leaders. Knowing that made me feel more comfortable and secure when leading because I prefer not to be in the spotlight.
- I learned that being a leader has no breaks and that you always have someone looking up to you.
- Being an ambassador has helped me to take more risks and try new things.
- In my classes, I started speaking up and volunteering information and not being afraid that it was wrong.
- Before, I was scared to do my own thing and to stand up for myself, now I focus on doing whatever I’m doing at a 100% level…also, now I make decisions based on what I think is right or best, no matter if my friends are doing something different.
- Being an ambassador has helped me to make new friends and improve my social life.
- Having a goal has focused me and made me happier. Now I have a direction, and now I know how to get things done and be a good leader. I have found a family with the group of ambassadors, a safe space. So that gives me more confidence.

In 2017, all of the 12 teens from Missoula who traveled to Helena for the 4-H Legislative Breakfast event were Ambassadors. Eighty-six percent of Missoula’s teens who traveled to Miles City for Montana 4-H Rec Lab were Ambassadors, and Missoula’s delegation to Montana 4-H Congress in Bozeman was comprised of 52% Ambassadors, 48% non-Ambassadors. All of these 27 teens competed in State 4-H contests while in Bozeman. The 4-H Council Board in Missoula believes strongly in the positive impact the Ambassador program has on youth, and as a result, they invest nearly $8,000 annually to support their travel to and participation in state- and national-level 4-H events and competitions.
Welcome to Musselshell and Golden Valley County

Musselshell and Golden Valley Counties make up the central two counties of the Musselshell Valley, where the Musselshell River makes its way to meet Fort Peck Reservoir. The two counties have a footprint of 3,046 square miles with a population of 5,409. The Bull Mountains are the central landscape of the counties, with prairie and foothills to the east and west. The two counties encompass over 1.9 million acres, 1.7 million of those are in agricultural production. The Musselshell and Golden Valley County agent position has traditionally been shared between the two counties.

This position serves a unique agricultural footprint; it is diverse and well-maintained through long-standing family operations that boast third and fourth generation farms and ranches, covering forested foothills, plains, river bottoms and badlands. Producers grow wheat, barley, hay, corn and peas on dryland and irrigated acres. Cattle and sheep ranches dot the landscape and each producer is considered an everyman, growing crops and raising livestock on their operation. Our annual precipitation is on the low end, netting in the thirteen-inch range. Many producers proudly tout us as the “Banana Belt” of Montana due to our mild weather. In the last decade, the communities have experienced fires, floods, and drought, which have served to introduce new cultural production methods in the area.
MSU Extension offers forage and pasture solutions

Musselshell Valley Cattle and Forage Symposium

In January 2017, MSU Extension held the Musselshell Valley Cattle and Forage Symposium in Roundup. The program featured a diverse selection of presenters and focused primarily on the cattle and forage industries as they operate in Musselshell and Golden Valley Counties. Presenters included MSU Extension beef and forage specialists Rachel Endecott, Meghan Van Emon, and Emily Glunk, as well as presentations from retired Central Ag Research Center superintendent Dave Whichman, John Lockie from the USDA Risk Management Agency, and Agents Marc King and Mat Walter.

This program was designed specifically around input by local producers, either in group discussion, phone calls or visits into the office. Those topics were eventually compiled to include: soil fertility and sulfur in alfalfa, forage rotations, feeding cover crops, controlling poisonous plants, liquid supplements, and feeding grains in small operations.

The program proved to be a success despite a January blizzard, with great attendance and all the presenters able to withstand the slick roads and white-out conditions. Producers were happy with the experience and requested the program become an annual staple in the counties. The 2018 program has been set and advertised for January with new presenters and topics that will be focused primarily on the recent drought and wildfires our counties have experienced.

Pasture Wreck

During the last decade, the Musselshell Valley has experienced record fires, floods and drought, in some cases back to back. These counties are primarily in cattle and forage production and when any of these disasters occur, they significantly impact our grazing and forage acres. In 2017, MSU Extension decided to implement the Pasture Wreck course to assist producers with those acres that had burned, flooded or had been impacted by drought. The course was designed to provide information and tools to assist with pasture rehabilitation and reclamation.

The course occurred over a four-week period and attendees were presented with tools to better understand how our local plant communities work. Classes covered topics in soil science, range inventory, stocking rates, Web Soil Surveys, planting and species selections. The course provided valuable tools for the attendees, some of which were unknown benefits of having an agent with availability to conduct soil tests, evaluate stocking rates, and create planting plans. This information gave attendees new opportunities to take advantage of in spring and summer 2017.

Emily Glunk presenting

Photo by Mat Walter
Roundup fourth graders attend NILE

This year at the 2017 Northern International Livestock Exposition (NILE), Roundup Elementary students were invited to take part with “Ag in the Classroom,” a two-day event at the NILE, where area students are presented with agricultural education. For the last two years, Musselshell-Golden Valley County MSU Extension agent Mat Walter and Yellowstone County MSU Extension agent Callie Cooley have had the chance to teach about the five major crops grown in South Central Montana. This was the first opportunity for one of the schools from Walter’s county to attend the event. The two fourth grade classes traveled to Billings for a morning of agriculture education where they learned about parts of the agriculture industry that they normally see growing up in the Bull Mountains. This year they learned about crops, riparian zones, soils, rangeland, livestock, and honey bees. They also toured the NILE show itself and watched the stock shows taking place—an opportunity that most of these kids have never had. It was an opportunity for these students to expand their knowledge of agriculture, an important part of their lives. These are rural students, all familiar with ranching and the cattle industry, but here they were able to learn about the crops that they don’t get to see in the Bull Mountains. They had never seen a sugar beet before, or understood why the factory on the south side smelled so funky (because they’re making sugar!) they didn’t know that the Yellowstone Valley grew some of the best malt barley in the country, or that corn could be turned into so many products. It was a great experience for the kids, and Walter’s looks forward to teaching crop information to more students next year.
EARLY ACHIEVEMENT AWARD

Mat Walter was honored this spring with the Early Achievement Award for his dedication to Pesticide Education across the state. This award is given to an individual who has demonstrated exceptional efforts and impacts in pesticide education for their first five years with MSU Extension.

After being hired in 2015, Mat has worked to strongly promote pesticide education across the region and across the state, speaking during train-the-trainer events and working with other agents to provide pesticide courses. He has worked to develop several training modules and demonstrations in tank mixing, pesticide movement and safety. These modules have been used at training’s across the state for both producers and to train and update other Extension Agents.

“It is exceptional for new MSU Extension agents to take this role due to the many facets of their position that often are overlooked,” said Cecil Tharp. Walter previously worked in county weed control and in cropping research over the past decade.
Welcome to Park County

Park County spans nearly 85 miles from north to south and encompasses over 1.7 million acres of land. Public lands comprise nearly 57% of the county’s scenic landscape, home to the highest peak in Montana – Granite Peak. Just over 16,000 residents live here and enjoy the beautiful expanse of scenic mountains and river valleys the landscape offers. Agriculture, healthcare and social services, and tourism are major economic drivers.

Park County has over 550 farms that encompass nearly 775,000 acres where primarily cattle, hay, and cereal grains are produced. Livingston HealthCare is Park County’s largest employer and, driven by our proximity to Yellowstone National Park, beautiful rivers and mountains, and vibrant small towns, tourism employs thousands of people.

Park County Extension is funded jointly by the City of Livingston, Park County, and Montana State University and maximizes taxpayer investment by leveraging funds and resources to improve lives, landscapes, and livelihoods. For every $53 dollars invested by Park County taxpayers, MSU invests $47 – an 89% return on investment.

Photo by Tracy Mosley
Collaborative weed management efforts improving Park County landscapes

Park County MSU Extension’s agriculture agent has partnered with the Park County Cooperative Weed Management Area (CWMA) group for nearly a decade to fight weeds. The partnership has been effective since 2008, when the group formed. Since 2013, Park County MSU Extension has secured eight grants totaling $203,723 on behalf of the CWMA to support education and management of noxious weeds.

In 2017, the partnership’s foci were finishing three cost-share grants for weed management, hosting three workshops for small landowners, cooperating with homeowners associations on educational events for landowners, and distributing biological control agents. Through the three cost-share grants, 29 landowners received cost-share assistance to purchase herbicide or hire a commercial pesticide applicator. In total, 7,426 acres of Priority 2B (abundant and widespread) noxious weeds were sprayed across Park County in 2017.

The partnership hosted three workshops for 90 landowners owning 200 acres or less who were interested in weed management. Workshops focused on ecologic and economic impacts of weeds, legal requirements of landowners to control noxious weeds, weed identification and management strategies, grazing practices to limit weed invasion, and writing an integrated weed management plan. Post-workshop evaluations indicated participants increased their knowledge about the legal designation of noxious weeds (98%), ecologic and economic impacts of weeds (100%), legal obligations of landowners to mitigate weeds (95%), grazing management to limit weed invasion (100%), weed identification (94%) and effective control strategies (97%), and how the Park County CWMA can assist with weed management (100%). Many respondents indicated they intend to write an integrated weed management plan because of the workshop (87%). Overall, 75% of respondents rated the workshop Excellent and 23% rated it Good.

Three Park County homeowners associations hosted events for the partnership to provide education on weed identification and management, where 31 property owners

Helicopters approach to refill spray tanks for aerial weed control. Photo by Tracy Mosley
from three HOAs attended. Participants increased their knowledge and confidence related to weed management. As a result of the knowledge gained, eight participants purchased herbicides and implemented control practices for spotted knapweed, St. Johnswort, Canada thistle, and Houndstongue on their property.

The partnership works with landowners to distribute reduced-cost biological control agents for weed control. In 2017, 26 landowners released spotted knapweed root-boring weevils on 65 sites, yellow toadflax stem-boring weevils on three sites, and St. Johnswort foliage-feeding beetles on five sites.

Collaboration between the partnership and landowners continues to improve plant diversity, increase forage for wildlife and livestock, and reduce sedimentation into waterways across Park County.

**Gardiner Tourism Partnership launches to address challenges and strengthen businesses**

In March 2017, Park County MSU Extension’s community development agent helped business leaders in the Gardiner area launch the Gardiner Tourism Partnership. Designed to strengthen regional economies and address workforce challenges, the Next Gen Sector Partnership model is a fresh approach to economic development that is driven by industry and supported by the public and nonprofit sectors.

Twenty-one business leaders attended the launch and eight public and nonprofit partners were represented. Initially, six priorities were identified, including culture, housing, technology, workforce, season expansion, and sustainability. Work continued through the spring to refine each priority area and to develop and begin implementation of action plans.

Over the summer, the partnership began monthly socials; hosted by a different business each month, these business-to-business events focus on sharing cultural and organizational practices and successes. A survey of existing
business interest in season expansion was launched and discussions to get employee transportation to and from Livingston were held. Moving into 2018, the partnership has identified workforce challenges is the highest priority and is seeking to further engage with public and nonprofit partners such as MSU’s new Hospitality Program and Montana Department of Labor.

While local impacts began to occur, the Gardiner Tourism Partnership has also received state and national recognition. Partnership co-chair, Jeff Guengerich, joined an industry champion panel at the Innovate Montana Symposium in July to talk about the process, initial goals, and early wins. As the convener of the partnership, Katie Weaver was invited to join the Texas Next Gen Sector Partnership Academy as faculty in November. She worked with a rural region of the state, sharing her knowledge of how the model works in very rural communities, sharing successes, and helping to troubleshoot challenges.

Community Leaders Recognized

Extension success is founded on the partnerships and collaborations built with individuals, groups, and organizations within the county. The important work we do isn’t possible without passionate and dedicated volunteers, supporters, and partners. Park County MSU Extension honored eight outstanding community leaders who have been committed to positively impact Park County.

Local MSU Extension agents recognized leaders who have selflessly given of themselves to improve Park County landscapes and the lives of youth, families, and communities. The honorees were:

- Margy Dorr, LINKS for Learning; for her passionate and dedicated leadership in impacting the lives of youth and building strong organizations that support the people of Park County.
- Bob Fleming, Park County Cooperative Weed Management Area; for his dedication to the Park County Cooperative Weed Management Area group and for his efforts to foster collaboration for noxious weed management in Park County.
- Joe Hanser, First Interstate Bank; for being a champion of leadership development and his commitment to improving the lives of youth and the communities of Park County.
- Druska Kinkie, E Bar P Ranch; for her devotion to finding solutions to combat brucellosis in Park County and southern Montana, being a strong advocate for the agriculture industry, and efforts to further leadership development across the county.
- Jeanne McCormick, Master Gardener Volunteer; for her dedication as a Park County Master Gardener instructor and her efforts to improve the quality of the course each year.
- Josh Otis, Park County 4-H Council; for his passionate dedication and long-standing commitment to creating safe and positive learning environments for the youth of Park County.
- Deb Purvis, Cooke City Water District; for her vision, tenacity, and tireless dedication to building a strong community through her work on the Cooke City Water District and Chamber board.
- Jim Sykes, Park County 4-H Council; for his selfless dedication to helping youth reach their fullest potential.

Honorees were recognized at an appreciation barbeque in September where clientele from across the county were invited. The barbeque served as an opportunity to recognize community leaders, as well as an opportunity for the wide demographic of Park County MSU Extension clientele to interact.
After receiving an award, one recipient stated, “I would like to thank those of you who were involved with me receiving this award. We all have been at this long enough to know that one person can’t do it without the strong support of those they work with.”

**Unique partnership helps students explore careers in high school**

A new position at Park High School (PHS) is changing students’ expectations from ‘just another year of school’ to ‘a free opportunity to explore careers.’ Meagan Lannan, the Work-Based Learning Facilitator (WBLF), helps students identify their passions and skills, encourages them to research careers in those areas, and then places them at work sites in the community to develop hands-on experience. A partnership between the Montana Department of Labor, Park High School, the Livingston School District, the Arthur Blank Foundation, and Montana State University Extension made this possible.

Since 2012, PHS has surveyed senior-year students to determine their post high school plans. On average, 30% of each class indicated they were entering the workforce. When asked where and with who, they replied “I don’t know.” The WBLF’s job is to change this. Success has already started. Below, one student who struggled academically but flourished in an autobody shop shared his gratitude:

“Hey, I feel like I haven’t really directly thanked you for setting me up at O’Connors. It’s honestly difficult for me to express in words how much it means to me. But, basically you put me in the position to achieve my dream for life. And I cannot thank you enough for that. If you ever need anything at all I would be more than happy to help.

Just kind of an update for you—Frank has offered me a job working for him at O’Connors. He has also offered to pay for “Icar” schooling, which is equivalent to me going to almost any tech school and paying a lot of money for. On
another note, just out of curiosity, do you happen to remember what school you found that was comparable to Wyotech? While Frank can teach me and get me certificates for auto body and such, he can't get me very far with automotive mechanics. Again thank you so, so much for all your help, it truly means a lot to me.”

Park County MSU Extension Agents Katie Weaver and Mary Anne Keyes, and Montana Department of Labor Special Projects Manager Meagan Lannan were driving forces behind this project. Weaver’s expertise in sector partnerships led to conversations with PHS in 2014 and increased focus on career planning and exploration. In 2016, Keyes and Lannan were awarded a $20,000 grant/year for four years from the Arthur Blank Foundation to fund this position, further leveraging $482,000 through partnerships within the community and state.

When $196 Million Rests on Food Safety Practices

Situated along Interstate 90 and home to the northeastern and northern Yellowstone National Park entrances, Park County experiences over a million visitors every year. Providing safe, high-quality, reliable accommodations, restaurants, and other services is critical to maintaining a strong tourism industry. The Institute for Tourism and Recreation Research (ITRR) at the University of Montana estimates that in 2015 spending by non-resident travels in Park County was $196 million. The ITRR report continues “on a per capita basis, no major tourism county in Montana has more in non-resident spending than Park, supporting an estimated 2,700 jobs.”

Park County MSU Extension recognized the importance of food safety because according to the Centers for Disease Control and Prevention, foodborne illnesses affect nearly 48 million people each year. Of those, 128,000 are hospitalized and 3,000 die. The state of Montana also recognized the importance of food safety and in 2015 adopted new administrative rules. They require retail food establishments employ one person who is a Certified Food Protection Manager (CFPM). To become certified, an individual must complete an eight-hour training and pass an 80-question exam.

Since 2015, Park County MSU Extension and the Park County Environment Health Department partnered to create a culture of food safety within the county by training food service employees, managers, and owners locally and affordably. One hundred fifty-two people took the course and 122 earned CFPM certifications. Eighty-five establishments participated, including businesses located outside the county. The course focuses
on practicing good personal hygiene, controlling time and temperatures, preventing cross contamination, proper cleaning and sanitizing, and microbiology. One participant noted, “I have attended a ton of food safety trainings. This was far and away the best. It was fun, and I felt prepared to take the test. I also passed!” Another participant said, “I learn best in a classroom environment. I could have taken the online course, but I don’t think I could have passed that test. I struggle to learn by myself.”

In addition to the CFPM training, the partners offer four-hour employee food handler courses. Since 2015, 91 adults, 100 high school students and 30 middle school students successfully completed the four-hour training and received a ServSafe Employee Food Handler Training Certificate. A four-hour class participant reported, “I interviewed at a convenience store. When the owner found out I had a certificate, she raised my starting wage by $2 an hour.”

ServSafe class participant puts the finishing touches on his Norovirus poster. Photo by Mary Anne Keyes
Welcome to Phillips County

Phillips County is located in North Central Montana along the Hi-Line. It encompasses 3.2 million acres with 33% being managed by the Bureau of Land Management and 48.5% as private lands. Other land managers in the area are Montana State Lands, U.S. Fish and Wildlife Service and the Fort Belknap Indian Reservation.

Agriculture is the main industry in Phillips County consisting of 54,000 mother cows, ranking third most in the state; 5,900 sheep; 157,400 acres of wheat; 20,000 acres of dry peas; and 40,000 acres of irrigated land. The gross value of all agricultural commodities in 2014 was over $60 million dollars excluding any government program.

Recreation is also an industry in the county. There is big game and upland bird hunting. Warm water fish species are available in the Milk and Missouri River, which make up the southern border of the county. There is one large irrigation reservoir, Nelson Reservoir, that has warm water sport fishing.

Weather challenges agriculture

The spring, summer, and fall have all proven to be challenging for Phillips County agricultural producers. In the fall of 2016, Phillips County received a five-inch rain on top of the 20 inches the county received during the summer. Then the moisture stopped and the wind began to blow.

In the spring of 2017 the wind was so consistent the Glasgow National Weather Service measured soil water depletion to a depth of eight inches. Coupled with no measurable moisture countywide in June or July, the county ended the year with the worst drought in 33 years. Together with range and forest fires, the county lost over 30,000 acres of productive land to fire.

To meet these challenges, Extension provided educational programs in a timely manner. Specifically, Extension coordinated a drought meeting informing 25 producers about water quality, forage quality, and livestock management. Extension Beef Specialists, Dr. Megan Van Emon and Dr. Rachel Endecott provided best management practices under drought conditions. Additionally, producers received a handout with water quality standards for livestock use. The Extension office processed about five livestock water samples and 20 nitrate samples for producers.

Photo by Marko Manoukian

MSU Extension Beef Specialist Rachel Endecott informs livestock producers of livestock water quality problems.
Prairie Dog control workshop

Over the last few years, prairie dogs population has significantly increased on the land they occupy and new prairie dog towns have appeared. To address the control of prairie dogs, the Extension agent coordinated a program with Montana State Vertebrate Pest specialist Stephen Vantassel. Sixteen producers attended the workshop. Vantassel highlighted that due to prairie dog biology, control efforts must reach 90% to be successful or the pest is able to recolonize the area. Attendees received two private pesticide applicator recertification credits for attending.

Fumigation Workshop

Sixteen producers attended a fumigation workshop in February of 2017. The workshop was coordinated by the county Extension agent with Extension Pesticide Specialist Cecil Tharp. Attendees received six recertification credits for attending while receiving information on fumigation products, techniques, and safety. Fumigation is an issue with trading partners in India, which is a concern for many producers of peas and lentils produced in Phillips County. Fumigation is important to make sure a quality product is not damaged by an unwanted grain pest. Pests can be a problem in farm storage bins, and in railroad cars that haul the commodity to centralized U.S. consumer outlets or port terminals. If the railroad car is contaminated with pests, the entire load of grain could be condemned. Furthermore, fumigants can be an effective tool for managing burrowing rodents when other methods are less effective.

Extension assists with wool collection and Montana Ram Sale BBQ

With the loss of the Montana State Extension Sheep Specialist to Wyoming, the Phillips County Extension agent took on more responsibility in delivering wool from six pools in the Eastern Consolidated Pool. In 2017, the six pools delivered 97,917 pounds of wool from 89 growers worth a total of $180,442. This volume of wool represents 5.4% of the total wool sold in Montana. There are 25 growers in the Hi-Line Pool, who represent Phillips County growers benefitting from this effort.

The Phillips County agent has also assisted the Montana Wool Growers by cooking a lamb lunch during the educational day at the annual Montana Ram Sale in Miles City in September. Extension agents from around the region assisted with the barbecue and serving lamb kababs to over 100 Wool Grower members.
This targeted fumigant training met a critical need of farm applicators. According to a statewide survey of private pesticide applicators by Tharp, 680 applicators responded. Fifty-nine percent of applicators surveyed indicated they used fumigants at some point. Of these, 28% indicated they would stop using fumigant products or hire a commercial applicator if there is a total lack of annual fumigant trainings. Ten percent of applicators indicated they will continue using fumigants even if they don’t follow all the EPA product label requirements. Forty seven percent of all private applicator respondents indicate it is very important to have extensive annual fumigant trainings available.

4-H continues to grow and teach life skills

The Phillips County 4-H program has grown this last year by adding a new club and increasing our youth participation by 11% over the previous year. Our adult leadership has also increased by 15%. The 4-H program has provided many at-risk youth with the opportunity to increase their life skills. Teens have stepped up in leadership skills by teaching Cloverbud youth about the different projects that the program has to offer and first year members the significance of eating healthy. We have also invited 4-H alumni to teach youth an awareness of the importance of voting by going through the process and the importance of raising healthy animals by learning the proper procedures for giving vaccinations to their animals.

A teen demonstrates leather tooling techniques.

Youth learn the importance of voting.

July 3, 2017 fire near the town of Zortman

Night time view of Thanksgiving Day fire 2017

July fire impacts livestock producer

The Extension agent also coordinated a pasture lease for a producer who lost pasture in the Zortman fire of July 3, 2017. Without this pasture, the livestock operator would have been short for 150 cow/calf pairs which lost summer and fall pasture due to the fire. This lease allowed the producer to keep and feed his cows and calves until his shipping date in October.

Thanksgiving Day fire 2017

Fires continued to plague the county into late fall. On Thanksgiving Day, a fire broke out from a suspected recreation vehicle malfunction and in the high winds and warm temperatures, it burned 10 miles in 2.5 hours. This fire consumed an estimated 8,000 acres. The Extension agent assisted the local landowners, along with many other volunteers, with fire suppression. A county agent’s job is never done for the weekend or over a holiday.
Youth attend multi-county camp

The Phillips County 4-H program has continued to work together with area counties to offer youth 8-12 years of age a chance to develop team building skills and lifelong relationships with peers. Eight counties saw a 33% increase in youth attending a three-day camp where youth participated in canoeing, archery, building robots and other team building exercises. They learned responsibilities such as self-discipline, cooperation, personal safety and problem solving. Teen leaders helped agents and adult leaders plan and implement the activities during the camp, which helped the teens build their planning, organizing and communication skills.
Pondera County is located in the heart of the Golden Triangle, famous for quality wheat and barley production. Grain production and livestock provide approximately $70 million in gross revenue. The county contains 1,625 square miles and is very rural with approximately 6,400 residents in the communities of Conrad, Valier, Dupuyer, Brady, and Heart Butte. In addition to the established communities, there are five Hutterite Colonies.

The elevation varies from 3300' on the eastern plains to 8500’ at the Continental Divide. Major watersheds include the Marias and Teton River drainages. Lake Frances near Valier is fed from Swift Reservoir and is a major supplier for irrigation and household water. Also, the Tiber water system has approximately 450 miles of water lines to serve 270 households, utilizing water impounded at Lake Elwell on the Marias River.

There are approximately 75,000 acres of irrigated croplands in Pondera County including alfalfa, high quality malt barley and wheat. In 2015 crop acreage grown, Pondera County was ranked second for barley, fourth for durum and seventh for winter wheat in Montana. Pulse crops including chickpeas (garbanzo beans), lentils and other dry beans are gaining ground as producers see the benefits of cover crops and value-added agricultural opportunities. Trucks and trains hauling grain dominate the Pondera County plains.

Schools, medical care and retirement homes are also important economic contributors in Pondera County. The Pondera Medical Center is the largest employer and serves a multi-county area with an economic impact of over $12 million.

Pondera County has four 4-H clubs with 90 youth and 28 leaders. Top 4-H projects include beef, swine, shooting sports, sewing, and horse. Fundraising and Marias Fair sponsors generously support the activities of the 4-H members and leaders.

The MSU Extension Pondera County office has two Extension Agents, Wendy Wedum and Adriane Good, who provide leadership in agriculture, family and consumer science, and the 4-H youth development program.
Nitrate Testing Makes Sense

Many Montana producers rely on supplemental forage (baled hay) during the winter and early spring months to feed their livestock. It is the primary source of nutrition for ruminants. Testing forage for nitrates is important for livestock health.

As plants grow, they take up nitrogen in the form of nitrate from the soil and convert the nitrate to protein. Plants growing in stressful growing conditions such as a drought, prolonged cool temperatures, high levels of soil nitrate or soil mineral deficiencies develop toxic levels of nitrate. When there is too much nitrate in the roots, the plant cannot convert it into protein. This extra nitrate stays in the plant and may cause animals to get sick if too much nitrate-rich forage is eaten.

Chronic nitrate poisoning may cause low weight gain, low milk production, abortion of calves and in the worst case scenario, death of the animal. Many producers come to MSU Extension to test the nitrate levels in forage before cutting the hay or turning animals out in the pasture to graze. Knowing the nitrate levels in the forage is important to winter feeding strategies.

There are three ways to test for nitrate levels, the quick test, the strip test and laboratory testing. The quick test shows if high levels of nitrate are in the plant, but does not show the concentration. In the strip test, the plant sample is ground to a fine powder and soaked in water. After 30 minutes a test strip is dipped in the water. In the next minute the test strip may change color to show the presence of nitrates. The darker the color, the higher the concentration. The color is compared to a color scale to determine the nitrate level. Laboratory testing provides an accurate measure of the nitrate levels, but is also costly for producers.

MSU Extension completed approximately 50 tests in 2017. One producer requested three of his forages be lab tested. The laboratory results confirmed the accuracy of the test strips and saved producers over $700 while the cost to the Extension was about $30.

Community Service: Works of Heart

Volunteers are often the heart of a community. The Pondera County Extension Homemakers and four 4-H Clubs are exceptional examples of willing hands and generous hearts that create a positive impact on our communities in Pondera County. In total, these five organizations have had a combined financial impact of over $5,000 annually.

Pondera County 4-H members are active throughout the county. They donated over 300 pounds of food to the food bank, over $3,000 to the food bank, bathroom fund, and horse committee. 4-H volunteers and youth donated over 1,500 hours of time. This resulted in rebuilt horse stalls and new bathrooms with showers at the Marias Fairgrounds, holiday cocoa and cookies delivered to homebound residents in Valier, litter pick-ups along the highway, and provided food for residents who are struggling to make ends meet.
Annually, the Pondera Extension Homemakers raise money through Turkey Bingo to support a $400 scholarship, a $500 donation to the Food Pantry, and donations to CASA/GAL, which are spousal abuse and caring for kids programs. A holiday donation drive provides another $500-700 which benefits the residents at the Pondera Medical Center (PMC) Extended Care. The 50-60 PMC residents are given gifts, an annual Christmas party with their families, a summer diner's club and periodic outings during the year. These social activities provide residents with meaningful activities, keep them socially engaged and contribute to their overall well-being.

People who do community service are often the unsung heroes in small communities. 4-H members who help learn valuable skills in creative thinking, decision making, budgeting, communications, and caring for others. People who make financial contributions have given generously over the years because they recognize their donations are well-steward and are given back to their home community, creating lasting impacts.

Overnight Horse Camp

Equestrians from Glacier, Liberty, Pondera and Toole County met for an intensive two-day horse camp in early June 2017. A dozen volunteers shared their expertise on topics such as equine first aid, nutrition, grooming, horsemanship, trail, roping, hands-free riding, and tack care with 17 4-H members. There were also crafts, horse games and an evening movie for everyone to enjoy.

Camps with a defined focus, like the 4-H horse project, bring 4-H members together to learn as a team. Working in small groups, these youth had an opportunity to learn under the watchful eye of experienced volunteers in a safe place to learn things that are out of their comfort zone. As an overnight camp, 4-H members also learn responsibility and how to manage themselves while learning how to train their horse.

Hands in the air - learning how to balance yourself and give your horse leg cues is important for riders.

Pondera Extension Homemakers fill trays with cookies for the Pondera Medical Center Christmas party.
In the equitation workshop, the 4-H members learned how to give their horses signals to learn new skills. They also learned to watch their horse for responses such as ear position or how the horse changed its body position, to see if it understood the signals. The youth also learned how to feel how their horse responded by the tension on the reins and when to release the tension. There was often a big “Oh” of surprise when they realized they could identify when their horse had just learned a new skill. Getting to see, do and feel the response from a change in tension, a relaxed body position and an acceptance of the signals gave the 4-H members more confidence in their ability to teach their horse.

The 4-Her’s learned to be patient in training and to give their horse time to work on new skills. They discovered their horse needs time to process information just like they do and that it is important for their horse’s mind to have rest time to work out a new skill. They realized that after a rest, the horse’s confidence grew the next time a new skill was attempted. Repeating this process leads to mastery for both the 4-H member and the horse and everybody wins!

ABOVE: Roping - Gotcha! A 4-H member shows her skills roping the dummy calf.
RIGHT: This cowgirl is deep in thought coiling up her rope at the end of the roping workshop.
Welcome to Powder River County

Powder River is a rural, agricultural county of 3,297 square miles, located in southeastern Montana. The county was created from Custer County on March 17, 1919, and named for the Powder River which runs through it. The Powder River was named because of the gunpowder-colored sand on its banks. Total acres in Powder River County equal 2,109,728 million, most of which are used for rangeland.

The population of Powder River County is 1,773, according to the 2015 census figures. The population is aging, with 52 years as the average.

The county has limited oil and timber production. Most of Powder River County is grazing land. Since 1954, farm acreage has fluctuated between 1.54 and 1.72 million acres. The number of ranches has decreased and their average size has increased.

The annual Powder River MSU Extension Weed/Range Tour was attended by 70 people on a hot July day. Held at the Gay Ranch, the program featured the use of drones for weed detection, checking water and cattle distribution and other agricultural uses. MSU Extension Rangeland Weed Specialist Jane Mangold discussed cheatgrass and houndstongue control and MSU Extension Range Specialist Jeff Mosley talked about the role of Little Bluestem on grazing lands.

The summer of 2017 was dry and due to drought conditions, annual grain crops were cut for forage. Stressed cereal forages often accumulate high levels of nitrate. MSU Extension tested a total of 27 samples for 19 producers with varying degrees of nitrate levels. Producers were able to make grazing and winter feeding decisions based on the results of tests.

*A mile wide and an inch deep* is a favored description of the largest river running through *POWDER RIVER County.*
Powder River County increases mental health awareness

Mental health programming was identified by the Youth Issues Coalition, an advisory council, as an important focus for youth and families in Powder River County. The coalition represents local faith and school communities, a school psychologist, parents, and youth organizations. In 2017, we organized educational events that improved the lives of children and their families:

- Active Parenting, a six-week parenting education course, was presented to 13 parents of 5-12 year old youth. Parents reported that they learned:
  - to be more forgiving of myself and my kids;
  - how to address problems in my household;
  - how to structure good habits;
  - how to reinforce encouragement when my kids need it;
  - to reaffirm love even in disciplining children;
  - to follow through, and find a balance between giving in and not budging;
  - to make mistakes is okay;
  - an “I message” is a good way to convey goals;
  - giving a child options is important for their self-esteem;
  - it is never too late to change parenting behavior;

- Mark Reddick, Miles City Police Department, taught 25 parents how to protect their children and families from the risks of social media;

- Matt Byerly, Director for the Center for Mental Health Research and Recovery, shared suicide prevention programs to approximately 20 Broadus Schools teachers and staff;

- THRIVE, a computer-based Cognitive Behavioral Therapy pilot project was promoted. Twelve individuals are participating;

- Mental Health First Aid training was provided to 22 teachers, healthcare workers and clergy.

MSU Extension staff were trained to facilitate the Youth Aware of Mental Health program with high school youth, which was taught to 23 youth in the Broadus Schools. The students learned that stress is a mental health issue, to develop positive strategies to deal with stress, and how to get help for someone who has severe depression or suicidal thoughts.

Powder River County MSU Extension staff presented at a Southeastern Montana meeting of healthcare professionals to discuss Powder River County MSU Extension’s role in mental health programming and promotion.

“We have a mental health crisis in our community and are in need of mental health education and services. MSU Extension helps bring awareness of the communities struggle with mental health issues and shortage of mental health professionals.”

--Dr. Jaci Phillips

Powder River Medical Clinic, Broadus
Fostering health in Powder River County

Powder River County MSU Extension’s health education and physical activity classes targeting men and women ages 40 and older continue to grow. The classes provide health education, relaxation techniques and exercises to increase physical activity, strength and flexibility. Held in Broadus and Ashland, over 65 people have participated in the program. Testimonials of results include:

- “The classes provide incentive I need to keep moving.”
- “My last bone scan showed improved bone density.”
- “I’ve strengthened my arm after shoulder surgery.”
- “I am more flexible, feel better, and have more energy to get up and about to do different little jobs on my own, and to help my aches and pains.”
- “The classes provide good information on health issues.”
- “The classes kept me from gaining weight.”

One participant reported that she was the only person in her elder hostel who could climb to the top of Mount Sigiriya in Sri Lanka. She credited MSU Extension – Powder River County’s exercise program for her success.

Baseline fitness testing by Kristy Elgin, Physical Therapist, and Darlynn Williams, County Health Nurse was completed for 20 individuals. The testing occurred when the classes began in the fall, and again when they ended in the spring. Individuals are provided educational information on how their health and fitness compares with people in their age range.

POWDER RIVER HEART CLUB… CREATING A HEALTHY “BUILT” COMMUNITY

The goal: to increase access to a healthy lifestyle for all ages by providing a well-lit, well-marked walking path with safe crosswalks and rest areas along the route.

The Powder River Heart Club, an MSU Extension-initiated group, boasted many successes. Together, the team:

- received a $3,000 grant from the School Community Development Council to place a bench on the walking trail;
- received a $12,000 grant from the Montana Recreational Trails program to build a new trail north of Broadus;
- raised $1,300 by organizing a community event, the Moonlight Walk. Sixty-nine people walked the golf course during the Harvest Moon; and,
- learned about resources needed and available to build and improve a walking trail system by attending a Building Active Communities Initiative.

Clockwise from top: Powder River County residents stretch during an exercise class held in Broadus; Darlynn Williams, Powder River County Health Nurse, tests Lula May Bruce’s blood pressure; Youth and adults participate in the Moonlight Walk to promote fitness and raise funds for the Broadus Trails.
Intentional Youth Development

Youth development doesn’t just “happen” in Powder River County. MSU Extension purposely offers a multi-faceted program to meet the needs of youth in our county. Involvement in 4-H is an excellent way to capitalize on the resources we have to offer; however, all youth in our county can benefit from many of our programs. The 4-H program remains strong with an enrollment of 78 members and 25 volunteer leaders. Workshops and activities are planned throughout the year to provide leadership opportunities, increase communication skills, develop project skills and knowledge. Clinics and workshops throughout the year focus on shooting sports and livestock health, training, nutrition, fitting and showing.

With input from youth and volunteers, agents planned the Southeastern Montana OREO trip for the second consecutive year for seventh and eighth grade youth in our district. Forty-two youth, six adult volunteers and three extension agents chaperoned and drove participants to a variety of activities. The participants developed team building and communication skills through participating in aerial adventure, paintball, an escape room, and climbing the rock wall at the Campbell County Rec Center.

Another district-wide effort this year was hosting the State 4-H Rec Lab in Miles City. We worked with district agents, volunteers and youth to coordinate the three-day leadership event. It was attended by 185 youth and adults from throughout the state. Powder River County 4-H solicited workshops and locations, and assisted presenters with set up.

Forty elementary-aged children participated in the Summer Fun Day, a morning of activities led by Teen 4-H members. The teens gain insight by engaging with the youth; teaching new skills and communicating effectively with each other.

The literacy-based after school program happened at three sites in the school and community. Thirty-nine youth read 240 books over the five-week program, and 46 youth and adult volunteers read, taught activities and provided a safe, structured environment for children after school. “Reading is a Hoot” was the theme and included an educational program on raptors and owls for 100 youth at the school and after school program.

Thirty five youth attended the 23rd annual 4-H Mini-Congress organized and taught by nine 4-H teens, who developed leadership, communication and organizational skills by providing a fun, educational event for kids in grades 3-7. A local sponsor donated $250 for snacks and participants also brought canned food donations to be given to the Broadus food bank.
Empowering Women in Ag

MSU Extension planned and facilitated Annie’s Project, a program designed to empower women in agriculture. Fifteen women attended the six-week program, receiving 18 hours of instruction in areas of production, financial management, human resources, marketing and the legal field.

*Lessons Learned from Annie’s Project:*

- “The most important thing I learned was how much I still need to learn. Tax planning/banking records were very beneficial; as well as cattle nutrition and vaccination.”
- “The pasture lease formula website looks like something we can really put into use!”
- “I learned how to utilize all the data collected all year and to put it into a usable format that myself and others can use on our operations.”
- “Loved the ‘hands-on’ vet!”

Ninety percent of the workshop presenters were women sharing knowledge and experience from their careers in agriculture. The discussions and information shared between participants aged mid-20s to early 70s covered decades of differing life experiences; yet, they discovered commonalities within their roles as family members involved in agriculture. One of the more popular workshops was Real Colors, used to identify personal temperament and how to distinguish the personality type of co-workers. Understanding those you work with leads to better communication and more successful relationships, whether sorting cattle, paying bills, or haying together.

Extension also hosted the Women in Ag webinar, sponsored by Washington State University. Eight women attended and were inspired by Alexis Taylor, Oregon Department of Ag Director and Anne Schwartz, farmer, to seek leadership roles in agriculture and positively impact local communities. The program stressed the importance of encouraging other women to take active roles in agriculture and to serve as mentors. MSU Extension provided the location and technology, and facilitated a local panel featuring women agriculture leaders.

Do you have your ducks in a row?

Transitioning the farm or ranch from one generation to the next is near and dear to the hearts (and financial statements) of many families in Southeastern Montana. The transfer of control from senior partners to younger family members can be extremely difficult. An advocate for agriculture family business, Jolene Brown, herself a farmer, consultant and public speaker, helps families work through that process. MSU Extension, working with an estate planning committee, raised $10,500 through sponsorships and workshop registrations to host Brown at an Ag Family Business workshop attended by 167 people, and in several cases, attendees were multiple members and generations of same families. The
title of the workshop was the “Top Ten Mistakes That Break up a Family Business.” The workshop included a local panel of advisors: an attorney, accountant and a financial planner who discussed what information was needed to be successful in helping family businesses achieve goals.

Immediately following the workshop, participants took action steps toward operating their farm or ranch as a business rather than a lifestyle. Specific steps included creating a list of assets and how they are titled, and initiating conversations with family members. Several have established or reviewed their wills and many have evaluated long-term care options. Participants also indicated that they had visited an attorney regarding inheritance; accelerated giving stock shares; leased part of the ranch to a relative and implemented a will.

Comments from members of the estate planning committee included, “conversations are taking place at our house that didn’t happen before!” One member reported, “We are committed to holding monthly meetings, whether everyone shows up or not.” Other comments included praise that the program reached all generations, charging each with equal responsibility; frankly addressed sweat equity and its value; and discussed sensitive topics with warmth and compassion.

Later in the year, an estate planning program was offered by MSU Extension Family Economist Dr. Marsha Goetting. Thirty-five people learned what happens to property when people die without writing a will; why putting bank accounts in joint tenancy isn’t always a good idea; and the use of beneficiary deeds. In addition, Goetting met individually with seven people to provide information specific to their ranch situations. One participant stated, “She was so helpful when I was trying to settle my Mother’s estate. Her knowledge, experience and support were paramount to the process.”

Speaker Jolene Brown invites comments from participants at an Ag Family Business workshop held in Broadus.
Welcome to Powell County

My name is Jodi Pauley and I am your MSU Extension agent in Powell County. I am here to provide research-based knowledge to strengthen the social, economic and environmental well-being of families, communities, and agricultural enterprises. Extension is an outreach of Montana State University and we are committed to the overall university goals of integrating learning, discovery and engagement. And, as always, GO CATS!

Clientele benefit from MSU Extension in Powell County in the areas of agriculture, youth development, horticulture, community development, 4-H and more. The MSU Extension office sits in the county seat of Deer Lodge, housed in the county courthouse. The office provides free publications to the public on a requested basis, provides workshops in several program areas, and works with school children and youth across the county.

Agriculture is the backbone of Powell County with approximately 263 ranches with the average size being 2,240 acres. The population of the county is around 6,800 people. The cattle population is around 39,000. We are home of the Montana State Prison and also Montana Correctional Enterprises, one of the larger landowners in the county (38,000 acres), where they provide daily training to over 500 inmates in the areas of vocational, agricultural and industry programs. They operate one of the larger dairies in the state and also have over 12 miles of handline gravity-fed irrigation lines to grow crops on 2,800 acres of farmland.

Powell County is home of the Spotted Dog Wildlife Management area which provides over 37,000 acres of public access, winter elk range, and wildlife habitat. Fish, Wildlife and Parks continues to work with surrounding landowners and the public on policies and management schemes to ensure the viability of the WMA in Powell County. MSU Extension has been very involved in working with FWP to help develop a wildlife management plan for the Spotted Dog WMA.

MSU Extension administers the 4-H program within Powell County with seven clubs, 22 volunteer leaders and 99 youth. MSU Powell County Extension takes pride in working with individuals one-on-one with horticulture issues, insect problems, weed recommendations and estate planning. The MSU Extension office provided newspaper articles locally, reaching over 3,000 homes this year with 11 articles of unbiased and research-based information for the clientele of Powell County and beyond.
Harvesting the Garden

Powell County MSU Extension agent Jodi Pauley and Master Gardener Sheila Gill again embraced youth development, spending six weeks teaching fourth grade students of Deer Lodge the fundamentals of gardening. Students learned about soils, seed growth, planting, and ate pea plants, onion and garlic tops and several types of herbs, and visited the community garden where they planted sunflowers and beans.

Studies show that children who are familiar with growing their own food tend to eat more fruits and vegetables and are more inclined to continue healthy eating habits through adulthood. Utilizing this research, Master Gardener Sheila Gill expanded the program and included a harvest day in September that all the fourth graders who were now fifth graders could fully understand the components of garden harvesting. Sheila decided to also incorporate the high school nutrition classes into this project. Twenty high school students harvested produce out of Gill’s garden and then Pauley, Gill and high school family and consumer sciences teacher, Mrs. Perkins, spent time with the students cooking the produce to serve to the fifth grade students. They learned how to cook potato, tomato and squash soup. They made fresh salsa and a potato, beet and carrot salad. They also made desserts incorporating zucchini and green tomatoes. These students learned chopping skills, how to read a recipe, prepare tomatoes for salsa, making soups out of fresh products and much more.

On September 28, 48 fifth grade students and the high school nutrition students came together to harvest and learn about the vegetables and fruits of the garden. Extension agent Pauley developed educational materials and the high school students facilitated the learning at each station. Afterwards, the high school students played garden jeopardy with the fifth graders about all they had learned that day in the garden. The day ended with eating a huge lunch made completely from the garden. The high school students served the lunch and everyone loved it. One fifth grade student commented it was the best day ever and she learned so much. One of the high school students noted how much they learned and really liked interacting with the younger students.

Sheila Gill volunteered over 50 hours towards this educational project plus over $500 dollars of produce and supplies throughout the entire project. High school students and their teacher volunteered over 170 hours in preparation and facilitation of the harvest day.

LEFT: Lunch after harvesting the garden.
BELOW: Sheila Gill giving an herb presentation. Photos by Jodi Pauley
Deer Lodge Community Garden

To get from farm to fork, food in the United States travels an average of 1300 miles, changes hands half a dozen times, and consumes 10 calories of fossil-fuel energy to produce a single calorie of modern supermarket food (Kloppenburg, Hendrickson and Stevenson, 1996, Pollan, 2008).

Producing food locally greatly reduces the greenhouse gas emissions related to transportation of food. With that said, it was once again another fabulous year for the Deer Lodge Community Garden which saw growth with more vegetables and more community involvement. The project was started in 2012 and has proved it is sustainable. Extension Agent Jodi Pauley feels this is one of the most positive community development projects that Deer Lodge has embraced. Volunteers spent over 300 hours of service at the garden, planted flowers for the library and also did flower pots for the main street bridge. This year the garden size stayed stable with 45 outside plots and the greenhouse is at capacity with 24 boxes.

Volunteers ran the Community Garden Farmer’s Market for seven weeks during August and September. Volunteers planted garlic, onions, tomatoes, carrots, potatoes, green beans and lettuce in 10 boxes at the garden. The market is designed to be pick-your-own for a donation. This generated $431 for the community garden, with the money used for insurance and maintenance of the greenhouse, boxes and grounds around the garden. The garden also donated several pounds of green tomatoes to the high school nutrition classes for making salsa and other items.

CAREER FAIR

Approximately 350 high-school-aged children from Philipsburg, Drummond and Deer Lodge were exposed to MSU Powell County Extension at their first annual career fair. Jodi Pauley, agent for Powell County had display items about Extension ranging from 4-H to agriculture. Students played the thumb ball game with a soccer ball and attempted to answer questions about Powell County, state and national agriculture. Other questions were about Extension in Montana and the 4-H program in Powell County. Most did not realize that agriculture brings in $34 million dollars to Powell County, cows outnumber people 5 to 1, and that currently there are 60,000 job openings in the field of Agriculture and only 35,000 graduates coming out of college with agricultural degrees. Pauley visited with the students about the vast amount of jobs that are related to agriculture.
Several educational events were held at the greenhouse. MSU Extension agent Jodi Pauley and the Deer Lodge Valley Conservation District hosted a full-day gardening workshop and part of the day was spent on educational programs at the garden. Thirty-one participants learned the benefits of raised bed gardening, how the garden is managed and the benefits of a hoop house. Fourth grade students toured the garden and planted all the flower boxes and also planted beans in some of the other raised beds. The community garden hosted the largest garden tour they have ever had with 48 participants.

Informal education happened at the garden between gardeners, this included watering tips, planting care, helping each other and sharing produce. The garden averaged 72 pounds of produce per 4x8 box and over 50 pounds of tomatoes in the 4x4 boxes in the greenhouse. Folks who take advantage of the garden come from all walks of life: from families, the elderly living on a fixed income, young individuals who do not have a space for a garden and many who have the desire for fresh, local-grown produce. Extension looks forward to many more years of education and community gardening.

**My Plate Nutrition**

Jodi Pauley, MSU Extension agent, spent three weeks working with fifth grade students on My Plate education and nutrition. All students were tasked to keep a journal of what they ate and did in a day before the first class session. Then they learned the components of My Plate and what it looks like. They read labels and played nutrition jeopardy during the last class. Some of the goals written down in their diaries after the three classes included:
- I want to shoot a basketball 100 times per day;
- I will work on eating more vegetables as I eat lots of fruit;
- Be more active at home for at least an hour and play with my cousins;
- Be willing to try new foods.

First grade students were exposed to My Plate education with a brief description of My Plate and an exercise in naming foods that come from each category. Then all students were given parts of a giant cheeseburger that contains all parts of My Plate, and as they put the cheeseburger back together, they named which items fit into My Plate food categories.

4-H Highlights

It is a once in a lifetime opportunity in the career of an Extension agent to be able to present a 50 year 4-H leader award. 2017 marked the 50th year that Shirley Thomas has been a leader for Powell County 4-H. Not only was she a leader, but also a member of the Golden Nugget 4-H Club from 1949 to 1959. Back then there were boys and girls 4-H clubs and Shirley, being a rebel, joined both so she could show animals, which the boys did, and also take cooking and sewing, which was done in the girl’s club. She became a leader of the Golden Nugget club in 1967. She was instrumental in teaching kids about livestock judging, helping with livestock projects and also had a passion for cooking and sewing with her 4-H members. In 1978 she became the main livestock superintendent at the Tri-County fair and has held that role ever since. If someone had kept track of all the volunteer hours Shirley has given to Powell County 4-H for the last 50 years, the amount of time she’s given would be outstanding. She was awarded a belt buckle at the 4-H year-end celebration, where over 70 members and families honored Shirley Thomas for her years of service.

4-H Show camp was held in June for our members from the Tri-County area and Butte-Silver Bow. This camp, held locally by Extension agent Jodi Pauley, gives large animal project.
members who are in their first to third year of the project a chance to learn how to fit and show their animals. This was the first year that past members of show camp taught all of the learning stations. This peer teaching method has been a goal of Pauley’s all along for this camp. 4-H teen leaders taught participants how to get their animals ready for show from A to Z. Animals are bathed, clipped, fitted and shown in the ring to give the 4-H members the skills needed to get ready for fair and other shows. The peer-to-peer teaching went great, giving the teen leaders new skills in teaching and the younger kids the ability to work in-depth with their animals. One of the members did a skill-a-thon for others at the end of the day and all the participants took home prizes of fitting supplies and items they could use with their animals. Many of the members participated in the local jackpot show the day after camp, using the skills they had just learned.

4-H Show camp participants.
Welcome to Prairie County

Prairie County is a rural county, covering 1,730 square miles with a population of 1,182. Terry is the only incorporated town in the county and serves as the county seat with a population of about 600.

Agricultural production and agriculture business form the basis of the economy in Prairie County. Livestock and dryland small grain production dominate the plains, while hay, corn, sugar beet, and pinto bean production are most prevalent on the river bottoms. Major rivers in the county include the Yellowstone River and the Powder River which provide irrigation water for farmland in the river valleys. About 80% of the land in Prairie County is considered rangeland, 15% is considered cropland, and there are 186 farms.

There is one full-time county agent and one full-time program assistant in the Prairie County MSU Extension office. The Prairie County 4-H program has 36 youth and seven leaders in three clubs. There are four community Homemaker Clubs with 44 members.

Although the population of the county is small, the clientele needs are diverse. MSU Extension’s role is to provide a wide range of educational opportunities and services for the people of Prairie County. Programming areas include agriculture, 4-H and youth development, family and consumer sciences, and community development.

Old Milwaukee Bridge over the Yellowstone River in Prairie County
Extension’s Agricultural Programs Benefit the Public in a variety of ways

**MSU Extension offers Agricultural services to assist farmers and ranchers**

MSU Extension in Prairie County offers services to assist producers including: forage testing, insect and weed identification, plant disease diagnostics, crop variety information, ration balancing, feed analysis, range monitoring, and Noxious Weed Seed Free Forage certification.

MSU Extension in Prairie County performs nitrate quick tests in the office to test for the presence of the toxin nitrate in forage. During the summer of 2017, 66% of the samples submitted tested positive for nitrate. MSU Extension in Prairie County utilizes a quantitative nitrate test that gives the grower an indication of how much nitrate is present in the sample, whereas the basic quick test just confirms if nitrate is present or not present. Of samples tested with the quantitative nitrate test, 22% were high enough that producers would have to feed cautiously, diluting the ration.

As a result, producers were able to make an informed decision about whether or not to delay cutting or grazing.

Due to severe drought across Eastern Montana, livestock water quality was of particular importance during the summer of 2017. MSU Extension in Prairie County has meters to measure Total Dissolved Solids and pH as an initial test to determine if further testing is needed. Upon testing, one producer found that one reservoir was unsuitable for livestock and another was borderline. As a result, this producer decided to test water in each pasture before rotating grazing this season. Another producer found that water was unsuitable in a reservoir and avoided grazing that pasture this season. A third producer had noted cattle avoided a specific water source in one of his pastures and upon testing, found the water to be undesirable. To remedy the problem, he drilled a new well with better quality water that he added to the pipeline to improve the water quality in that pasture. The local Natural Resources Conservation Service (NRCS) office also referred producers to MSU Extension to have water sources tested prior to applying for Emergency Conservation Program (ECP) funds to develop livestock water.

MSU Extension in Prairie County helped producers balance rations for feeding cows and for backgrounding calves. Ration balancing helped these producers more efficiently and economically utilize the feed resources they had available to meet the nutrient requirements of their livestock.
MSU Extension hosts Agriculture education events

MSU Extension agents in Prairie, Dawson, Wibaux, Fallon-Carter, Powder River, Rosebud-Treasure, McCon, Custer, and Garfield counties cooperatively plan the annual Extension Winter Ag Series focusing on topics of regional interest and importance. The third week in January 2017, guest speakers traveled to nine towns in Southeastern Montana. Winter Series is the largest adult education event in Prairie County. Topics in Prairie County included: controlling prairie dogs and pocket gophers, with Stephen Vantassel of the Montana Department of Agriculture; Montana data on cover crops from the Southern Ag Research Center, presented by Sharla Sackman, MSU Extension Agent in Prairie County; dynamics of hydrology in Southeastern Montana, by Bureau of Mines & Geology Hydrogeologist Jon Reiten; and drone use for agriculture, by Dale Galland, owner of the local hobby store Prairie Unique. Following Winter Series, one producer requested information on planting cover crops as a result of the presentation and plans to grow them for forage. At least two landowners contacted Reiten at the Montana Bureau of Mines & Geology to obtain information on possible well drilling locations based on the contact they made at Winter Series.

MSU Extension in Prairie County works cooperatively with the Prairie County Grazing District and a team of local producers to select topics of local interest for an annual range tour featuring researchers from Fort Keogh Livestock and Range Research Laboratory. In 2017, the tour featured Dr. Mark Petersen, who shared Fort Keogh history and how research conducted there has impacted modern agriculture; Dr. Megan VanEmon discussed alternative feeding options during drought; Dr. Andy Roberts talked about long-term effects of altering a breeding season; and Dr. Lance Vermeire took participants to view range drought plots in the field. Dr. David Branson from the USDA-Agricultural Research Service in Sidney summarized drought research relating to grasshoppers, and Dr. Kris Ringwall from the Dickinson Research Education Center demonstrated how the Cow Herd Appraisal System (CHAPS) can be used to evaluate operation efficiency. This annual tour has been a great way for Prairie County livestock producers to form a relationship with scientists at Fort Keogh. Forty-one producers engaged in active discussions at the tour, asking questions about research and seeking advice about their own operations.
Houndstongue has become an increasing problem in Prairie County in recent years with favorable weather conditions contributing to the emergence of the weed. A Cooperative Weed Management Area (CWMA) was instigated at the request of a private landowner struggling with houndstongue on his property and his desire to enlist help from others to manage the weed. MSU Extension facilitated the process of writing a Montana Noxious Weed Trust Fund (NWTF) grant to aid private landowners, public land agencies, and the Prairie County Weed District in coming together to educate producers about houndstongue management, as well as implement a concerted effort to reduce spread of the weed. Producers in a five-township area in northern Prairie County attended an informational meeting about the NWTF grant that the Prairie County Weed District had received. Landowners learned about timing of Houndstongue control, proper herbicide use, and basic houndstongue biology. Six landowners used the recommended herbicide, metsulfuron methyl, to treat houndstongue for the first time. Landowners and the Weed District have reported superior control with the metsulfuron methyl. Additional landowners have an interest in becoming a part of the houndstongue grant project for 2018.

Prairie, Fallon, and Wibaux Counties have worked together since 1990 on the Tri-County Leafy Spurge Project. The Tri-County area of Prairie, Fallon and Wibaux counties is a location where leafy spurge is and will continue to be a permanent problem. Twenty-five years of educational programs and sustained integrated weed management efforts on the part of landowners have helped contain the leafy spurge infestation to the same area of Cabin Creek and slowed the spread to outlying areas.

The project began as a cooperative grant project and even after the grant concluded, an annual tour still takes place to educate producers about noxious weed management. 2017 tour topics were cheatgrass suppression and houndstongue management, presented by Jane Mangold, MSU Extension Invasive Plant Specialist; monitoring weeds with drones, by Brady Woodward with Moore Engineering; little bluestem invasion by Jeff Mosley, MSU Extension Range Management Specialist; and tips on using sheep to graze leafy spurge by local sheep producer and herder Les Thomason. One producer reported on feeding hay on his patches of little bluestem to make more use of that grass.
Supporting the community in Custer County

**MSU Extension supports community development efforts**

MSU Extension in Prairie County supports local government and organizations in their community and economic development efforts through facilitation of community discussions, assistance in project planning and implementation, infrastructure development, and leadership training.

Residents in Prairie County are concerned about gradual decline in population and school enrollment. In general, Prairie County has an aging population with fewer young people to fill community leadership roles as the older generation leaves leadership positions open. MSU Extension offered two leadership training sessions in the summer and fall of 2017 to meet that particular local need.

Paul Lachapelle, MSU Extension Community Development Specialist, visited with community leaders about open meetings statutes, how to take minutes, noticing meetings, public records management and effective meeting techniques. MSU Extension agent Sharla Sackman also led an exercise for the group on conflict management. School Board, Town Council, County Commissioners, Library Board, Airport Board, Fair Board, Cemetery Board, Hospital Board, and Chamber of Commerce members were represented at the training. Three of those in attendance at this workshop chose to receive further training at the Leading Local training offered in the Fall and also recruited other board members to attend.

Leading Local is a program offered by the MSU Local Government Center, taught by Dan Clark. The training focused on personal leadership skills, board member engagement, and organizational management. Personality assessment and public participation in meetings were the main focus areas of the training. Elected officials including all three County Commissioners, the Clerk & Recorder, and the Mayor of the Town of Terry participated in the training. The county and the town also helped sponsor the cost of the training to enable Town Council, county-appointed board members, and county employees to participate in the training. Other groups represented at the training included the hospital, churches, and economic development organizations. Town and county officials reported at the training that they may adjust when they ask for public comment in meetings to better meet the needs of the public as well as enhance the efficiency of their meetings.

Leading Local training in Terry.
Prairie County 4-H provides members many opportunities to learn leadership, citizenship, and life skills

One of the goals for the 4-H program locally has been to provide educational opportunities in a wide variety of projects. Sixty-four percent of 4-H members participated in at least one project workshop during the 4-H year. Projects included market and breeding livestock, horse, visual arts, leatherwork, shooting sports, foods, and STEM activities. The workshops occurred over the course of the 4-H year with a winter project workshop, one overnight 4-H campout at the local fairgrounds, a series of mounted 4-H horse clinics to practice horse project skills, a livestock judging training and practice contest, and a livestock showmanship clinic.

4-H members demonstrated competence and confidence in these project areas during the 4-H interview judging process at All Events Day and the Prairie County Fair. Volunteer leaders and 4-H teen leaders were engaged to lead project workshops with the county agent. Seventy-seven percent of Prairie County 4-H members between the ages of 13 and 19 served in leadership roles during the 2016-2017 4-H year by coordinating county events including project workshops, All Events Day, and Achievement Day.

A 4-H Communication Survey demonstrates that 4-H has positively influenced communication skills in Prairie County 4-H members. Eighty percent of 4-H members over the age of 13 reported improvement in knowing how to prepare a presentation from beginning to end because of their participation in 4-H communication activities. Sixty percent of members in that same age group also reported that they are now more willing to speak in front of groups. For members 12 and under, 64% reported an improvement in their ability to answer questions about their topic or ideas. Sixty percent of the younger age group reported that they now know how to prepare a presentation from beginning to end. One member shared, “Because of 4-H communication skills, I am comfortable when speaking in front of large groups.” Another member stated that he has more friends and did better in school because of 4-H.

Prairie County 4-H members participate in a number of regional and statewide activities such as the Southeastern Montana 4-H Camp, Eastern Montana Regional Small Animal Judging Day, Montana State 4-H Rec Lab, and Montana State 4-H Congress. These experiences provide an opportunity for 4-H members to travel, network with members from other areas, and gain valuable communication skills and take on leadership roles outside of the county.

Left: 4-H members donate 4-H hog proceeds to Lodgepole Fire victims.
Above: 4-H Livestock showmanship clinic.
MSU Extension offers programming in Family & Consumer Sciences

There are four active homemaker clubs in Prairie County whose interests include nutrition, horticulture, and community improvement. MSU Extension staff assist homemakers in meeting their educational goals by publishing a monthly newsletter containing information on subjects like food preparation and safety, nutrition, health, financial management, and gardening.

An example of a program MSU Extension presented for this audience was a lesson on “Eggs as a Part of a Healthy Diet” for the Cabin Creek Homemakers Club. Club members learned about eggs as an inexpensive source of protein and other nutrients as well as tips for safe handling of eggs and preparation techniques. MSU Extension agent Sharla Sackman also assisted the Prairie County Homemaker Council in submitting an application to Humanities Montana to host a Montana Conversations Program. Arch Ellwein presented his program “A Visit with Theodore Roosevelt” in November of 2017. Participants reported learning a great deal about the history and culture of that time period.

At the request of community members, MSU Extension organized a visit to the yard of a local certified flower judge to teach community members about care of perennial flower beds, fruit trees, vegetable gardens, and aquatic plants, as well as gardening methods such as use of hoop houses and mulching.

MSU Extension in Prairie County has added a Family and Consumer Science track to the annual Winter Ag Series program to appeal to a broader audience than just agriculture producers. Speakers were Alice Ann Carlton with the Eastern Montana Mental Health Center, assisted by a local doctoral student on coping with stress and anxiety; and Tara Andrews, MSU Extension agent in Custer County, on recycling and re-purposing fabric scraps into coasters and trivets.

PRAIRIE DOG CONTROL WORKSHOP

Over the last few years prairie dogs have significantly increased the land they occupy and new prairie dog towns have appeared. To address the control of prairie dogs, the Extension agent coordinated a program by Montana Department of Agriculture Vertebrate Pest Control specialist Stephan Vantassell. Sixteen producers attend the workshop. Vantassell highlighted that due to their biology, control efforts must reach 90% to be successful or the pest is able to recolonize the area. Attendees received two private pesticide applicator recertification credits for attending.

Montana Department of Agriculture Vertebrate Pest Control Specialist Stephen Vantassell talks to livestock producers.
Montana State University Extension is an ADA/EO/AA Veteran’s Preference Employer and provider of educational outreach.
The Bitterroot Valley is a destination point for outdoor recreation and retirees. Nestled between two mountain ranges with a blue ribbon fishing river, the county offers diverse opportunities in hunting, fishing, camping, hiking and skiing. Often referred to as the banana belt of Montana due to climate, the county attracts many individuals who call Ravalli County their home. Agriculture, natural resources, recreation and tourism, construction, and small businesses are all important sectors of the local economy. While the Bitterroot Valley is close in proximity to Missoula, it defines itself through its rural character, small town communities, and open spaces.

Ravalli County citizens directly benefit through the programs and opportunities fundamentally important to the mission of Montana State University Extension in Ravalli County. Financial support of Extension is achieved through tri-funded support and the partnership of Ravalli County Government, Montana legislators, the U.S. Department of Agriculture and through partnerships and/or grant funding. Citizens trust the information provided through the office is accurate and dependable. This trust is built upon relationships developed over the years with Extension professionals and office staff.

The office is comprised of four staff members educating the public in the areas of 4-H Youth Development, Agriculture, Horticulture, Family Finances, Food Safety and Nutrition Education, and Natural Resources. Visit the MSU Extension office in Ravalli County or connect online with Facebook.

Photo by Patrick Mangan
Growing 4-H in Ravalli County

4-H Youth Development

Montana’s 4-H Youth Development program in Ravalli County offers experiences for youth to learn, discover and engage, with an emphasis on teaching life skills, responsibility and the value of citizenship. In the 2016-2017 4-H year, the Extension office served over 480 youth in 22 community clubs through the assistance of 160 registered volunteer leaders. Every year, nearly 2000 youth are reached through school enrichment and afterschool programming opportunities. Experiential learning occurs throughout the year with their enrolled projects, ranging from photography to livestock, as well as at county-wide opportunities such as annual junior and teen camping programs.

Youth have the opportunity to build skills and knowledge in the project of their choice. Many youth engage in the 4-H program through club work as a member and complete a project. Often, these youth take an exhibit to the fair to be judged by experts and receive feedback to improve their efforts for the upcoming year. Through their engagement in a 4-H club, youth learn life skills to help them be successful, contributing members of society now and in the future.

Throughout the year, volunteer leaders coordinate learning opportunities to bring members together and focus on a learning experience. Some of these opportunities are created in partnership with teen leaders to help them build experience in leading meetings, answering questions and reflecting on the event to make the next event better. In recent years, we have had the pleasure of graduating 4-H members from high school and gaining them as 4-H leaders who have the opportunity to give back to the program that benefited them.

One leader who was in 4-H as a high schooler started volunteering right out of high school. She decided to lead the county-wide 4-H photography meetings. After a few months, she expressed, “this time in 4-H has really opened my eyes to the fact that I would love to pursue my teacher’s certificate and go into education.”

There are countless ways where youth and community members can be enriched with the 4-H program. Talk to a 4-H member or leader in your community to learn their personal stories of why they contribute to largest out-of-school youth organization in the nation.

Photos by Katelyn Andersen
4-H Transforms Lives

The 4-H program transforms the lives of people across generations and across the United States as the youth development organization of Cooperative Extension. One 4-H leader, Holly Shupert, shares her story as a 4-H member in Oklahoma and now as a 4-H parent in Montana:

“Being in 4-H was a given, my mother had been in 4-H. I attended my local 4-H club and learned valuable skills. I learned to appreciate all the skills and I knew I wanted my children to be in 4-H.

“Montana 4-H clubs had the same solid youth development structure I grew up with. My daughter, Courtney, was a beginning 4-H member when we arrived in Montana. Courtney loved making friends, but was shy. She took on numerous 4-H projects, which required illustrated talks and demonstrations. With each demonstration Courtney’s confidence grew. She quietly watched a county-wide teen leadership project, observing the teens having fun, learning leadership skills, and helping younger 4-H clubbers. When she turned 14, she joined 4-H Teen Council. This was when her leadership journey began in earnest.

“At 15, Courtney applied to be a County 4-H Teen Ambassador. She entered her first Ambassador interview with prominent community members barely able to remember her name. After the interview, the county Extension agent helped her work on her interviewing skills and her confidence. Courtney continued in the leadership project and competed at the county Speech and Demo day with knees shaking, allowing her to progress and win at state before winning a trip to Nationals for her public speaking abilities. Courtney was learning that the more she prepared and the more she spoke, it got less intimidating.

“Courtney received a leadership scholarship from the University of Oklahoma, moving miles from Montana and 4-H for college. But the 4-H skills of meeting people, speaking, interviewing, and record-keeping went with her and provided a foundation from which she could build. In 2017, she served as a convocation speaker for her College at the University, in front of thousands of fellow graduates and guests. She spoke with courage and conviction, having had years of practice through 4-H.

“4-H showed Courtney her capacity to grow and develop skills like public speaking. 4-H expanded and inspired Courtney to reach for more opportunities to learn and lead. 4-H is developing tomorrow’s leaders by equipping them with the skills and experiences to face tomorrow. While the young Courtney I remember would never have imagined speaking in front of thousands of people, you never know what dreams 4-H will help you achieve!”

Courtney’s experience has impacted her youth and adult life. Follow Ravalli County 4-H on Facebook or visit the Ravalli County MSU Extension office website to learn about events, workshops and ways to join or volunteer with the program.

Courtney Shupert doing a presentation in 2007, and at her 2017 college graduation.
**Hamilton Walking Map Inspires Health with Walk & Win 2017**

Personal health and well-being is an important facet of living an enjoyable life. Research shows that physical activity is a primary prevention tool used to increase physical activity and improve overall health. Walking is a simple and inexpensive way for adults to engage in physical activity and have a positive impact on their life.

In fall 2016, the MSU Extension – Ravalli County office partnered with MSU College of Nursing students enrolled in the Population Based Nursing Care in the Community course. As a part of the class, the Family and Consumer Science Extension agent works with college nursing students to complete a community outreach project. The students chose to create a walking map to provide a resource to encourage physical activity in the City of Hamilton. This partnership has continued through the spring and fall semesters in 2017 with new nursing students and expanding the project with incentives and development of community maps.

The Hamilton Walking Map was released in December 2016, which inspired the nursing students to create an incentive program for the upcoming spring. During the months of May and June, community members chose routes on the Hamilton Walking Map to explore. Every route they walked resulted in an entry into a prize drawing. In two short months, 92 participants logged over 490 routes, totaling more than 1,330 miles collectively. Participants reported the following impacts:

- 70% reported improved mental health
- 69% reported increased physical activity
- 41% reported maintained current weight
- 34% reported improved stamina for everyday activities, such as climbing stairs
- 14% reported losing weight

One of the participants expressed a change in behavior from the Walk and Win 2017 program:

“My walking has turned into running and I’ve done two 5K’s since this walking program started. How fun to have the confidence to be more ambitious about my fitness goals, and I owe it to the structure you’ve set up. So thank you!

Photo by Michelle McConnaha
“Next stop? I’ll be swimming and running in the Bitterroot Classic Triathlon, and have a cyclist who will do the middle leg of the event.”

The Stevensville Walking Map will be released in early 2018 and plans are underway for a Walk & Win 2018. Tools, such as the Hamilton Walking Map and the Stevensville Walking Map, are designed to help local constituents engage in daily physical activity and improve their overall health.

**SNAP-Ed in Ravalli County**

The Supplemental Nutrition Assistance Program – Education (SNAP-Ed) offers free cooking and nutrition classes to SNAP eligible adults and elementary students in first, third and fifth grades.

As a statewide effort to offer nutrition education and build applicable cooking skills, the Nutrition Instructor, Rachel Ariaz, offered a new class curriculum called Create. It is designed to teach knife skills and help participants create a healthy meal based on the food they have on hand. For example, a participant can create a skillet with bell peppers, onions, broccoli and chicken to incorporate vegetables with their dinner entrée.

Starting in June, 51 adults participated in one of the 10 Create classes offered. Classes were held at the farmer’s market, which included all fresh and local produce from farmers in the Bitterroot Valley. Also, classes were held at the Trapper Peak Job Corp, HeadStart and a few classes were offered in Spanish.

For the 2016-2017 school year, 405 students were reached through 21 classrooms. A school’s eligibility is based on participation in the Free and Reduced Lunch Program. In Ravalli County, qualifying schools for the nutrition classes include Darby, Hamilton, Stevensville and Victor.

Since June, 18 families completed the Eating Smart Being Active Program, a nine-week nutrition class series, offered to adults using one or more Public Assistance Programs.

This past fall, Clay Works selected the Ravalli County SNAP-Ed program be the beneficiary of their fundraiser, Empty Bowls. This effort encouraged local artists to create clay bowls, then served a simple meal at the fundraiser and participants received a bowl as part of the event. The funds from the event will support purchasing incentives for adults who complete the nine-week nutrition class offered through the Extension office. The fundraiser also brought community awareness to the availability of free nutrition education to qualified audiences.

The Ravalli County SNAP-Ed program is looking forward to continuing the community support and outreach into 2018 by providing free nutrition education to income-eligible adults, as well as first, third and fifth grade students in Ravalli County’s Title 1 schools.
Ravalli County Agricultural and Natural Resources Program Update

Most notable this year was a class series designed for owners of small farms and plots of land in the Bitterroot Valley. The nine-week class included 20 hours of instruction, field trips to a small farm and to the western Agriculture Research Center, and the opportunity to develop a plan of action and set goals to realize the desires and potential of each unique plot of land.

The workshop series included lessons and experiences with soils, plant communities, weeds, high value crops, wildlife, goal planning, and the development of a plan of action to accomplish the goals. The class culminated with each landowner presenting their goals for the future, based on knowledge learned during the class. One of the participants, Dianne, had this to say about the series and process:

“We purchased this property in February 2010. It had the one thing Doug had been dreaming of since 1983, a 30x50 foot shop. It came with five acres and a so-so road into the property. Gently sloping, covered in snow, peace and quiet, the most amazing views of the Bitterroot valley and west side mountains. We fell in love…

“Taking this class was the best thing I could have possibly done to clarify where we go from here. Over the years we have had these nebulous thoughts and dreams about the property. We realized early on (after the snow had melted the first year) that we had a serious noxious weed problem… I realized I didn’t know much about my little eastside property.”

Several other programming efforts happened in 2017. Through collaboration with the Ravalli County Weed District, the Extension program coordinated and presented a day-long workshop on weed identification, management strategies, and plant community renovation, which was well-attended with 27 participants. Extension agents and volunteers engaged over 180 sixth graders with lessons on soil science during two day-long field experiences coordinated by the Bitterroot Conservation District. Additional presentations and field trips provided to the local high school agricultural education classes discussed attributes for successful leaders, and led class tours to the Western Agricultural Research Center in Corvallis. Eighty-six site visits were completed during the growing season, going to farms, ranches, gardens, and yards. Site visits provide the opportunity for one-on-one help for land owners, assisting with investigation of the site conditions, discussions of plans and challenges, and to offer information and advice toward reaching the desired goals.
Ravalli County Horticulture Update

Extension in Ravalli County developed multiple opportunities to engage the local community in horticulture programming and education in 2017. A course offering for Master Gardener Level 1 in the fall of 2017 had 27 active participants who completed the 16-hour training session. As a result of the Master Gardener class, participants stated, “I will be more vigilant about how I treat my soil.” Additionally, one participant’s plans include, “I have not gardened vegetables in the past and intend to do so. I’ll prune my fruit trees. And I will approach gardening with a broader, more encompassing view.” Favorite parts of the Master Gardener Level 1 class included a field trip to a local nursery, a hands-on soil science lesson, and a guest presentation by MSU Extension’s horticulturist, Toby Day. Participants were engaged with the materials, and left each class with a lot of information to apply to their own yards and gardens.

The Bitterroot Master Gardeners served local communities in many ways through the spring and summer. A spring effort included a landscaping and beautification project at the side entrance to the county administrative offices. In the first phase of the project, the master gardeners renovated a garden bed to include perennial flowers and shrubs, served by a new drip irrigation system. Future plans include a demonstration kitchen herb and vegetable garden beside the county offices. Master Gardeners occupy a booth at the Hamilton Community Farmers Market on Saturdays throughout the summer. This year, more than 56 volunteer hours were logged at the markets, answering questions and challenges in community members’ gardens.

The master gardeners took on a new program this fall, called a Guerilla Gardening effort. Through a partnership with our county-wide Council on Aging, several community members who could use help and support with a fall yard cleanup were identified. A group of 10 committed volunteers spent a cool Saturday in November travelling to four yards, raking leaves and pruning back perennials, leaving clean yards ready for the winter. Homeowners were overwhelmed with the kindness and level of support they received from the master gardeners. The event was an opportunity to engage volunteers young and old, and to visit with members of our community who could use additional support and help caring for their yards.

Master Gardeners assisting the elderly during the Guerilla Gardening fall cleanup.
contact us:

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Montana State University Extension is an ADA/EO/AA Veteran’s Preference Employer and provider of educational outreach.
Welcome to Richland County

So named in an attempt to attract settlers, Richland County is one of 56 counties in Montana. Richland County is Montana’s twenty-first most populous county, with an estimated 10,810 residents as of the 2012 Census. Sidney, the county seat, is the state’s seventeenth largest city, with a population estimated at 5,934 in 2012. Other towns in Richland County include Crane, Fairview, Lambert, and Savage.

Agriculture and oil production are widely recognized as two of the staples of Richland County’s economy. Much of Richland County is located in the Bakken Oil Zone, and oil pumping and exploration takes place throughout the area. Recently, however, oil exploration and production has slowed, forcing the county to rely more heavily on agriculture to support the economy. The confluence of the Missouri and Yellowstone Rivers lies close to Richland County, creating a 75-mile-long irrigated valley in which grains, sugar beets, corn, beans, and hay are produced. The town of Fairview is known as the “Sugar Beet Capital,” of both Montana and North Dakota.

The Richland County MSU Extension office is very appreciative of the financial support that is provided to ensure that non-biased, educational programs are available to citizens of the county. The Richland County Commissioners: Loren Young, Shane Gorder, and Duane Mitchell, along with the State of Montana and the U.S. Department of Agriculture provide funding necessary to accomplish this mission.

QPR: Ask a Question to Save Lives

According to data from 2014, there are 117 suicides per day in the U.S., which is equivalent to one suicide every 12 minutes. Montana has ranked in the top five states for highest suicide rate for decades, with an average of 220 deaths per year from suicide.

To address this issue locally, Josie Evenson, Richland County MSU Extension agent, was certified to teach QPR through the QPR Institute. QPR stands for Question, Persuade, and Refer, and is a method of suicide prevention. QPR walks a person through three steps; asking the question, persuading a person who is suicidal not to harm themselves and referring them to professional help, which will aid in saving a life from suicide. Similar to CPR, QPR is a mental health intervention designed to give all people skills to help in a suicide crisis. The hour-long training given by a certified instructor like Evenson gives people tools to help members of their own community. As stated in the 2016 Montana Suicide Mortality Review Team Report, “suicide prevention is everybody’s business.” QPR follows this mantra, training community members to help when there is a need.

Since March, 39 adults across the state have been trained in QPR. Of the participants, 87% reported increased knowledge in the warning signs of suicide and where to find local resources to help in a crisis, with 100% of the participants reporting that they would recommend this training to others. Through this training, Montana community members are learning skills to help save lives.
Richland County MSU Extension partners with MonDak Stockgrowers Association & Local FFA Chapters to teach the importance of agriculture

On Thursday, April 27, approximately 400 elementary students from across Richland County attended the annual Ag in the Classroom education day. The Richland County MSU Extension office hosted this event with the help of the MonDak Area Stockgrowers Association, the Sidney High School FFA, and representatives from Sidney Sugars.

As the American population continues to distance itself from the farm and ranch, and agriculture production in general, it is important to provide education to youth about how food is produced and how to be responsible and safe when on a farm or ranch. With these objectives in mind, the Ag in the Classroom event is set up to feature various learning stations. Students visit each station and learn about how bread is made, how vegetables are grown, the processes to get sugar from sugar beets, the cuts of meat that come from cattle, and how to properly and safely operate an ATV.

As a means of bringing the educational portion full circle, students were treated to a meal consisting of apple slices, milk, and locally-sourced hamburgers and buns. At the conclusion of the Ag in the Classroom event, a poll was sent to all the teachers who attended and more than 80% of teachers surveyed felt that their students had a valuable experience and enjoyed attending this hands-on learning experience.

Farmers & ranchers turn to MSU Extension for help and advice in dealing with devastating drought

In 2017, Richland County farmers and ranchers were forced to deal with severe drought situations. Crops that were seeded did not grow well and grass available for grazing was limited. Many ranchers were forced to make difficult management decisions, some of which included turning out cattle onto pastures typically used for summer grazing earlier than normal, early weaning of calves to reduce the stress to the land and the cows, and purchasing supplemental feed sources. A few even had to deal with wildfires in localized areas within the county.

Many ranchers turned to alternative forages or sought out farmers who had grain crops that were not going to produce a viable, harvestable crop and purchased these crops to be cut and baled for hay. While these crops do provide a viable alternative to grazing, there are some concerns with utilizing them as a feed source.

The primary concern is nitrate poisoning and this is where Richland County MSU Extension offered the greatest impact to drought-related concerns. Approximately 30 ranchers and farmers across the county brought forage samples to the Extension office to be tested for nitrates. Nitrates in feed are harmful to livestock if consumed and if levels are too high, can be fatal. The nitrate quick test gives a quick, qualitative analysis to producers to let them know whether or not there are nitrates present in a submitted sample.
Through the utilization of the quick test, ranchers were able to feel more confident that small grain forages they were cutting were safe for cattle to consume and farmers were able to cut and bale small grain forages that were not going to produce a grain crop, and market them as livestock feed with little to no nitrate present.

This quick test provided some safety and security for both farmers and ranchers in Richland County.

**Boys and Girls Club Summer Camp Education**

The local Boys and Girls Club is one entity that provides youth in Richland County a safe environment to learn and grow. Administrators of the local club partnered with MSU Extension to aid in providing educational activities that paired well with their summer camps. The areas of education included horticulture, STEM, nutrition, textiles, health and fitness, animal science and art.

Through Richland County MSU Extension’s community garden, the Boys and Girls Club was able to rent eight, four-by-eight-foot beds and use the fresh produce that they grew to supplement snacks and meals in their summer program. The fresh produce provided an opportunity for youth to have nutritious snacks and meals, as well as to experience a variety of foods in their diet. Members of the club’s summer program were educated on a variety of topics on their twice-a-week visits to the gardens. Youth learned about the different soils that plants need to grow, how bugs have an impact on gardens, photosynthesis, the nutritional value of fruits and vegetables, as well as what textile fibers come from plants.

During the summer camps, Extension agents went to the club weekly to teach workshops that aligned with each camp theme. The clubs summer camps had up to 25 youth in attendance. During nature camp, youth learned about prey and predators. This activity was from 4-H curriculum and taught students about wildlife. During creative camp, members made playdough and created different sculptures. They learned different dances and how to express themselves creatively through music by creating their own dance routines. During STEM camp, youth created their own toothbrush robots, teaching them about science and engineering. This workshop was part of the National 4-H Science Day Experiments.

This summer camp partnership has proven beneficial to the youth in Richland County. Youth have been provided a safe place to learn and grow, while learning about horticulture, family and consumer sciences and youth development.

**Richland County Youth Participate in Experiential Learning**

Two hundred twenty-eight youth, approximately 11% of the school-aged population, in Richland County, Montana, are engaged in learning through the 4-H program. Youth enroll in learn-by-doing projects that aid them in the experiential learning process.

In Richland County, the top projects are beef, visual arts, foods and nutrition, swine, woodworking, photography and sewing and textiles. The 4-H members also participate in club meetings,
service learning projects and a variety of activities and events that aid in their growth and development. One of these events is the annual communications contest. This contest gives youth the ability to learn and practice valuable public speaking and communication skills. This year, 38 youth participated in the contest, a participation increase of 50% over the previous year.

The 4-H members partner with 143 adult volunteers to acquire decision-making skills, develop a positive self-concept, learn lifelong skills and understand the value of citizenship. This year 18 senior 4-H members were given a chance to practice responsible citizenship by planning and implementing a dinner, auction and dance, where all proceeds were donated to a local family to help with medical costs associated with an accident. The event raised $4,306 to help the family.

In 2017, a new event was added to the county, specifically for our Cloverbuds. Cloverbud Day was held in January and 21 Cloverbuds, half of the Cloverbuds in the county, participated. The day provided an opportunity for youth to learn the 4-H pledge, complete a community service project and have fun. The 4-H program teaches beneficial skill for life to the youth in Richland County.

“I very much enjoy the fact that every year I learn something new.”

- Richland County 4-H Member
Welcome to Roosevelt County

All universities engage in research and teaching, but land-grant universities like Montana State University have a third critical mission – Extension. Extension means reaching out and “extending” resources, solving public needs with university resources through non-formal, non-credit programs.

Montana State University Extension is an educational resource dedicated to improving the quality of people’s lives by providing research-based knowledge to strengthen the social, economic and environmental well-being of families, communities, and agricultural enterprises. MSU Extension offers university resources for all Montanans to explore, even if they never set foot on campus. We provide access to useful information and expert knowledge via workshops, demonstrations, community meetings, publications, videos, the internet and other learning opportunities. Extension links a network of MSU faculty, topic specialists on the MSU-Bozeman campus and our Roosevelt County agents, to the people.

Frosty December morning in Roosevelt County. Photo courtesy of Judy Heupel

County tri-funded support

Programs of MSU Extension are funded cooperatively through a legal partnership among federal, state, and county governments. Research-based education and programming that integrates learning, discovery and engagement would not be possible without this unique funding structure. Quality MSU Extension programming in Roosevelt County is successful due to local financial support from the Roosevelt County Commissioners and community involvement and support. Community input and advisory councils provide ways to identify local issues and plan programs important to the residents of Roosevelt County.

Roosevelt County encompasses 2,385 square miles of Montana’s land, has a population of approximately 11,305 and averages four people per square mile. The county seat is Wolf Point and was founded in 1919. Other incorporated cities include: Bainville, Brockton, Culbertson, Froid and Poplar. The Fort Peck Community College is located in Poplar.

The Roosevelt County MSU Extension staff is proud to provide services in the following areas:

- 4-H Youth Development
- Agriculture and Horticulture
- Family and Consumer Sciences
- Community and Economic Development

www.msuextension.org
Program aimed at equipping inspiring leaders

Much of small-town life is run by volunteers on boards, committees and councils. MSU Extension in Roosevelt County sponsored Leading Local, an innovative, one-day, activity-based workshop for new and seasoned volunteers. The program was conducted by Dan Clark, director of the MSU Extension Local Government Center, and gave participants information that helped them be more effective in their volunteer roles.

Leading Local was developed in response to a need expressed by leaders across the state for help with their volunteers. In many small towns, board members have noticed their volunteer base is shrinking and the level of participation is changing. Leading Local participants learned key elements to effective meetings as well as other essential components of strong board, council, and committee work. The training covered the best practices for running effective meetings, how to plan for action, information on personality styles and generations, and how they might work better together. The 13 workshop participants also learned how to get involved and work more effectively for their community.

Besides Dan Clark’s educational workshop for inspiring leaders, Blake Christensen, associate director of the MSU Extension Local Government Center, and Paul Lachapelle, MSU Extension Community Development Specialist from Bozeman, conducted a board development training for several public, nonprofit and government-appointed boards in Roosevelt County. More than 20 people attended the day-long session where they obtained two hours of Real Colors® training. This training uses a personality type test where participants learn skills to understand human behavior, uncover motivators specific to each temperament and improve communication with others. Effective boards need training and development on a regular basis in order to provide organizations with leadership that can function in an ever-changing and challenging environment. Continued training helps elected and appointed officials feel better prepared to serve as an effective board, council or committee member.

Volunteers leave lasting impressions

4-H volunteer leaders are the core group of every successful 4-H program. Volunteer leaders play a key role in helping young people grow as individuals, acquire new knowledge and skills, and become active members of their communities. Volunteers gain personal satisfaction and pride in knowing they have contributed significantly to the personal development of youth. Through 4-H, young people learn and grow in partnership with caring adults to develop the skills and confidence needed to become contributing, productive, self-directed members of society.

There are different kinds of leaders. Some adults teach members how to do things and are called ‘project leaders.’ They usually have a special interest or skill, such as: gardening, making clothing, or doing photography. Adults who help a group get organized and run meetings are called ‘organizational leaders.’ They are responsible for the proper functioning of a 4-H club and work cooperatively with the county Extension office. Next, ‘resource leaders’ are able to provide information and expertise. These leaders may be those who want only a limited role in 4-H. A 4-H ‘activity leader’ is responsible for non-project activities. They may work with club members on demonstrations, record keeping, community service projects or special events.

Records from the past indicate that some clubs have had almost as many leaders as members. Also, once an individual becomes a 4-H volunteer, many of them volunteer through the duration of their children in 4-H and beyond. That is the case with three dedicated volunteer leaders in the Roosevelt County 4-H program.

Gary and Phyllis Sethre have served the Frontier 4-H club for 30 years. Gary has been a market beef leader and has also been involved with crop science and wheat grower’s projects. Phyllis organized the Frontier 4-H club and still serves as co-organizational leader. She has been a leader in all levels of the horsemanship and market sheep projects. Phyllis has also been a leader for ceramics, sewing and textiles, and food and nutrition. Gary and Phyllis have served many years as representatives for the Montana 4-H Legislative Breakfast.
Chris Finnicum has been a leader in Roosevelt County for 35 years. She has been the organizational leader for the Mighty Mounted 4-H Club and Exchange Club. She has also been actively involved in the Eager Beavers, Montana Mountaineers, and the Missouri River Rats 4-H Clubs over the years, serving as a project leader in sewing and textiles and leadership. Chris continues to volunteer for 4-H as a resource leader and utilizes her seamstress skills in teaching others to sew.

Leaders with longevity truly believe that 4-H is a good organization and are motivated to continue service by the contribution they can make through 4-H to the community. Because 4-H leaders use an active, learn-by-doing approach, young people see how their actions make a difference in the lives of others and the world around them.

4-H Livestock Workshops
In 2017 three livestock workshops were held for 4-H participants. These workshops included classes on nutrition, ration formulation, livestock anatomy and culminated with a livestock showmanship workshop.

The showmanship workshop was held in July, prior to the fair and was conducted in a round robin style. Thirty-seven 4-H youth, parents and volunteers attended. The participants were able to learn tips and techniques for showing steers, swine, sheep and goats from experienced adult and youth volunteers. Youth were encouraged and given the opportunity to work hands-on with animals. Many participants in the workshop enjoyed the chance it offered them to work with animals with which they had little-to-no experience. In addition, the showmanship workshop was largely taught by older 4-H members, under the direction of adult volunteers. This provided youth volunteers the opportunity to pass on their knowledge and gave them vital experience in teaching and leadership.

Swank Variety Tour
Over 100 people from the surrounding area attended the thirty-sixth Swank Variety Tour, held at the Swank Family Farm north of Poplar. As with past tours, this year’s variety tour provided area producers the opportunity to see how newer varieties of spring and durum wheat performed under conditions experienced in northeast Montana. A number of attendees stated that this year’s tour was useful in that they could view how different varieties had performed under severe drought. Attendees also were given a chance to interact with Eastern Agricultural Research Center (EARC) director Chengci Chen, and MSU wheat and durum breeders Mike Giroux and Luther Talbert.

Additionally, Frankie Crutcher, of the EARC spoke on “Managing Fusarium Head Blight on Wheat and Barley.” In 2016, many area producers experienced problems with head blight in both their spring wheat and durum crops. While this past summer conditions were less conducive to head blight, the management tools presented will assist area producers with future outbreaks.
ServSafe® certification helps food establishments serve safe food

It has been just over a year since the Department of Public Health and Human Services updated the Montana Food Code that requires all retail food establishments to have a food safety manager. Also required is a person-in-charge that can demonstrate adequate food safety knowledge during all hours of operation. ServSafe® is a nationally-accredited food safety certification program and is one of the courses identified in the food code that will fulfill the requirement to have a trained food protection manager on staff.

During this past year, MSU Extension agent Ardis Oelkers teamed up with Registered Nurse Robin Warren from Northeast Montana Health Services to team-teach the eight-hour manager course and the four-hour food handler training class in Roosevelt County. Oelkers and Warren worked closely with Roosevelt County Sanitarian Michael Rinaldie to develop a plan to ensure all local and area establishments were aware of the educational opportunities. Over 30 participants were trained in food safety, representing restaurants, hospitals, schools, coffee shops and other establishments serving food.

The average passing test score of those taking the eight-hour certification class was 84%. Participants were asked “What is the most important thing that you gained from attending the training?” Comments include:

- ServSafe® Certification
- Correct receiving temperature of food
- Making sure the food is served at the correct temperature
- How important our actions are on making our restaurant and food safe
- Cleaning and sanitizing everything properly

The manner in which people handle and prepare food is a major reason why foodborne illness occurs. People must alter their food-handling behavior, but they must first have the knowledge and skills that are known to protect food from contamination with harmful microorganisms before they have the capacity to change their behavior. ServSafe® education provides the knowledge and skills needed to reduce incidence of foodborne illness and reduce impacts on health care costs.
Welcome to Rosebud and Treasure Counties

Rosebud and Treasure Counties represent a diverse and expansive landscape as well as population. Covering over 6,000 square miles, the two counties’ vastness includes three incorporated cities, Forsyth, Colstrip and Hysham, as well as several additional communities. The county also borders the Northern Cheyenne Reservation. The most northern portions of both counties provide wide open prairies, which are met by the Yellowstone River. This great resource runs through both counties. The southern portion of both counties offers more rugged, pine-covered hills. Farming and ranching, as well as energy development and railroads make up the majority of the diverse economic drivers in the two counties.

The MSU Extension office for Rosebud-Treasure Counties is in large part funded by the taxpayers of Rosebud and Treasure Counties. Your local support of MSU Extension services and your financial support is greatly appreciated.

Turning Generosity into Real Impact

In 2007, Forsyth embarked on Horizons, a statewide community development effort led by MSU Extension. The program successfully involved over 20% of the local community. By far the most impactful outcome of that effort was the development of a local community foundation.

As luck would have it, just as the community was mobilizing around Horizons, the Montana Community Foundation came knocking, searching for an organization to help create a local community foundation, thanks to a significant donation. Swede Schlesinger, a deceased Rosebud County rancher, left his estate to his family in Nebraska. Familiar with the Nebraska Community Foundation, Swede’s family provided the initial investment to create the fund. The local MSU Extension office took up the effort to ensure the creation of a permanent endowment for a local foundation.

Almost a decade has passed since the creation of what is now the Community Foundation of Northern Rosebud County. Since then, the Foundation has grown its endowment to nearly $500,000. More importantly, it’s reached the
incredible milestone of investing $100,000 back into the communities.

The ripple of impact generated from the endowment can be felt far and wide. The funds are supporting projects that are strengthening local youth leadership, keeping our community members safe, helping feed families in need and so much more. One of the most significant, long-term transformations has taken place in the Rosebud community. Starting with one of the inaugural grants of $500 in 2008, the community has continued to utilize the Foundation’s support to help transform a run-down vacant lot into a community park with a covered pavilion and grassy area. The most recent project is renovating the adjacent building into a community center, which the community now utilizes for hosting gatherings, like the July 3 celebration that grows each year. An invested community member had this to offer, “It’s our community center, it’s our only place we have. If it wasn’t for the Community Foundation, we would not have this. It’s beyond ripples (referring to impact within community), its waves. Rosebud is a different place today than it was 10 years ago because of the Community Foundation.”

The positive impact felt by the community foundation is evident throughout the area. However, what may be lesser known is the extremely strong link to MSU Extension, noted by local Extension agent Jennifer Anderson, “during my time here, Extension has had the pleasure of being involved in many wonderful projects, but most have come and gone, and over time are long forgotten. However, the development of the Community Foundation is much different, because it’s a permanent endowment. It will be an asset to Northern Rosebud County forever. If Extension had not taken the lead to secure the Schlesinger funds, the money would have left the area for good. I’m so proud to say, in this effort, we have created a legacy for generations to come.”

**Community Market Grows Community**

MSU Extension in Rosebud-Treasure County rang the bell on the first Forsyth Community Market the evening of July 13, 2017. A community market is both a farmer’s market and a crafter’s market combined. Local vendors showcased their goods to sell, as well as promoted their businesses, organizations and programs.

Come rain or shine, seven Community Markets were held at a Marcyes Park in Forsyth, July through September. Vendors traveled to the Community Market from Forsyth, Colstrip, Hysham and Miles City. Garden vegetables of all kinds were sold at the market along with watermelons, apples and other fresh fruits. Baked goods including breads, scones,
cookies and dog treats sold out nearly every market. A local honey producer brought fresh, raw honey to the market and was excited to share his wisdom as a beekeeper, or apiarist, as well as the process of producing high-quality honey in Montana.

The youngest vendor that participated in the Forsyth Community Market was seven years old. He sold his favorite oatmeal raisin cookies and melted bead crafts alongside his 16-year-old sister who sold a variety of homemade dog treats. The Forsyth FFA chapter attended two markets selling baked goods to raise funds to donate to the Lodgepole Fire. The chapter was able to donate more than $600 from their sales at the Forsyth Community Market. Another high school student sold pumpkins for carving to raise funds to help purchase costumes and materials for her Drama Club.

The desire to buy local is a fast-growing trend that allows communities to support their own local economy and programs. The Forsyth Community Market provided such a venue for Rosebud County, as well as increased the community’s knowledge of local agriculture and inspired business-minded individuals.

Montana Foster Child Backpack Project

The Montana 4-H Rec Lab event aims to provide youth and adults an opportunity to enhance their leadership, communication and team-building skills in an action-packed and interactive setting. The 2017 Montana 4-H Rec Lab was scheduled to be hosted in Miles City. When the District 8 4-H planning meeting concluded, MSU Extension in Rosebud-Treasure Counties was tasked with organizing the Community Service Project for the upcoming event.

MSU Extension Rosebud-Treasure agents, as well as Rosebud-Treasure 4-H Ambassadors, began planning the Foster Child Backpack Project. Sometimes children are placed in foster care unexpectedly, with little or no time for planning or packing. To help ease this transition for children in Eastern Montana, blankets would be tied and backpacks would be filled with items necessary and helpful for newly placed foster children. The Miles City Child & Family Services (CFS) office was excited to partner with Montana 4-H and distribute the backpacks to foster children in need. The Backpack Project received $1500 in grants and donations from the Montana 4-H Foundation, MCI2 and a local women’s group. With these funds, backpacks and fleece were purchased, as well as necessary toiletries to ensure each backpack included basic personal care items.

4-H youth and adult volunteers attending the 2017 4-H Rec Lab were asked to bring suggested
donation items to fill the backpacks. At check-in, attendees dropped off their donations and each item was sorted and grouped by age and gender by Rosebud-Treasure 4-H Ambassadors. Over 50 youth and adults participated in the four blanket tying workshops, instructed by MSU Extension Rosebud-Treasure agent Melissa Ashley, where everyone learned four ways to tie a fleece blanket.

During the community service session, all donated items were placed on tables where pairs of 4-H youth were given an age and gender and “shopped” to fill their backpacks for their designated foster child. Donated items included toothbrushes, toothpaste, deodorant, diapers, socks, stuffed animals, books, notebooks, pens, pencils, crayons, playing cards, toys and much more. Placed in each backpack was a card that read “Made just for YOU! by Montana 4-H members” and included the 4-H Grows Here logo. All of the donated goods were loaded into vehicles headed for Miles City CFS, along with countless extra donation items to use where they see fit.

More than 170 youth and adult 4-H volunteers participated in the Foster Child Backpack Project. A total of 94 backpacks were filled and 65 blankets tied for Montana foster children in need. Miles City CFS distributed backpacks to offices across eastern Montana and broadened the estimated reach of the project. Due to the outstanding support of the project’s sponsors and supporters, Montana 4-H volunteers were able to show compassion and impact the lives of surrounding youth through their involvement in the Foster Child Backpack Project.

**From Seeds, To Service**

In 2015, with the help of two enthusiastic Forsyth Family, Career and Community Leaders of America (FCCLA) members, MSU Extension Rosebud-Treasure Counties began planning to revive the Forsyth Community Garden program. Fast forward to 2017, during only its second year, the Forsyth Community Garden has seen many new faces walk through its gates and reached hundreds of community members of all ages. Beginning as an unused grassy lot, the community garden has grown into a hub for many community-based projects.

MSU Extension was awarded a special project grant from the Community Foundation of Northern Rosebud County to build raised beds. A design was penciled out and materials gathered and Forsyth High School Vo-Ag students got to work. Mistakes were made, boards were measured.
once and cut twice, which made the teachable moments all the better. Students completed three 12’ x 4’ raised beds and plan to complete four more in 2018. The addition of the raised beds will help to accommodate an even wider range of garden enthusiasts in the Forsyth Community Garden.

The Community Garden was also visited by the Forsyth Elementary School third grade class where students painted flower pots, learned about annual and perennial plants, soil and gardening. While in the garden, each student planted flowers in their pots as well as flower seeds in the community garden flowerbed to attract pollinators. The third-grade class delivered their flower pots along with a poem to Rosebud County employees for a May Day celebration.

Thirty-five pumpkins were harvested from the community garden and delivered to the Forsyth High School Family & Consumer Science classroom. Students learned how to bake, process and preserve the fresh pumpkin. These ambitious students processed 176 cups of pumpkin puree, making a total of 91 pumpkin pies! This was enough effort to supply the Forsyth Samaritan’s Pantry Thanksgiving Dinner box donation with 48 pies, pantry volunteers with 13 pies and Forsyth High School faculty and staff with 30 pies. Ninety-one families ate pies at Thanksgiving dinner that were grown, baked and donated by our community, for our community.

Community gardeners, Rosebud County employees and County Commissioner Bob Lee gathered for a BBQ to celebrate the gardeners’ year of hard work. The meal highlighted dishes made from produce grown in the community garden. Through the good works of the Forsyth Community Garden, MSU Extension was able to bring individuals together that share a common interest in community development and enhancement, growing and sharing locally-produced food as well as helping others in need.

Who would have thought that a simple garden could have turned such small seeds into such large acts of service?
Montana State University Extension is an ADA/EO/AA Veteran’s Preference Employer and provider of educational outreach.

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Welcome to Sanders County

MSU Extension in Sanders County is a three-way partnership between Sanders County, Montana State University and the United States Department of Agriculture. This partnership provides educational programs in the areas of Agriculture/Natural Resources, 4-H Youth Development, Community Development, and Family and Consumer Sciences. Sanders County is located in Northwestern Montana. It is bordered on the west by Idaho’s Panhandle and is Montana’s 18th most populous county with a population of about 11,336 (2015 estimate). The county was established in 1905 and named after Wilbur Fisk Sanders, pioneer and U.S. Senator from Montana. Sanders County encompasses 2,790 square miles and just over 1.7 million acres. There is a diverse mix of agricultural land, small acreage subdivisions, rural communities and range or forested land. The economy of Sanders County is specialized in agriculture, forestry, fishing, hunting, mining, quarrying, oil, gas extraction, and construction, which employ more people than what would be expected in a location of this size. The largest industries in Sanders County are healthcare & social assistance, construction, and retail trade. Sanders County includes the city of Thompson Falls as the county seat, Plains, and the town of Hot Springs. The Clark Fork River, a tributary of the Columbia, runs the length of the valley in Sanders County. The county also encompasses the Cabinet Mountain Wilderness and two National Forests. MSU Extension provides a unique set of services and educational resources to meet the diverse and changing needs of local clientele. Sanders County MSU Extension is supported by Commissioners Carol Brooker, Anthony Cox, and Glen Magera.
Texas 4-Her’s visit Sanders County

In July 2017, Sanders County hosted their first 4-H interstate exchange with eight youth and four adults from Hopkins County, Texas. An interstate exchange program is an exciting opportunity for youth and adults to experience the geography, culture and heritage of a local community of 4-H youth and leaders with a common 4-H identity, yet potentially different perspectives. Participants learn how states are similar but also how they are different, such as weather conditions, geography, local industry, and history. For example, some states are better suited than others for agriculture and produce a large part of our nation’s food. Other states boast beautiful beaches and provide places for recreation. For one week, youth learned about the Sanders County 4-H Program and the livelihoods of citizens throughout the county. Youth were guided through Ross Creek Cedars, drank huckleberry shakes in Trout Creek, visited the PPL Island Park, Fish Ladder, High Bridge, Old Jail Museum and went swimming and fishing at Thompson Falls State Park. They visited the National Bison Range, Yellowstone National Forest, ate pizza at Ripples in Plains, and rafted down the Clark Fork River. Local 4-H Ambassadors presented the ins and outs of the 4-H program in Sanders County. Youth were surprised at the many differences in programs between the states, such as Montana 4-H having a market project carcass evaluation. Families learned to be exchange hosts, and created new and lasting friendships. Youth from Sanders County will be fundraising to travel to Hopkins County, TX, in July of 2018.

Texas 4-Her’s around Sanders County.
Photo by Juli Thurston
A Love for Learning

For many 4-H members, their project work is the highlight of their 4-H year and they put a lot of effort in. For Hattie Neesvig, a 12-year-old member of the Whitepine Happy Workers 4-H Club, the 4-H service learning project is one of her favorites. Neesvig is in her second season of sharing her love for reading and learning with the children of Sanders County. She teamed up with the Public Health and WIC program to help achieve a vow of encouraging local children to develop a love for reading, while creating a desire to learn. During the year, she personally sewed 105 bags using donated fabric. She then organized a book drive at her school and collected enough books to provide 56 children with a bag filled with books. The Public Health Office will disperse the bags during the holiday season.

Neesvig says, “The best part about doing this is knowing that I am helping make some child's Christmas a little better.” She plans to continue her project until she goes to college. She will receive the local Prudential Spirit of Community Award here in Sanders County and is awaiting national competition results.

Lifting Women to Better Health

One by one, women in Sanders County have been getting stronger with Strong Women. With the high population of retirees in Sanders County, The Strong Women Strength Training program has been a hit. The Strong Women Program was developed at Tufts University to increase strength, muscle mass, bone density, and balance in women. Those who attended the sessions twice a week for two-to-four months reported moderate to considerable improvements in general health and balance, feeling stronger physically, doing everyday activities more easily, increasing weight they are able to lift, and flexibility. Sanders County has partnered with Clark Fork Valley Hospital to offer women of all ages the opportunity to improve their quality of life. Sixty-three women during 2017 have participated in classes hosted both in Thompson Falls and Plains.
Growing Parenting Skills

Sanders County MSU Extension Agent Juli Thurston was approached by the local Child Protective and Family Services to request parenting classes for residents in Sanders County and CPS clients. Many families looking for parenting resources and workshops have to travel to Missoula or Kalispell and can’t afford travel costs. Thurston partnered with Plains School Alta Care Counselor Becki Uski to provide this much-needed education. Two workshops and three one-on-one coaching sessions were implemented in 2017 with two more workshops already scheduled for 2018. Workshop facilitators used the Positive Parenting Solutions Curriculum written by Amy McCready as well as the Grow! curriculum developed by Penn State University. Participants learn how to create a warm, nurturing home environment, decrease parental stress and teach children coping skills, how to communicate clear expectations, offer consistent routines and rules, implement appropriate discipline and learn behavior modification strategies. Parents are also taught healthy eating and physical activity habits. While parents are in session, youth discuss and participate in activities related to the parenting workshop topic that week. Parenting programs such as these are designed to strengthen families over time, which lead to children who grow healthier, show increased readiness and resiliency and allow for a stronger parent-child relationship.

Your Forest Needs You. Forest Stewardship Program offered in Thompson Falls

Montana forests are valued for wildlife, fisheries, livestock grazing, watershed protection, recreation, and wood products. Nearly two-thirds of Montana’s 23 million acres of forest land is publicly owned, mostly by Federal Government agencies. The next largest ownership is Non-Industrial Private Forest (NIPF) landowners. These 50,000+ individuals control over twice the acreage of the forest products industry. NIPF owners and their 3.8 million acres are the focus of the Forest Stewardship Program. Sanders County forest landowners of five acres or more total 1,770, that includes in-state and out-of-state residents owning 93,438 acres. The Forest Stewardship Program is coordinated by the MSU Extension Forestry division and supported in part by Sanders County Commissioners. MSU Extension Forestry operates from the premise that there are a lot of landowners who can do for themselves if given the know-how.
The goal of the program is to help develop a lifelong relationship between a landowner and their property. The program teaches people to observe, measure, gather and classify data. Participants can then assess the trade-offs and consequences of their management activities and make informed decisions. The key is empowering forest landowners with personal knowledge of their property and the basic principles of forestry and environmental management through taking an inventory of their property, setting land user goals and priorities, analyzing resource trade-offs and understanding environmental consequences of stewardship decisions as well as completing their own stewardship plan with the motivation to implement stewardship principles. Classes are taught by a team of natural resource professionals throughout Montana with a wide range of expertise. Some specific workshop topics include forest ecology, how to manage fire risk, wildlife habitat enhancement, how to assess and maintain forest health, range/understory vegetation management, how to protect and enhance water quality, but most important where to go for help and resources when needed. Actively managed forests can provide forest health and vigor, stream and wetland protection, natural-resource-based recreational opportunities, livestock grazing, sustainable wood supply, and income. The Thompson Falls workshop held in July of 2017 had 20 participants with a cumulative 1,674 acres. One participant said “the forest stewardship workshop provided me with knowledge and support for me to be a good steward of my property. I was pretty green about forest management, just moving here from the flat lands. The cost-share programs and connections I made may provide my family and I with a total added income of $12,000 in 2018. Thank you for the opportunity to pass on this valuable knowledge to my children and to utilize for myself!”

Photo by Kelsey McMullen
Annie’s Project - Education for Farm Women

The 2012 Census of Agriculture states that Sanders County has 492 farms encompassing 338,725 acres totaling a market value of product sold as just over $14 million. Thirty-four percent of Montana farmers are women. From the classroom to the farm to the boardroom, women in agriculture are helping to pave the way for a better future. As Extension leaders, it is our responsibility to make sure the next generation of women are educated, encouraged and empowered to take on the challenges of meeting the world’s growing food, fuel and fiber needs. Farm and ranch women are decision makers and the decisions made today have long-range impacts on all aspects of business. New in 2017 was the Sanders/Lake County Women in Agriculture Program, Annie’s Project. Annie’s Project is a six-week course bringing women together to learn from experts in production, financial management, human resources, marketing, and the legal field. Ten women from Sanders and Lake counties participated in workshops to learn about resources offered through USDA Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA), agriculture financial management, insurance options, what an accountant needs, worker protection standards, crop production and irrigation systems, ag marketing, veterinary feed directive obligations and record keeping. The next class offered will include estate and succession planning. Results from the class were positive and all women stated they had learned at least two new practices they would implement to improve the operations of their business.

Photo by PennyLynn Webb

contact us:

Montana State University Extension is an ADA/EO/AA Veteran’s Preference Employer and provider of educational outreach.
Welcome to Sheridan County

Sheridan County is located in the northeastern-most corner of Montana. Plentywood, the county seat, is located approximately 18 miles south of the Montana/Canada border and 24 miles west of the Montana/North Dakota border. MSU Extension is a three-way partnership between Sheridan County, Montana State University and the United States Department of Agriculture. Through the strength of this partnership, Extension agents in Sheridan County provide research-based programs to county residents in the areas of Agriculture/Natural Resources, 4-H Youth Development, Community Development and Family and Consumer Sciences.

Agriculture production and agribusiness is the basis of the economy in Sheridan County, with oil production and development also being a component. Wheat and cattle are the major agriculture products. Three-fourths of the land in Sheridan County is tillable and most of the crop production is dryland. Durum wheat production accounts for five to seven percent of the nation’s durum wheat. Pulse crops of peas and lentils and oilseeds are also major crops. There are approximately 527 farms in Sheridan County with an average farm size of 1,977 acres.

Sheridan County Courthouse

MSU Extension is a three-way partnership between Sheridan County, Montana State University and the United States Department of Agriculture.
Arthritis Foundation Exercise Class

Why do you keep coming here? That was the question. The answers varied, yet all agreed that the Arthritis Exercise Program is of great benefit to them and expressed appreciation that it has continued to be offered. Now in the fourth year of completion, arthritis exercise classes are going strong and many of the participants have been attending the entire four years. The classes are offered twice a week in two locations and total participation has stayed constant at about 30. Here are some of the benefits the participants cited they receive from participation in the class:

Almost every person commented on the social aspect and the comradery they feel being part of the program, which is a secondary benefit. They enjoy the company and have become great friends. They build muscle and flexibility while they share stories of children and grandchildren and support each other during birthdays, holidays and other life events.

“I won’t do this at home by myself. I get the benefits of the exercise by coming to this group as well as social time with a great bunch of people.”

“I have less pain from my arthritis because of the exercises in this class.”

“It is good for us; it helps us stretch and use our muscles; if I miss a few sessions, I know it; it’s important to keep going.”

“I come for the humor; this is a fun group.”

Lifting hand weights is a regular part of arthritis exercise classes.
Self-management is goal of diabetes program

In collaboration with Mountain-Pacific Quality Health, Sheridan County MSU Extension offered a six-week series of the Diabetes Empowerment Education Program, also known as DEEP. During the first session of a six-week series, it was not uncommon to hear, “I’ve been told by my doctor to avoid eating whites and that testing my blood sugar is not necessary; I need to understand my diabetes better.” The goal of this evidence-based self-management education program is to empower people to take charge of their pre-diabetes/diabetes, avoid complications from the disease, and improve self-management skills. In 2017, the DEEP program served 14 people in Sheridan County. Of significant importance is that several participants took steps to start monitoring their blood sugar. All participants with pre-diabetes/diabetes reported that following the program, they felt better equipped to make healthier lifestyle choices, to talk with their doctor about diabetes, to monitor their health as it relates to diabetes, and to manage their diabetes including sugar levels, diet, and physical activity. One participant commented, “I have learned so much and I’m so thankful that this class was offered! I’m now aware of food choices and blood sugar testing. I test daily before breakfast. I know who I can talk to for help managing my diabetes.”

The Gift of Warmth and Security

Service projects allow youth and adults to work together to help others and provide an opportunity to give back to the community. In the spirit of giving back, the members of the Tumbleweeds 4-H Club took time at their holiday party to create fleece tie blankets which were donated to the local Child Protective Services Office. The blankets provide a gift of warmth and security when the workers have the daunting task of removing a child from their home, oftentimes having to take them with only the clothes they are wearing. This is only one example of ways that Sheridan County 4-H members engage in projects that provide opportunities for members to experience caring, relating, giving, working, being and living through community service in 4-H.
Agriculture Highlights and Programs

2017 was an interesting year for Sheridan County Agriculture Agent Colleen Buck. The year started off with below zero temperatures and Winter Series programming in full swing. Winter Series offers a program each month: January, on supplementation strategies; February, on growing alternative forages; and March, on rangeland weeds and noxious weed identification. Specialists from MSU-Bozeman came to give presentations in multiple counties across northeast Montana. February also hosted the Northeast Montana Sheep Symposium and the MonDak Pulse Day. Buck and fellow Richland and Wibaux County MSU Extension agents worked to bring back the Northeast Montana Sheep Symposium program for sheep producers of eastern Montana and western North Dakota. Sheep producers from as far away as Roundup came to the Symposium. MonDak Pulse Day was held in North Dakota this year to update producers who grow pulse crops. This event is a joint venture between Montana State University Extension personnel and North Dakota State University Extension personnel. This year the program reached over 100 producers in the MonDak area. Buck is part of the MonDak Pulse Day organizing and planning committee.

The cold temperatures let up and seeding in Sheridan County started in early April. However, April 24 would be the last day that Sheridan County would receive any measurable moisture until the first part of August. Stored soil moisture from the fall of 2016 and some spring rain in 2017 are what helped crops germinate this year. Crops and rangeland were dramatically affected during this time and Sheridan County was listed as a D4 drought county. These extremely dry conditions caused a significant decrease in crop yield and hay yield potential. Producers reported decreased yields of 50-75% and some fields were zeroed out through insurance. Due to the severity of the drought and the increasing questions about options in a drought, specialists from MSU and Fort Keogh came and gave multiple presentations in drought-affected counties on water management considerations and drought management strategies.

Buck continues to participate in the Wheat Midge monitoring project and was asked this year to participate in the Alfalfa Weevil project. Programming is ongoing and always changing for Buck and she strives to coordinate programs that will benefit the producers and the community.
Nitrates in Sheridan County

In 2017, Sheridan County agriculture agent Colleen Buck tested 53 forage samples, which represented approximately 10,000 acres for the presence of nitrates in Sheridan County. Forty-eight of the 53 samples came back with a positive result for nitrates using the Nitrate Quik-Test provided by MSU Extension. Forages sampled included: durum wheat, spring wheat, lentils, alfalfa, hay barley, barley, oats, peas, corn stalks, and kochia. Buck also used a new protocol for testing nitrates to attain a quantitative number, which helps to determine nitrate levels in the plant. This protocol uses a color scale to give an estimate of the level of nitrates in the plant. Samples were further tested by a certified lab so that accurate and safe rations could be calculated for the livestock in the winter feeding months.

Drought conditions, hot weather, low crop yields and finally some rain in mid-August set Sheridan County producers up for the possibility of high nitrates in forages. Because of low crop yields, producers decided to utilize crops for grazing and/or hay. Nitrate occurs in plants naturally, but at elevated levels can be harmful to the livestock consuming forages containing high nitrates. In both the plant and the rumen of the animal, nitrate is converted to nitrite extremely quickly, however the conversion from nitrite to ammonia, which is a component of building amino acids and proteins, is extremely slow in the rumen. This is where a buildup of nitrite can be harmful to the animal. As nitrite is being converted to ammonia, the excess nitrite can pass through the rumen wall and into the bloodstream of the animal, where it binds to hemoglobin, which is the oxygen carrier in blood. Since nitrite is now bound where oxygen would generally would bind, oxygen can’t be transported to the body and the animal suffers or dies from oxygen deprivation depending on the severity of the level of nitrates consumed.

Nitrate levels varied in the 53 samples tested, depending on maturity, timing of last moisture, and variety tested, but overall there were more samples with high levels of nitrates than samples with low levels. Testing nitrates created multiple opportunities to educate and interact with the producers of Sheridan County.
Breakout Boxes at State 4-H Leader Forum

District 4 hosted the 2017 State 4-H Leader Forum in Glendive. MSU Extension agent Colleen Buck presented a workshop on making livestock nutrition fun for 4-H youth. Buck used a breakout box format for the delivery of the workshop. The concept of a breakout box is similar to a breakout room and requires people to solve problems to advance through the rooms, or in this case, to open multiple locks on a box. This is the second time Buck has used breakout boxes this year. It is a new way for teachers and 4-H leaders to present materials or to review material that has already been presented. During the livestock nutrition workshop at State 4-H Leader Forum, 17 leaders signed up for this workshop. Buck designed the lesson so that the group was split into two groups and each group then answered a series of questions and solved problems to unlock their boxes. The topics that were covered included: knowing livestock requirements, reading a feed label, balancing a ration, calculating average daily gain and using resources available to help answer the questions. One 4-H leader stated in an evaluation “The lock box idea made the subject matter more engaging.” This is the second year that Buck has presented a livestock nutrition workshop at State 4-H Leaders Forum.

Breakout Boxes. Photo by Colleen Buck
Welcome to Silver Bow County

Silver Bow County is located in Southwest Montana along the Continental Divide in the Rocky Mountains. There is a county population of 34,403 with a land area of just over 718 square miles, making it Montana’s smallest county. It is unique in the government, as Silver Bow County shares a government with the county seat of Butte. The Butte-Silver Bow government is run by an elected chief executive and 12 county commissioners. The commissioners represent both urban and county locations, including Ramsay, Silver Bow, Divide, Melrose and Waterloo. The county’s economy is driven by health care, education, retail and mining, with St. James Healthcare and NorthWestern Energy being the top employers. The MSU Extension office, housed in the Small Business Development Center, welcomed a new Family and Consumer Science/4-H Youth Development agent, Kellie Kahtani, and SNAP-Education agent, Abbie Phillip, in 2017.

MSU Extension Butte-Silver Bow welcomes new agent

After a long search process, MSU Extension Butte-Silver Bow welcomed Kellie Kahtani as the new Family and Consumer Science/4-H Youth Development agent. Kahtani is new to the county as well as the MSU Extension family. She brings extensive experience in youth development, as she had been working as an agriculture teacher and FFA advisor both in Montana and Washington before making the move to Butte. She is excited to have the opportunity to work with Silver Bow County 4-H, bringing with her a background in livestock as well as education.

Kahtani grew up in Washington being a member of 4-H and FFA in her youth. She has a degree in Agricultural Education from Washington State University and taught high school agriculture for over a decade. She also has been a member of the American Dairy Goat Association, having earned her judging license two years ago. She enjoys judging all species of livestock, but has the most experience in judging dairy and meat goats.

MSU Extension brought Kahtani on to serve in the role of 4-H Youth Development as well as adding Family and Consumer Science (FCS) to the office. In her role as the FCS agent, she will be focusing on diabetes education and mental health, but will also be adding more programs such as estate planning, Solid Finances, and other health and fitness programs.
MSU Extension brings diabetes education to Butte

The Diabetes Empowerment Education Program, or DEEP, is a peer-led series of classes offered to help people diagnosed with pre-diabetes or diabetes take control of their diabetes and health. Silver Bow County has a much higher percentage of residents diagnosed with diabetes than in the state of Montana. According to the 2015 Community Health Profile issued by the Public Health & Safety Division of Montana DPHHS, Silver Bow County showed an inpatient administration of 1,284 people with diabetes, compared to the county average of 608 in the rest of Montana.

The training program is offered through Mountain-Pacific Quality Health and funded fully through Medicare. Butte-Silver Bow County MSU Extension agent Kellie Kahtani became trained in August and has offered a series of classes to the Butte community at the Belmont Senior Center. The program focuses six classes on helping those in the class to understand what diabetes is and recognizing important numbers in blood sugar, reducing the risk of high blood pressure through lowering sodium intake and how diabetes affects your body, nutrition and carbohydrate counting, the benefits of exercise, understanding medications, and finishing with a focus on stress management and depression. The members of the class “graduate” the program after completing a minimum of five of the six classes.

The peer-led classes focus on class members participating in various activities, such as reading food labels, categorizing foods with high sodium and/or carbohydrate counts, making a menu following nutrition guidelines, exercising for 30 minutes, as well as coming up with questions they can ask their healthcare provider for a better understanding of diabetes. Participants also walk away with incentives, such as a diabetes book, fitness book, and a water bottle. The purpose of this series is to help members feel more comfortable working with their healthcare provider and to empower them to take control of their diabetes. The first class offered “graduated” five members, all of whom said on the evaluation at the end of the series that they felt better equipped in making healthier life choices, talking with their doctor about diabetes and managing diabetes.
Silver Bow County 4-H “Making the Best Better”

As the summer was in full swing, so were the very active members of the Silver Bow County 4-H program. These members were focusing on true leadership and working hard to prepare their projects for the Butte-Silver Bow County Fair. We started the summer with the “Ultimate Survivor” four-day 4-H Camp held at Loon Lake. This camp, hosted by Silver Bow County, but attended by campers from four different counties, included leadership workshops, adventure, and outdoor learning workshops organized by members and volunteers of our local programs. Everyone had so much fun, learning how to work together and using new skills to better prepare them for life and leadership. Campers from this year are excited to attend the camp again next summer.

Following 4-H camp, members focused on their projects for the county fair. In July, our annual Fit-N-Show program was hosted by a local 4-H family. This event helps prepare our members for safety and excellence during their showmanship classes and the Round Robin to finish out the fair activities. This year, we had 22 members participate in the day-long event, working with animals of all species that are included in the Round Robin. They learned how to show dogs, rabbits, poultry, sheep, goats, pigs, beef cattle, and horses in a hands-on setting. This is a requirement for all members who qualify for competing at the fair.

We finished the summer with the Butte-Silver Bow County Fair. The indoor projects, ranging from cooking to gardening, and from shooting sports to photography, were in abundance, both in number and quality! This year, members competed in over 80 different project areas for indoor exhibits. Members also showed animals in all areas from pocket pets and cats to large livestock, with over 50 animal exhibits brought in to compete. The highlight of the fair was the Round Robin, in which members who won their age group showmanship class compete against the winners from all the species to choose an overall “showman” of the fair. This year, we also added an adult Round Robin, in which parents/volunteers showed the animals and were judged by the winning showman. This opportunity gave the adults the chance to showcase what they have learned as well as the members the chance to judge the adults. Fun was had by all and this will become a new tradition at the Butte-Silver Bow County Fair.

Left: The indoor exhibits displayed by 4-H members at the Butte-Silver Bow County Fair. Below: Members of Silver Bow County 4-H participating in the Fit-N-Show clinic, learning to show a lamb.
New Snap-Education agent brings programs to Butte-Silver Bow

The “Buy Eat Better” SNAP-Ed programs are nutrition education and obesity prevention designed for individuals and families who are eligible or participating in SNAP (Supplemental Nutrition Assistance Program, formerly known as Food Stamps). SNAP-Ed offers adult classes, “Eating Smart Being Active,” and youth classes, “Youth Understanding MyPlate (YUM).”

In October, Butte-Silver Bow and the Montana State University Extension Nutrition Education Program (MSU Extension NEP) welcomed Abbie Phillip in her new position as Supplemental Nutrition Assistance Program Education (SNAP-Ed) nutrition instructor, a shared position with Anaconda-Deer Lodge County, but housed in the Butte-Silver Bow MSU Extension office.

SNAP-Ed staff provide educational classes to adults and youth, as well as technical assistance on policy, systems and environmental (PSE) change for a healthier community. In 2017, SNAP-Ed partnered with the Butte Public School District on youth classes, the school wellness committee, and The Smarter Lunchroom program. Successful outcomes came with additional partnerships with the Butte Food Bank and Public Housing.

Kids making yogurt parfaits as part of the YUM class.
Welcome to Stillwater County

As MSU Extension agents, our job is to provide information and education to the people of Stillwater County. Often this takes the form of a phone call or office visit. The service provided can be as simple as looking up a safe internal meat cooking temperature, or as complex as balancing a least-cost ration for multiple classes of cattle. These calls range from horticulture to holiday cooking and from food preservation to farm financial management.

These contacts often lead to a more in-depth home or ranch visit and are the basis for in-depth training, linking Stillwater County to subject matter specialists on the Montana State University-Bozeman campus as well as to resources in the U.S. Department of Agriculture. In Stillwater County, MSU Extension has been an integral part of local education since 1914 when the first agriculture agent arrived in the county, followed in 1917 by the first family and consumer sciences agent.

Stillwater County Extension is proud to be able to serve the people of Stillwater County. MSU Extension is a partnership of Stillwater County, Montana State University and the U.S. Department of Agriculture. The three-way partnership provides funding for educational resources dedicated to improving the quality of people’s lives by providing research-based knowledge to strengthen the social, economic and environmental well-being of families, communities and agricultural enterprises.

The Stillwater County Family and Consumer Science agent uses expertise in food and nutrition, housing, health, family issues, personal finances, and environmental health to provide innovative and targeted programs based on the needs of Montana families, individuals, businesses and communities.

The Agriculture Agent works with farmers, ranchers, small landowners and researchers through field demonstrations, workshops, and individual visits to help producers and landowners remain profitable.

Stillwater County 4-H strives to provide ample opportunities to the 158 enrolled 4-H members. Market animal and Cloverbuds continue to have the highest enrollments.

Left to right: Lisa Terry, Ashley House and Lee Schmelzer
Extension Programs Benefit the Public in a Variety of Ways

Stillwater County healthy living programs: Diabetes education a top priority in 2017

According to the Stillwater County Health Profile, the leading cause of death in Stillwater County is heart disease. Health and nutrition education help in developing the healthy lifestyle changes that are needed in order to reduce the rate of heart-related deaths. The Stillwater County Healthy Living Program’s aim is to meet the need of reducing heart-related and other health-related deaths in the county. The primary objectives of this MSU Extension Family and Consumer Science program is to manage diabetes in patients already diagnosed, increase muscle mass and strength, reduce risk for osteoporosis and related fractures, reduce risk for developing diabetes, reduce heart disease, arthritis, depression and obesity and improve self-confidence, sleep and vitality.

There are currently several sites within Stillwater County where participants can go for health-related information and classes. A StrongWomen strength training program is held four times weekly at the fourth floor of the Stillwater County Courthouse; Stillwater Strong Hearts and DEEP Diabetes class result for 2017 showed significant decreases in hemoglobin A1C levels. Lisa Terry, Stillwater County FCS Agent, teaching DEEP Diabetes Class. Stillwater County Healthy Living classes reached men and women age 40 and older with nutrition education and exercise regimes. Participants lost an average of 10 pounds, lowered their blood pressure by 10 points, lowered their hemoglobin A1C, a test which shows their average glucose level over time, lowered their LDL (Low-Density Lipoproteins) by twelve points, increased their fruit and vegetable intake by 50%, and developed a weekly exercise routine.
Stillwater 4-H expansion warrants new position

Whether it be number of members enrolled or total number of projects taken, 4-H is continually growing in Stillwater County. Due to the ongoing effort in recruitment the past few years, we have been outgrowing portions of our fairgrounds and pushed to find temporary solutions for fair week. This is a great problem to have and one that we welcome. The number of fair entries increased by 148 more than the 2016 fair year. The recruitment efforts will continue. They started two years ago as an idea from the administrative assistant, Ashley House, to get enrollment numbers up. Her goal was to get the word out about all that 4-H has to offer. She is now working on recruitment of volunteers for specific project areas. There is so much knowledge and creativity in our community that she would love to bring those ideas and expertise into the 4-H program. This year we continued to recruit at farmer’s markets but also tried something new as well; the county 4-H Council donated 20 water bottles to each of the five sports teams within our county for giveaways during the games. Recruitment tags with front to back information including contact information, member and volunteer information, and 4-H statistics were attached to each water bottle and delivered to the schools.

We are excited to continue growing our 4-H program. We would love to see the numbers grow, but are just as excited to know the knowledge and the life skills that our younger generation is obtaining from our leaders are just as much, if not more important, than increasing enrollment numbers.

With increased recruitment and enrollment, the need for an extra position became apparent. Starting at the beginning of 2018, we will have a new position in our office. We are excited to have a part-time administrative assistant join our team. This will allow Ashley House’s position to transition into a more administrative role within 4-H, enabling us to better meet the needs of our 4-H leaders and members in our county.

Extension helps lead vision for new Stillwater Center

This project began over seven years ago with the Library Board of Trustees and their Building Committee to explore the options of a new county library. What came from their meetings was the need to harness synergies with other resources the county already has, and look to have a combined facility with a library and county center to best serve resident’s current and future needs.

The steering committee has been hard at work since 2014 answering the guidelines set forth by the commissioners.

“I got involved with the steering committee because I care about the future of our county and I believe our communities, our children, and our business community need this kind of place,” said Ty Hamilton. The steering committee secured a grant to complete a conceptual design and feasibility study for the proposed new public facility.

The new Stillwater Center is proposed to have a library, county shared office space with MSU Extension and the county economic development offices, as well as a versatile multi-use facility including small meeting rooms, a commercial kitchen with demonstration kitchen, continued (over)
an interchangeable junior high recreational court, a performance theater, and a formal banquet hall.

“This library isn’t your grandfather’s library,” said steering committee member Corky Kem. “A library with stacks of books and a card catalog isn’t that anymore. Today it’s a community hub, a place where people come to learn, get information they need to succeed in school and in business. It’s a place everyone can use to connect to others throughout the state, nation, even other countries both to learn from and to help spur new business.”

“I find the Library County Center Steering Committee’s conceptual design to be very well thought out and it shows the hard work they put into their charge. The county deserves the chance to view the design and get a chance to move forward with taking a concept to a reality,” said Commissioner Crago.

“It’s not a final plan at all. It would be a mistake to look at it that way because that’s not what we intend,” pointed out steering committee member and MSU Extension agent Lee Schmelzer. “We are looking forward to hearing from people from all over the county about what they think we need, and whether or not these early ideas fit their idea. We want to make sure we are on the right track.”
Welcome to Sweet Grass County

Sweet Grass County is located in south central Montana. Don’t confuse the town of Sweetgrass with the county of Sweet Grass. Sweet Grass County became a county in 1895, formed from parts of Park, Meagher, and Yellowstone Counties. It has been at its present size of 1,855 square miles since 1920. The current population is 3,623. Ranching and mining are the primary economic drivers.

When Lewis and Clark traveled through this region they named the area where the Boulder River and Big Timber Creek empty into the Yellowstone River “Rivers Across.” In the late 1800s, an Irish immigrant named the settlement Dornix, meaning “a rock that fits in the hand and is handy for throwing.” In 1883, the town was moved due to complications with the railroad and was re-named Big Timber for its abundance of cottonwood trees lining the banks of the nearby Boulder and Yellowstone Rivers. In fact, a majestic 125-foot-tall cottonwood is located on the banks of the Yellowstone River right outside the city limits and was close to being the national champion cottonwood. Today, 200-year-old cottonwood trees still line the banks of the Yellowstone River, meaning they are the same trees as the ones Lewis and Clark passed by two centuries ago.

Sweet Grass County is home to the Crazy Mountains. There are several theories on how this range was named. The Indians called them the Mad Mountains for their rugged beauty and haunting winds that blow down the canyons. The Indians referred to the highest peak as Awahawapiia Peak, meaning mad mountain. It was so called because they could not tell if the weather was going to be fair or stormy, as all signs failed in that region.

Geology plays a part in another theory. The lava upthrusts are young in the perspective of time and do not fit in with neighboring rock formations, hence the name “Crazy,” or because of being wholly disconnected from any other range and being a sort of “crazy” formation.

Another theory, and more widely accepted, is a woman went mad on the prairie. Perhaps this was due to an attack and death of her family. She took refuge in the mountains. Indian belief required crazy people to be left alone. The legend lives on in the movie “Jeremiah Johnson.”
Livestock Judging Teaches Life Skills

Livestock judging is a 4-H event in which youth place classes of four animals after considering the species and desired use for the livestock. Several classes are placed and oral reasons are presented on a predetermined number of the classes in the contest. This activity uses livestock as a vehicle to teach youth time management skills, decision making skills, and oral presentation skills, as well as industry standards for each species of livestock. During the 2017 4-H year, youth from Sweet Grass County competed in numerous local and national contests. Youth members competed in Phoenix, Arizona; Denver, Colorado; Kearney, Nebraska; Twin Falls, Idaho; Spanish Fork, Utah and Louisville, Kentucky. These youth placed fourth overall in Arizona, fourth in Denver, second in Nebraska, first in Idaho and Utah and finished eighth overall in Kentucky.

The contest in Kentucky is the North American International Livestock Exhibition and is considered the National 4-H Championship Contest. Jess Moody from Big Timber was the Reserve National Champion at this prestigious contest and his teammate Dylan Laverell was the Reserve National Champion Sheep judge at this contest. This activity has allowed students to showcase their abilities and has resulted in these students receiving college scholarships to continue their post-secondary educations. Moody received a full-ride scholarship as a result of his abilities in this activity and he is currently enjoying a tuition free education at an institute of higher learning. Since 1996, students from Sweet Grass County have accumulated over $320,000 in scholarships for livestock judging at colleges across the U. S.

Wool Harvesting and Marketing

During the 1950s and 1960s, Sweet Grass County was the largest inland shipping point of domestic wool in the region. During the late 1990s the number of sheep began a rapid decline in our region. Today there are 38 producers actively marketing wool through the Sweet Grass County Wool Pool. The Extension office plays a vital role in the Sweet Grass County Wool Pool. The Sweet Grass County agent manages the warehouse inventory, cores the wool, sorts the wool into marketing lines, provides harvesting information to the growers and advises the Wool Marketing committee on marketing options and market dynamics for the current inventory. The wool grading and coring was extremely important to the growers involved in the pool during the 2017 marketing year. One producer who markets 7,553 pounds of wool was able to improve his clip by grading and proper harvesting, and that translated into an additional $1,815 to this producer. Thirteen other growers also improved their wool clip through grading and sorting, resulting in an increase of $10,958 on 11,125 pounds of wool.
During the 2017 shearing year, the Sweet Grass County Extension office was able to acquire a new tool to measure the fiber diameter of wool prior to shearing. The FibreLux instrument allowed producers to sort fleeces prior to shearing and to package them into lots that resulted in the increased revenue for the producers.

**Rancher Roundtable Discussions**

In an effort to leverage rancher’s limited time, yet still provide quality educational opportunities, Sweet Grass County Extension collaborated with the Crazy Mountain Stockgrowers Association to present four educational sessions. The sessions started with a day-long cattle handling workshop that provided guidance comparing being on foot, to horseback, to working cattle with ATVs. This session also provided producers the opportunity to become BQA certified. The following three sessions were evening sessions that focused on estate planning, emerging technologies in the cattle industry and forage crops.

One hundred and twelve area ranchers participated in at least one of the sessions, representing 56 ranches in Sweet Grass County.

Post-session evaluations indicated that all participants found the sessions to be timely and very educational as they applied to their respective operations. At least two respondents have reported that the cattle handling workshop has had a direct impact on their ranch and the ATV section of the talk has changed the way they and their employees view and use ATVs. Further, three ranches have implemented a genetic testing protocol following information received in the emerging technologies session. The discussion on forages has led to an increased interest in annual crop options for forages in Sweet Grass County and there has been a notable increase in the acreage planted to Willow Creek Winter Wheat.
**Sweet Grass County Cover Crop Project**

The Sweet Grass County Extension office has been working with local producers to plant and evaluate alternative crops, such as cover crop cocktails. This program is due to the increased frequency of drought conditions in our region and a local interest in soil health. These crops have been planted on approximately 1200 acres in Sweet Grass County. Throughout the growing season, plots were monitored for growth characteristics of each of the species in the mix. In late August, the plots were clipped to measure bio-mass produced. Soil pits were also excavated to evaluate root structure of the plants, look at soil properties and to evaluate root penetration. Soil samples were also taken and sent to labs to measure a wide range of soil dynamics. During the course of the growing season, three field days were held for producers to evaluate the plantings. These field days were attended by 43 producers. The crops were then terminated by grazing with producer-owned cattle and days of forage availability and animal plant selection were monitored. Data is being evaluated currently. However, preliminary production data from two of the plots showed 5,821 pounds per acre and 6,558 pounds per acre of usable plant material.

This ongoing project will continue to evaluate the long-term effects and production potential of cover crop mixes in Sweet Grass County. The next step of this project will be to document ideal seasons of use for the different mixtures, which in the long term will provide agriculturalists with another cropping tool to improve soil properties on their operations while also providing alternative forage resources.

LEFT: Monitoring cover crop production
RIGHT: A field of cover crops
Thank you for your part in making Montana State University Extension relevant and successful in providing educational programs for the citizens of Teton County. This annual report highlights some of the MSU Extension success stories in Teton County.

We want to extend a special thank you to the Teton County Commissioners and voters in Teton County for their continued support of MSU Extension. We also want to thank the many volunteers, participants, readers and listeners who help us deliver our important educational messages.

When you support MSU Extension, the citizens of Teton County and Montana benefit.
Planting the seeds and growing human capital

This year, community development seeds were scattered throughout the county with Leading Local and Board Training classes reaching 20 participants. MSU Extension in Teton County also coordinated with MSU Extension specialist, Paul Lachapelle, to offer a statewide small business webinar series based on requests from local business owners.

From 2009-11, MSU Extension in Teton County facilitated the Horizons community development program in Choteau and Fairfield. The seeds of the Horizons program are now firmly rooted and continue to bear fruit for our communities.

The following were program ideas that were developed during Horizons and continue to be implemented throughout the county.

Opportunities for All Scholarship Inc. (OAS) was established to provide scholarships for low-income adults and children to take advantage of fee-based amenities and enrichment programs in our community. OAS has helped youth attend preschool, swim lessons, and fitness classes; teenagers partake in educational tours, college workshops and private music lessons; and adults learn yoga. OAS helped a first-year college student purchase books and noted that she was listed on the honor roll -- a gratifying outcome. For seven years, OAS has given between $2,000 and $6,400 yearly to provide educational enrichment for children, adults and families.

Neighbors Helping Neighbors (NHN) offers a wide variety of aid in Teton County. A man received dental assistance because he was in constant pain and unable to work. His health was restored and he secured a good job. He continues to make small ‘paybacks’ to NHN and said, “You changed my life and I can’t thank you enough.” A young family needed help with rent and a utility bill due to job loss. Within two months, the husband had a new job and repaid NHN. He explained, “I can now help someone else. Your help saved our family.” NHN assists families so they can be sustainable by giving a ‘hand up’. In 2017, $23,980 was spent directly on projects.

Another Horizons goal was to add a service learning requirement for graduation from Choteau High School. While the idea took some time to germinate and bloom, the school now requires 20 hours of service learning prior to graduation. This averages to 560 hours of youth service yearly.

Fairfield identified community needs of housing, retirement and jobs. The community actively pursued the building of an assisted living facility. Front Range Assisted Living was originally built with 15 rooms and has expanded to 27 rooms. It has been fully occupied for nearly three years. There is a staff of 18 at the facility. The community development efforts in Fairfield led to solutions, including job creation.

MSU Extension grows human capital in our communities.

Vibrant Citizens, Vibrant Communities!
Half the battle is mental to be healthy as a whole, mental wellness plays a role.

The World Health Organization defines health as a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

In a recent Teton County Community Health Needs Assessment, mental health was one of the top three concerns, along with addiction and alcohol/drug abuse. Depression, anxiety and stress were rated the top mental health issues in Teton County. When analyzing needed health services, respondents reported a lack of mental health providers.

Even before the county health assessment, MSU Extension in Teton County had been laying the groundwork to respond to these community needs. In conjunction with the MSU Center for Mental Health Research and Recovery, we offered the internet-based THRIVE program, a cognitive behavior therapy. An extensive marketing campaign about the THRIVE program resulted in 18 residents enrolling in therapy. Only three counties in the state had more participants.

Another program addressing needs in the county is the Youth Aware of Mental Health (YAM) program. In the largest and most rigorous study of its kind, YAM reduced suicide attempts by 59% and suicidal thoughts by 52%. In the fall of 2017, MSU Extension agent Jane Wolery offered the five-week YAM program to all schools in Teton County. Fairfield, Choteau and Powers schools participated. The program reached 115 students. A faculty member in Fairfield observed distinct changes in students’ abilities to identify and seek help for mental health needs.

As a complement to the other mental health educational programs, Wolery developed and taught TNT – Teens and Tension. The class offered coping mechanisms for stress and time management skills, as well as mental health resources, for two youth groups in the county.

In Teton County, MSU Extension offered two additional adult education programs that teach skills and strengthen family relations, which are components of mental health. The eParenting education program reached a majority of parents with school-age children. eParenting offers weekly tips to parents for connecting with their children. A second program, Powerful Tools for Caregivers, provided 14 caregivers tools for coping. One participant said, “This program has been so meaningful, not only in reducing my stress, but also in the quality of care I can provide to my husband.”

MSU Extension in Teton County provides the tools and training for youth and adults to become emotionally resilient.
TOP TO BOTTOM: 4-H members enjoy outdoor recreation while learning archery skills at camp; learn timeless project skills and valuable interviewing skills through 4-H (Madeline and fair entries); and practice leadership and teamwork (making noodles at camp).

161 Enrolled Youth Members
17 Cloverbuds
76 Certified 4-H Volunteers
350 Additional youth reached with enrichment programs
6 Community Clubs
2 Project Clubs – Shooting Sports
3000+ Hours donated by volunteers
24 Youth in executive officer positions
12 Participants in Leadership Retreat
36 Youth and adults serving on county committees
46 Youth learners at 4-H Camp
64 Cash Camp Money Management Students
2231 Pounds of food collected for Teton County Food Pantry
$761 Donations generated for Food Pantry
5 Livestock evaluation participants
3 Teton County 4-H Ambassadors
88 Members in livestock projects
$139,660 Invested in youth agricultural pursuits
12 Clover Communications youth presenters
6 District Make It with Wool contestants
Numerous Club Service Projects:
  Community, County, State, National and International
  5 Montana 4-H Congress participants
  2 First and second place Career Communications Winners at Montana 4-H Congress
  1 Third place Illustrated Talk winner at Montana 4-H Congress
  2 Montana State 4-H Ambassador officer applicants
  1 Montana 4-H Ambassador President
  1 Montana Make It with Wool contestant
  2 National 4-H Congress delegates
  2 National 4-H Shooting Sports Championship Competitors
  1 National 4-H Western Heritage Shooting Sport Competitor
  1 Citizenship Washington Focus Inauguration delegate
**4-H: A fundamental addition for our communities**

4-H in Teton County grows tomorrow’s community leaders and service volunteers. 4-H alumni serve as board members, county commissioners and volunteers throughout the county. One current 4-H member stated, “4-H is a youth leadership organization that teaches young people necessary life skills. Some of these skills include public speaking, record keeping, livestock management, sewing, cooking, robotics, computer skills, and any manner of other necessities. 4-H also gives youth a constructive outlet for their creativity and abilities. Most of the successful young adults in my community are involved with 4-H. All people should recognize 4-H is building future leaders who will eventually be the leaders of our state, country, and world. The future rests on these young 4-Her’s. This essential organization allows for the possibility of a better tomorrow.”

From current membership to alumni, the 4-H program has a far-reaching impact on our communities. Numerous graduates have credited 4-H with their successful entry into adulthood and into their chosen career. Youth are able to explore a variety of projects and skills that help them focus on career paths. One former 4-H member credits his photography project with his current profession. Another credits 4-H with his early interest and training in range management. He plans to use plant pathology to help Montanans produce high-yield, high-quality, sustainable crops and credits 4-H for his goals. A doctoral student has shared that her work with NASA and her presentations at national meetings have been directly impacted by 4-H training. Many Teton County agriculture producers got their early start in agricultural pursuits through 4-H.

The 4-H program teaches skills that add to the fiber of our rural communities. While the entire impact of 4-H may never be truly calculated, it is expressed in the hearts, heads, hands and health of our youth and our communities.
Agriculture Services and Pesticide Education

Diagnostic Services

The MSU Extension office in Teton County recorded 2,923 contacts on ag/natural resources issues in the 2017 production year. Those contacts generated a conservative $28,945 in savings or returned revenue to producers. MSU Extension in Teton County strives to offer the best diagnostic capabilities for commodity grain and pulse producers, forage growers, commercial horticulture, and homeowners. We offer insect and weed identification, disease analysis through the Schutter Diagnostic Lab at MSU, pest insect monitoring, water testing through Energy Laboratories, forage analysis through Midwest Labs and in-house testing for nitrates in forages pre- and post-harvest. MSU Extension in Teton County provided diagnostic and educational services to 320 Teton County residents. The office provided traps and monitored seven fields across the county for Orange Wheat Blossom Midge weekly, submitted 23 samples for disease diagnosis or identification to the Schutter Diagnostic Lab, sent 37 forage samples and soil samples for analysis, and conducted 78 nitrate tests for producers. One spring wheat field required additional monitoring due to high Orange Wheat Blossom Midge numbers, but no insecticide application was ultimately required. Forage producers saved $1,170 on nitrate tests for their hay. Due to the dry conditions over the summer, many producers took advantage of this service to ensure their grain regrowth was safe to graze. Fifty-nine samples were sent to professional laboratories for more detailed analysis. Several producers used MSU Extension in conjunction with local veterinarians to try and diagnose losses occurring in calves.

Pesticide Education

Pesticide applicator certification enables producers and commercial applicators to purchase and use restricted use pesticides. MSU Extension, in an agreement with Montana Department of Agriculture, is responsible for educating applicators and handlers on current regulatory changes and safety precautions. The two agencies work together to keep people and the environment safe. Five producers in Teton County became newly certified to apply restricted use pesticides on their property and 39 received continuing education training. These producers now have more options to control weeds and a better understanding of how to protect themselves, their family, and the environment from pesticide misuse.
The Teton County Community Health Needs Assessment identified the top three concerns as addiction, mental health and chronic health conditions. MSU Extension is involved in an Addictions Task Force, the THRIVE and Youth Aware of Mental Health programs. For more information on mental health programs, see page 3.

MSU Extension collaborates to offer the six-week series, Living Life Well, which has empowered 20 participants to cope with chronic diseases. To address chronic illness, MSU offers numerous classes including Living Life Well, Diabetes Empowerment Education Program, Strong People, Powerful Tools for Caregivers and works with Teton County Health Department on the Healthy Tracks Program.

The percentage of Montana adults with diagnosed diabetes increased from 2.8% in 1990 to 8% in 2016. Diabetes has long-term costs associated with care. Wolery instructs classes for the Healthy Tracks program, aimed at reducing diabetes and cardiac diseases. She has been involved with the nine-month educational and behavior change program for seven years. Results indicate a reduction of diabetes risk factors by 58% over three years, and by 34% in the long-term. By learning wellness management tools, participants added 2.5 hours of exercise weekly, lost weight and reduced medications. Since 2011, 147 county residents have completed the course.

The Diabetes Empowerment Education Program (DEEP) is designed to increase self-management skills for people with diabetes and to facilitate behavioral change, reducing the personal, financial and societal costs of diabetes. Eleven students joined the six-week series. After class, students understood how diabetes works and affects all the parts of the body. They saw links between their diabetes management and blood pressure, cholesterol, stroke and cardiovascular disease. They gained skills in nutrition, fitness, medications and monitoring to reduce the impact of the disease.

In 2016-17, the StrongPeople class met twice a week for five months. Participants built their strength through weight-bearing exercises. Once class members perfected their form, Wolery added bonus topics of nutrition, financial management, aging in place, and fall prevention to the class. Participants became “education multipliers” in the community as they share educational materials with others. For example, materials from Stepping On Fall Prevention curriculum, which was incorporated into the StrongPeople sessions, was shared with 15 additional people. Class participants reported improved balance, strength, mental health and independence as a result of the class.

Other Extension offerings included food preparation and nutrition classes, food safety, youth hand hygiene and illness reduction, and assistive devices for those who need adaptation for changing abilities. Through MSU Extension, residents in Teton County benefit from classes and resources that keep them well, healthy and independent.
Welcome to Toole County

Toole County is made up of 1,915.65 square miles and has a population base of 2.8 persons per square mile. The incorporated city of Shelby, population 3,376, serves as the county seat. Other cities and towns in Toole County include Ethridge, Galata, Kevin, Oilmont, Sunburst, and Sweetgrass. Situated in northern Montana, Canada is Toole County’s northern boundary, with the Marias River flowing along a major portion of its southern boundary.

Mining, agriculture, utilities, and transportation and warehousing are competitively positioned for growth and new business opportunities. These capitalize on the county’s geographic location (major rail service, east/west & north/south highways, on the Canadian border, access to raw materials).

Toole County’s 4-H program is unique in the state because of the four-county Marias Fair, held at the Marias Fairgrounds outside of Shelby. Our 65 4-H members join together with Pondera, Glacier, and Liberty County to exhibit projects and sell their livestock at the Marias Fair.

Toole County Ambassadors

From the two large towns of Shelby and Sunburst, there are four young adults who applied to be 4-H Ambassadors for the 2017-2018 4-H year. This is the second year Toole County has had an ambassador program since the revival of the program. 4-Her’s have become excellent leaders in county program. If an ambassador is unable to cover an event, the others step up and make sure the role is filled. The Extension agents and 4-H club leaders count on these 4-Her’s to be present and assist in various duties such as being camp counselors, and attending 4-H Congress and Ambassador Fall Training. The teens exhibited their leadership skills this year at 4-H Camp.

Every year, youth leaders serve as camp counselors at the 4-H Camp in the Bears Paw Mountains that includes Toole, Glacier, Pondera, Liberty, Hill, Blaine, Chouteau, and Phillips Counties. The youth leaders chaperone a cabin of younger 4-H members and decorate their cabin depending on the theme they collectively chose. The ambassadors become role models for over 100 young 4-Her’s during the week of camp and they get the opportunity to network and communicate with teen leaders from the other counties.

This summer, three of our young leaders attended 4-H Congress in Bozeman. One ambassador competed in the speech contest; although he did not place in the competition, he learned the valuable lesson to prepare and practice a speech beforehand. Two ambassadors attended the Ambassador Fall Training in Billings. During this conference, these young leaders continue to work on leadership skills and find inspiration to work hard in their 4-H clubs and other organizations.
Toole County MSU Extension is excited to have the ambassador program again at the county level to provide an opportunity for young adults to continue working on leadership and communication skills.

**Marias Fair 4-H Bathrooms Improved**

The Marias 4-H Fair is a community of families, leaders and staff that work together to provide valuable educational experiences and a positive environment for our youth. The 4-H Bathrooms are an example of this community working together. MSU Extension Agent Alice Burchak facilitated this project with volunteers and the Marias Fair Board.

Five years ago, Rebecca Ratzburg and Jordon Stoltz got to know each other while working at the 4-H Food Booth. The young ladies both felt there were some issues with the condition of the 4-H Bathroom located near the exhibit building. They began to brainstorm how to improve the bathroom. Four years later, their collaborations resulted in a brand new 4-H bathroom.

The first year, they focused on sprucing up the bathroom, but decided that wasn’t enough. For the next few years, they fundraised to build a new bathroom. They organized event fundraisers, accumulated donations from local organizations and businesses, and convinced fellow 4-H members to donate a portion of market animal checks.

After four years of fundraising, they reached their goal of $65,000 to build new bathrooms. They researched building material costs and worked with John McFarland to draw up a plan. In this effort, Ratzburg and Stoltz demonstrated their excellent leadership and community building abilities.

The construction of the bathrooms demonstrated the power of 4-H volunteerism. Conrad Building Supply provided plans for the building and cost estimates for materials. John McFarland volunteered to provide materials at a reduced cost, and donated $3000 dollars to the project. This spring, volunteers with professional building skills stepped up to build the bathroom. Cody Waldusky coordinated construction, and he recruited fellow 4-H parents Steve Clark and Lloyd Omdahl to provide services in building the bathroom. Northwest Farm Credit Services made a major donation for the building and also spent a day at the fairgrounds to paint inside of the bathrooms. More than 500 hours of professional services were donated to the construction, valued at approximately $15,000 dollars.

This project involved all four counties in the Marias 4-H Fair and demonstrated the leadership, community and volunteerism that is an integral part of 4-H.

**YAM Comes to Shelby High School**

MSU Extension in Toole County provided the Youth Aware of Mental Health (YAM) program to ninth and tenth grade students in the high school in September and October. The YAM program consisted of five weekly sessions that were taught in Shelby physical education classes as part of the curriculum. YAM is a mental health resiliency program that, when tested in Europe, provided the best evidence for preventing suicide attempts and suicidal thoughts in adolescents. The program, taught by Alice Burchak and Kim Suta, provides youth with basic mental health information, coping skills and emotional intelligence training, problem-solving and positive peer relations.

Besides actively engaging youth in problem-solving and coping skills, YAM has been shown to reduce suicide attempts and suicidal thoughts in youth. In fact, in the largest study to date, when compared to other leading programs, YAM was shown to be the most effective suicide prevention program. Even if your child is not at risk for suicide, the program helps youth learn to help friends and peers who may be struggling with suicidal thoughts and depression.

During the YAM program, students learned problem solving skills through discussion and role playing. This provided students an opportunity to think through a difficult situation beforehand, so they could clearly consider consequences of their choices versus having to make a decision immediately in a difficult situation. Students also learn about the symptom and signs from left to right: Lloyd Omdahl, Steve Clark, Cody Waldusky, Rebecca Ratzburg, and Jordon Stoltz. Photo courtesy Cut Bank Pioneer Press.
of depression and how to talk to and get help for someone that may be suicidal. One SHS student stated “No one ever talks to us about the things we discuss in YAM.”

As part of the YAM experience, students were offered the opportunity to participate in an evaluation of the feasibility and acceptability of YAM for Montana students. This evaluation consisted of two surveys, one before and one three months after the YAM program. Results from surveys will be available later in 2018.

The YAM program in Montana is supported through a collaboration of MSU Extension and the MSU Center for Mental Health Research and Recovery (CMHRR).

**Master Gardeners in Toole County**

Toole County was home to nine very enthusiastic Level 1 Master Gardeners this year. The program started in February and lasted eight weeks.

The Level 1 Master Gardener class is an eight-week course designed for beginning to intermediate gardeners that covers subjects including soils, fertility, plant growth and development, growing flowers and food in the garden, lawn care, irrigation, pest management, composting, and proper tree, shrub, and vine planting and care.

To earn certificates, the Master Gardeners had to complete 20 hours of volunteer work for the community. This included a variety of activities and is determined by the participant. Past Master Gardeners have assisted at Shelby’s community garden, represented MSU Extension at fair or the farmer’s markets, or installed and maintained public gardens in coordination with area communities.

One of our Master Gardeners used her community service hours to go above and beyond to start a Garden Club in Shelby. They meet monthly and they have gone on tours with other garden clubs around the state. They took an international tour to Canada to see the gardens in Lethbridge. Although it is a club of few members, they have been very active in the community with a float in the Christmas parade and booths at various trade shows in the community.

Toole County’s Master Gardeners look forward to Master Gardener Level 2 coming up later this winter.

**Social Media Promotion in Toole County MSU Extension**

In an age where newspaper articles, snail mail, and radio reports are less dependable for advertisements, social media advertising is finding more success. Toole County MSU Extension has started using social media for advertising our programs. Social media has been helpful in promoting workshops and speakers for upcoming conferences.

Toole County has a Facebook page to help distribute workshop information. Events on our Facebook page provide an easy way to invite people to a workshop, and if others are interested, they can RSVP right on the event page. Visit the Facebook page to find information and photos of MSU Extension events. This new outreach has helped our office promote Extension agent Alice Burchak’s canning workshops.

One of the duties of Kim Woodring, the Toole County Agriculture Agent, is to help the planning committee for Montana’s Next Generation Conference held annually in Shelby. Last year, she assisted in promoting speakers for the conference on Facebook with a description and link to the online registration form. Daily posts and reminders reached more attendees than through only using traditional newspaper advertising.

This year, Woodring was appointed to the Young Agriculture Leadership Conference board as the 4-H Foundation representative. As a new member without an official job, she took on the social media campaign because of her experience with Montana’s Next Generation Conference. Every day, she shared social media photos and information on upcoming speakers.

Facebook and other social media channels have become a valuable tool to share information about programs and highlights of past workshops.
Toole County Poultry Club

This year the Toole County MSU Extension office organized a Poultry Club. This new program provided town kids with the opportunity to raise an animal and show it at the Marias Fair. Both traditional 4-H and non-4-H members participated in the project. The group raised 30 chicks while learning how to care for birds and gain skills in showing them at Fair.

The club meets once a week for four months. Experiential Learning Model lessons helped members practice inquiry, collaboration and communication skills in the program. Lessons focused on identifying breeds of chickens, understanding chicken anatomy, and learning about the life cycle of poultry. Two teen leaders, Landan Omdahl and Shane Samsal, helped with the club by providing clinics on showmanship and other duties. These teen leaders gained organization and leadership skills by helping lead this program.

The project started with 14 youth in late March when day-old chicks arrived at the Marias Fairgrounds. Members set up the brooding coop for chicks and learned how to take care of newly-hatched birds. That included monitoring coop temperatures, watching for signs of illness, and feeding and watering. As birds grew, members transitioned them into a larger indoor pen and then an outdoor pen until fair time in July. Families each took a weekday to water and feed chickens. After fair, the chickens were placed in permanent homes.

In June, members started learning how to show their chickens at fair. By July, members had learned how to bathe chickens, show different parts of the bird to the judge, and answer questions about the breed of their chicken. A mom of one member said, “My son would have never had the opportunity to raise a farm animal without this project. We do not have the facility for chickens in town. He learned so much from this project.”

Many partners contributed to program success: leaders Barb Larsen and Sarah Brown provided education and support; the Department of Agriculture gave a $200 grant for wire for the outdoor coop; CHS provided chicken feed; and the project received a $200 grant to purchase an incubator to hatch chickens locally next year.

The project provided opportunities for youth in the community to have a learning experience that may not have been possible without the program.

LEFT TO RIGHT: Poultry Club members practicing showing chickens; dying eggs; holding a baby chick.
Welcome to Valley County

Valley County is situated in the Northeastern corner of Montana, bordered by Canada to the north and the Missouri River to the south. The U.S. Census estimates that the number of people residing in Valley County at 7,539 giving it a population density of approximately 1.5 people per square mile. Valley County’s 5,062 square miles were carved out of Dawson County in 1893. The county seat was known as Siding 45 until 1887, when a railroad clerk randomly poked his finger at a spinning globe thereby naming the site Glasgow. Fort Peck Dam was built in the 1930s as part of F.D. Roosevelt’s New Deal, becoming a lifeline for the economy of Valley County after drought and crop failures had depressed the area. The county supports some of the best warm water fishing, elk, deer and antelope hunting, and dinosaur fossils. Valley County is primarily an agricultural community where small grains, pulse crops, cattle and sheep are grown.
Beekeeping workshops make an impact in Northeast Montana

With increased awareness of the importance of pollinators, bees and beekeeping has become much more mainstream today than 30 years ago. Three workshops – Beginning Beekeeping, In the Bee Yard, and Harvesting and Winterizing – were held on Saturdays in March, May and September respectively. Bee enthusiasts from five counties attended the day-long workshops which included lunch, demonstrations and door prizes.

During the first workshop, participants learned the basics of bee biology, plants and planting for foraging bees, and how to manage bees according to a beekeepers calendar. Patricia Gilbert (Natural Resource Specialist for the U.S. Army Corps of Engineers) demonstrated the new observation hive for the Fort Peck Interpretive Center and shared her experience with the Australian built Flow Hive™. Other guest speakers included Rick Molenda of Montana Bee Supply in Polson, who demonstrated beekeeping equipment, and Beth Eiring from the Montana Department of Agriculture, who spoke about the Montana Apiary program and pests of the hive.

For the second workshop, Jim Rodenberg a local commercial beekeeper, taught the participants how to open hives; check bees; identify when to add brood and honey boxes; how to detect mites, eggs, larvae, and pupae, and find the queen. The hands-on nature of this workshop and the access to such a valuable resource as Jim Rodenberg made this the highest ranked program of the three.

The final workshop focused on extracting and harvesting honey, utilizing bee products, and preparing hives for winter. Jim Rodenberg demonstrated how to prepare hives for winter while Patricia Gilbert, who has kept bees for five years, demonstrated how to extract honey from the traditional hives as well as the Flow Hive™, and encouraged hands-on participation.

Sixty-five percent of attendees to the first workshop returned for one or both of the other workshops. Based on survey results from 17 participants, their confidence level and understanding in purchasing and using equipment; bee biology; varroa mite management; and hive winterization, improved an average of 41% following the workshops. Eleven of 16 survey respondents already had bees when they attended
the workshop, but four of the remaining five said that attending the first workshop gave them the confidence to try beekeeping. Participants praised the workshops highly by ranking them at 1.6 on a scale of one (highest) to five (lowest) and asked for more workshops in 2018.

**Workshops provide invasive weed management strategies that save money**

Narrowleaf hawksbeard, a new invasive weed in northeastern Montana has become an increasing problem for area farmers and ranchers. Though technically a winter annual, the weed has the ability to germinate whenever conditions are favorable, and can have several generations per year. It is extremely cold hardy and a prolific seed producer. It infests crops, rangeland, CRP, pastures, hay meadows and roadsides and waste areas. It has spread through six Montana counties and into North Dakota. It is the Weed of the Year for North Dakota in 2018.

Research by Ed Davis, MSU Weed Specialist; Brian Jenks, NDSU Weed Specialist; Jane Mangold, Extension Rangeland Weed Specialist; and Shelley Mills, Valley County MSU Extension agent, over the last four years has provided growers with options to manage this weed when little was known about it. Mills has presented research findings to groups of producers and agronomists 18 times in the last two years across northeastern Montana and as far away as Boise, Idaho. In a recent survey of 48 participants of the workshops, 92% had incorporated some management strategy learned through MSU Extension programming.

Area agronomists attending the workshop noticed an 82% increase in hawksbeard inquiries from producers looking to manage weeds over the last two years.

Over 80% of the attendees added fall applications, spring and fall applications, and selected herbicides based on their ability to manage hawksbeard after learning that these strategies can help to minimize the impact of the weed. Other approaches included applying herbicides earlier in the spring and later in the fall, changing the rate of glyphosate products used in burn-down operations, rotating crops, and tillage. Producers also felt more confident in their identification and herbicide selection when managing hawksbeard following the workshops.

Currently hawksbeard is being managed on 109,350 acres of the 189,900 acres of crop land owned or managed by 48 respondents, with roughly another 30,000 acres at high risk of infestation. Without the management techniques taught by MSU Extension, growers estimated an average loss of $63 per acre, which represents a total of $6,127,000 in potential lost revenue to narrowleaf hawksbeard.

**LEFT:** A field of wheat infested with narrowleaf hawksbeard. Control is very difficult in this stage.  
**MIDDLE:** Narrowleaf hawksbeard usually blooms in late June to early July but it has been noticed blooming anytime from May through November.  
**RIGHT:** The seeds of narrowleaf hawksbeard resemble dandelions and can float aloft for several miles. Each plant can produce from 3,000 to 50,000 seeds. Photos by Shelley Mills.
Positive youth development using STEM Activities

Science, technology, engineering and mathematics (STEM) programs, combine the strengths of experiential, hands-on education and inquiry-based science learning within a positive youth development framework. Valley County MSU Extension agent Roubie Younkin strives to address the developmental and educational needs of young people in an effort to develop a foundation of skills for productive, competitive, and civic-minded students.

STEM programming develops a set of thinking, reasoning, teamwork, investigative, and creative skills that students can use in all areas of their lives. STEM activities focus on real-world issues and problems often identified by the students. Lessons are guided by a flexible process that takes students from identifying a problem to creating a solution through productive teamwork.

Valley County MSU Extension serves hundreds of students during school time and out-of-school time settings by offering engaging STEM programming. Valley County youth are provided a variety of free choice and hands-on learning opportunities that promote excitement in learning about natural phenomena.

4-H afterschool students express enthusiasm for these hands-on activities, saying “I love STEM” or “What are we going to build today?” Science Sleuths participants were overhead telling friends “you should come to tonight’s program, we learn cool stuff.” Glasgow High School students are reported by their teachers to have increased social skills, communication skills, and are more successful in group projects.

Students reported the following data:
- 89% have felt increased interest in science and math classrooms
- 100% planned to attend future Science Sleuths sessions
- 95% felt challenged by the engineering challenges presented during 4-H afterschool and Science Sleuths
MSU Extension offers professional development for educators

Good teachers become great teachers when they go beyond the textbook to create an experiential learning environment. MSU Extension agents Shelley Mills and Roubie Younkin provide continuing education opportunities each year for local teachers. Workshop topics give teachers an extra boost of creativity, provide ideas to incorporate STEM activities in their classrooms, allow for networking with other educators and a direct link between MSU and Montana. Teachers leave the two-day workshop with a toolbox of ideas to integrate expanded science, technology, engineering, art and math into their classrooms, as well as 16 OPI renewal units and the option for one undergraduate or graduate credit from MSU-Northern. Ideas incorporated from this learning experience increase teacher’s effectiveness in the classroom and improve the learning experience of their students.

Participants report that attending continuing education close to home provides the ability to meet renewal unit requirements without incurring travel expenses. Teachers also report that by attending with other teachers from their schools, they can collaborate with others who attended this workshop to more easily implement ideas in their classrooms.

Program data summary:
- 83% of attendees (24) have utilized something they learned in a previous Teacher Workshop in their classroom.
- 96% said they prefer the activity-based program offered by MSU Extension. 88% said they preferred instruction from county agents over guest speakers.
- 96% said they felt the experience was worthwhile.
- 100% said they would attend future workshops.
- 54% said they would have spent over $200 in expenses if they had to attend this workshop elsewhere.

Healthy Living with MSU Extension

Self-management is at the heart of living with arthritis. Regular exercise has been proven to increase flexibility and alleviate the associated pain. MSU Extension agent Roubie Younkin hosts weekly arthritis exercise classes for participants suffering from joint pain. Exercises strengthen the muscles around joints, help maintain bone strength and enhance the quality of life for those exercising regularly. Strength-based exercise concepts from the Strong Women program are also incorporated into classes where participants increase bone density through a series of stretches and weight-bearing activities.

Weekly nutrition education focuses on heart health, diabetes management, increasing vegetable and fruit consumption and adapting recipes to fit a healthy diet.

Some participants report having increased energy levels and enjoying mealtimes with their families. One Strong Women participant says, “My husband bought a new pickup last year and had to buy a step stool for me to use to get in. Since doing these exercises I can get into his pickup myself without the stool.”

RIGHT, L-R: Joyce Peters, Roubie Younkin, Louise Uphaus, Mona Amundson, Sheila Doll, Betty Vegge, Alyce Tracy, Nancy Koessel, Connie Wethern. Photo by Carol Christensen

Photo by Roubie Younkin
Welcome to Wheatland County

Wheatland County was without Extension for over 70 years. Since 2004, Montana State University has been proud to partner with Wheatland County to bring Extension back to the county.

Wheatland County is located in the heart of Central Montana. The county is served by one agent who offers programs in 4-H and youth development, community and economic development, agriculture and natural resources, and family and consumer sciences. Programs are developed to meet the emerging needs and interests of community members and vary from afterschool programming to assisting with writing grants or pesticide education.

The population is about 2,100 people and Harlowton is the county seat and the largest community with a population of around 900. Wheatland County is a strongly agriculture based community with a deep heritage of generational ranches. Producers primarily run cow-calf operations and raise hay. Wheatland County also has a strong small business community. Recently, the economy has benefited from the development of wind resources for alternative energy.

Crazy Mountains
Empowering Emerging Leaders Through Community Development

A local, grassroots Mom’s group brought concerns about our local playground forward and addressed the Harlowton City Council. They were concerned about the limited opportunities for pre-school aged youth, the inadequate fence surrounding the area, and that several pieces of equipment were dangerous. The City of Harlowton asked Montana State University Extension to partner with the Mom’s group and help coordinate the project.

Wheatland County MSU Extension agent Mandie Reed facilitated planning meetings using the appreciative inquiry process. This positive, asset-focused process helped the group form a unified vision and identify their goals for the project, without becoming bogged-down in a tedious process. The group successfully included the Public Works Director and the City Mayor in discussions to ensure the ideas were feasible and could be maintained. After participating in the process, the group developed plans for a large-scale playground renovation including a new fence, fall protection for all equipment, and equipment that met the needs of children of all ages and abilities.

Wheatland County MSU Extension took the lead on writing grants to fund the project and the Mom’s group worked on local fundraisers. They were successful in receiving $169,466 in grant funding and $21,029 in community donations and from fundraisers to fund the playground renovation.

The playground renovation is a source of community pride and excitement. The Wheatland County Chamber of Commerce recently partnered with the City of Harlowton to upgrade the RV campsites adjacent to the playground. This project created an even better facility at Chief Joseph Park. One visitor this season commented that the facility was so perfect for their family, they were going to plan their travel to include a stop in Harlowton.

Ownership in this project encouraged the members of the Mom’s group to become engaged in leadership roles in other areas of the community. What began as a simple project, maybe a fence and a new playground structure, grew into a complete playground renovation that is a gem in the heart of our park. Each of the members of the original Mom’s group feels ownership in creating this space for our community. They also engaged nearly every other organization in the community and encouraged them to become a part of the project, creating a true community-owned project. Wheatland County MSU Extension’s partnership was critical to the success of this project and ensuring the engagement and ownership of the Mom’s group.

Annie’s Project

Annie’s Project in Wheatland and Meagher Counties is strengthening Central Montana farms and ranches by providing valuable resources for farm and ranch women. We hear over and over that people are overwhelmed, frustrated, and don’t know where to start with making business decisions related to the farm and ranch. Annie’s Project is designed to help address these issues. The focus of this program in Wheatland County is to empower farm and ranch women to become more involved in their
agricultural businesses, provide a comfortable opportunity for learning, and foster networking among participants. The topics and education provided allow women to assist in a new way on the operation and increase the capacity of the family ranch. One participant shared that their family is already using the information she has gained in making ranch decisions.

The program is six sessions long and participants will meet monthly, September 2017 through March 2018. Speakers cover topics related to marketing, communications, working between generations, financial planning, estate planning, beef production, and water rights. Everyone’s time is so valuable, and the steering committee wanted to be sure that each session was top quality and a great experience, so they took care to select new locations in both Wheatland and Meagher Counties.

The steering committee is critical to the formation of the program, and Wheatland County MSU Extension agent Mandie Reed partnered with Jeri Pavlovick from the USDA Farm Service Agency to recruit a diverse committee. “The steering committee has taken so much ownership in the program and had such a broad base of knowledge and ideas; we built a robust program. I am excited about the agenda,” commented Wheatland County Extension agent Mandie Reed. The committee was very committed to making sure each session provided participants with information that is timely and applicable.

**Teens Leadership Camp**

In late June, 2017, 25 middle-school-age campers from Central Montana gathered north of Hedgesville to learn about leadership. Teen Leadership Camp builds leadership skills of high school students while they serve as counselors and take a leadership role in planning a leadership camp for middle school students. The camp utilizes the experiential learning model to help campers learn and practice skills to build resilience in a leadership context. They discover authenticity, purpose, perspective, perseverance, and self-reliance. Every activity is planned to maximize fun and impact. The camp is generously supported by the Callant Family Foundation so campers can attend for $25, making it accessible to everyone regardless of their socioeconomic situation.

Camp counselors take a very active role in planning camp each year. Doing much more than choosing a theme, counselors plan workshops or identify workshops and topics they would like to teach. They learn communication, cooperation, and accountability, as well as service. Counselors also learn a lot about resilience and leadership, too.

“After attending TLC this summer, I realized I was spending so much time doing things for other people, and not focusing on what is most important to me. If I am going to reach my goals, I need to get focused on what is really important and stop doing the things I don’t care about.” This comment was from a camp counselor after spending time working on authenticity and purpose with our guest speaker Margaret Rottsolk, a mindfulness coach. These critical moments, where we can help youth realize their purpose and provide them with the skills to achieve their goals. An extension of this purpose is the strength, skills, and application for Annie’s Project – this is the real work of grass roots.”

**Annie’s Project**

Annie’s Project is a leadership development program that introduces youth to new ideas and skills through hands-on learning opportunities. The program is designed to build and enhance the leadership skills of young girls through fun and interactive workshops that focus on communication, teamwork, and problem-solving. The program is free of charge and open to all young girls in the region. Campers are encouraged to participate in a wide range of activities, including outdoor adventures, educational workshops, and community service projects. The goal of Annie’s Project is to inspire young girls to become leaders in their communities and make a positive impact on the world around them.
them, are what we strive for at Teen Leadership Camp. We want youth to realize their dreams.

As a result of attending camp, the campers showed a significant increase in their resiliency score, which is one of our primary goals. Another is the development of leadership among our counselors and helping them understand how they can positively impact the campers. “You can see kids start to blossom and get it, and I remember that as a camper too. That is why I come back each year,” commented one returning counselor about the experience. Teen Leadership Camp helps develop the leadership potential in each youth in a safe and caring environment. We embrace what is unique about everyone.

4-H Communication

Effective verbal communication and public speaking are some of the most valuable communication skills we can teach youth in 4-H. The ability to effectively communicate allows youth to achieve their goals and build their confidence. Addressing a crowd or participating in an interview becomes something they excel at, rather than something they dread.

Youth who participated in communication activities through Wheatland County 4-H showed significant improvement in their ability to speak in front of groups and their confidence in public speaking. One fifth grade 4-Her wrote that “because of 4-H communication skills, I am able to get better at talking in front of people.” A senior member shared that before participating in 4-H communication events, they were very shy and had very little confidence. 4-H has helped improve that. A sixth grade 4-H member wrote “because of 4-H communication skills I am more willing to speak in public, express my ideas and accept leadership roles.” Each of these impacts will help 4-H youth achieve their goals and become leaders in their communities.

Wheatland County 4-H members have been reaching some very high goals. We are proud to have two senior 4-H members serving as 4-H State Ambassadors this year. Both Amanda Martin and Eric Reed tested their communication skills while applying for their positions on the ambassador team and have been using their interview skills to help them achieve their goals after high school.
Wibaux County’s population has maintained around 1,000 residents in the 890 square miles that compose the county. The major industries include farming and ranching, and some oil production on the county borders. The average income for Wibaux residents is $40,833. Currently, 75 percent of Wibaux County acreage is certified farm and ranch production. Cover crops and pulse crops have been on the rise in production popularity in Wibaux County with a large majority of our producers being beef cow/calf operators as well.

With a small community, Wibaux has shown some big changes and continued success within the community. The fairgrounds showcased a new set of covered grandstands at the 2017 Wibaux County Fair. The project was headed by the Wibaux County Commissioners, with assistance from Wibaux County MSU Extension and the Wibaux County Fair Board.

The continued success of local wool producers has shown that the MonDak Wool Pool (wool producers in Eastern Montana and Western North Dakota) remains an important tool for wool production in Wibaux County. The MonDak Wool Pool contributed 15,688 pounds of wool from eight growers, worth $29,105. In 2017, the Eastern Montana Consolidated Wool Pool delivered 98,000 pounds of wool from 89 growers worth $180,500. The total volume represents 5.4% of Montana’s total wool clip.

The Wibaux County Weed Board has reported an increase in noxious weed control across the county with assistance from grant money and producer’s increased awareness and participation.

Pictured are the new grandstands, with seating capacity up to 1,200. The Wibaux County Commissioners, with assistance from the Wibaux County Fair Board, saw the years-long project to completion in August 2017.
Wibaux Health Fair
The Wibaux Health Fair has been serving Wibaux County and surrounding communities with health-saving testing and informational booths for many years. The March health fair opened its doors to over 540 youth and adults. The “Kick Butts Day” theme matched the enthusiasm of the Health Fair Committee, volunteers, and attendees.

The health fair is also a social event. Farmers, ranchers, and retirees welcome the opportunity to visit with friends while enjoying a continental breakfast sponsored by local individuals and businesses. Youth enjoy the hands-on booths and picking up a snack or a free pencil.

With an emphasis on prevention and healthy lifestyles, the health fair is sponsored by MSU Extension in Wibaux County. The fair has grown to serve more than 500 people with typically over 20 organizations exhibiting their health-related services.

With the cooperation of many volunteers and the local high school, which serves as the location for the fair, this is one of Wibaux’s most anticipated annual events.

Healthcare in Wibaux consists of a county-owned clinic staffed two days a week by Glendive Medical Center, and two days a week by Fallon Medical Complex.

Nutrition and health education are essential components needed to emphasize the importance of developing healthy lifestyles. Routine medical examinations also play an important role in prevention, as well as early detection.

The Wibaux Health Fair offers complete blood profiles, A1C, and PSA screening at reduced costs. Other services offered include blood sugar testing, blood pressures, free hearing evaluations, and a wide variety of services for all ages.

The Health Fair Committee consists of Danielle Harper, county Extension agent; Patti Goroski, Extension Administrative/Program Assistant; and Barb Maus, former County Health Nurse.

LEFT: Dawson County Tobacco Prevention Program had their mascots, Mo the Moose and Ciggy Butts, available to represent Kick Butts Day. RIGHT: CHI St. Alexius Health Clinic Registered Nurse, MaryLee Schmitz, offered blood pressure screening. Photos by Patti Goroski
The health fair has proven to save community members thousands of dollars in health care costs. It has also saved the lives of those who have been referred to their primary care physician due to an abnormal blood profile or other screening test results obtained at the Health Fair.

Because of the information presented, participants are aware that increased physical activity and improved dietary habits are a necessity to prolong their lives. Offering testing at a reduced cost encourages people to complete their blood work in a timely and cost-effective manner. Incorporating a variety of informative/hands-on booths provides supplemental information to those attending.

**Wibaux County 4-H**

**Plants Seeds of Change**

Wibaux County 4-H consists of 54 youth members, 21 adult leaders, and five active clubs. Although the 4-H program is small in number, the members are very active, ranging from one to seven projects enrolled, averaging three projects per member. The 4-Her's not only show their enthusiasm for 4-H in their project loads, but also by branching out in different project interests. Our 4-H members completed 58 different projects.

This past 4-H year brought many firsts to Wibaux County and also some great success in growing programs as well. Wibaux's first dog agility and showmanship clinic was very popular with not only the members in the dog project, but also sparked interest in members not enrolled in the project. The horse program also had its “first” guest professional horse trainer, Bryan Neubert, present a full-day horsemanship clinic open to 4-H horse members, and to all 4-H members. As for growing success, the archery program has gained popularity and became the most popular project in Wibaux County. Within the archery program, hard work and dedicated practices have been proven at regional and state competitions with placings in multiple age groups. The growth of state event participation has also increased from Wibaux 4-H with attendance at 4-H Congress, Rec Lab, and Fall Ambassador Training. Being located on the very edge of Eastern Montana makes it difficult for youth to participate in some of these state events, but their efforts have shown to make the long trips well worth the time when returning home.
Wibaux County has a rich history.
The town of Wibaux and the county of Wibaux are both named for Pierre Wibaux, a Frenchman who gave up opportunities in his family’s textile business to seek his fortune in the cattle industry of the American northwest. Arriving in the area in 1883, a young man of 27, Pierre established the W-Bar Ranch. He ran cattle on the open range in an area covering nearly 70,000 acres. By 1889, he had accumulated more than 40,000 head of cattle and employed 25 to 30 cowboys.
Welcome to Yellowstone County

Yellowstone County is located in Montana’s south-central region and is the most populous in the state with approximately 158,000 residents. It is home to a blend of urban and rural communities who work together to make Yellowstone County the thriving industry hub it is today. Billings is the county seat and has the largest population in Montana. Being one of the largest urban regions of the state, Billings provides thousands of jobs in a wide range of industries. The areas that surround Billings represent Yellowstone County’s equally essential rural farming and ranching communities. These communities include Laurel, Broadview, Huntley, Ballantine, Shepherd, and Custer.

The agricultural, energy, and healthcare industries lead the economic forces in Yellowstone County. Cash receipts for agriculture are the highest in Montana, totaling approximately $217 million in 2012. The county covers 1.68 million acres, with over 1.58 million of those acres representing irrigated cropland, dryland cropland, or pasture and rangeland. Sugar beets, corn, alfalfa, barley, and wheat are the main crops grown, while beef cow/calf operations and feedlots are the primary livestock enterprises. The energy industry is mainly comprised of receipts from oil, natural gas, and coal. Yellowstone County is home to several refineries and purification plants that process raw materials into usable energy resources. Both the agricultural and energy industries are aided by the county’s location and role as a major trucking, railroad, and air travel transportation center. The medical corridor brings many individuals to Billings from across Montana and northern Wyoming who are seeking cutting edge healthcare. Billings Clinic and St. Vincent Healthcare’s Community Benefit combined total is approximately $66 million.

As described, Yellowstone County is unique in many ways. It has three full-time commissioners and one of the largest county Extension staffs in the state. Together, everyone involved works in partnership with Montana State University to meet the public’s diverse needs. Recognizing that change is always occurring, MSU Extension in Yellowstone County will continue to provide opportunities to meet the outlined needs of the community for years to come.
Connecting Rural Residents Through Exercise

When thinking of Yellowstone County, people often picture Billings and the many amenities that accompany living in an urban area. Great trails, access to gyms, and an indoor walking trail offer convenient exercise options less than 20 minutes away. However, the rural areas of Yellowstone County do not have access to these amenities.

Residents of Shepherd, a rural town in Yellowstone County, have a minimum 30-minute drive to the closest gym. For people who live beyond Shepherd, it is even further. The MSU Extension Family and Consumer Sciences agent is meeting the physical activity needs of this rural community by offering arthritis exercise classes twice a week at the Shepherd Community and Senior Center. Programming through MSU Extension offers a class incorporating safe physical activity that can also be practiced at home. Participants leave with improved strength, flexibility and mobility. For one participant who lives over 45 minutes from Shepherd, this has made a big difference. “In the last two weeks of class I have noticed how I am stronger and less sore. I deal with pain every day and by attending class, am more mobile,” shared one arthritis exercise class participant.

MSU Extension in Yellowstone County also offers chair yoga once a week to residents in the Laurel community at their new independent living center. Chair yoga offers a slower-paced, gentler class than traditional yoga. These classes give participants with mobility issues a chance to move their bodies in ways that reduce pain and increase flexibility. Chair yoga classes provide social interaction and are adaptable to participants’ needs; this is a unique opportunity for residents in a rural area.

By attending these classes, participants increase their ability to live independently, reducing their healthcare costs and reducing the cost of healthcare for all Montanans. Participants are learning safe ways to exercise in their homes and have experienced social connections with others as they practice the program together; a remarkable option for these rural communities. Healthcare professionals agree that the majority of the aging process is affected by factors within our control. By keeping active and staying strong, participants are able to affect the aging process. MSU Extension is educating rural residents about safe exercise to enhance residents’ health, reduce healthcare costs, and improve their quality of life.

MetraPark Education and Demonstration Garden

The summer of 2017 saw the culmination of the latest Yellowstone County Master Gardener project.

The Education and Demonstration Garden is one of two educational gardens located on the MetraPark grounds. The goal of this demonstration garden is to educate the public about research-based plant options that can be cultured in our region of Montana. Garden themes include: annual flowers, perennial flowers, xeriscape (native and drought tolerant)
plantings, roses, bulbs, herbs, children’s garden, butterfly garden, raised beds, and a wheelchair access garden.

The new site contains a 20’ x 30’ greenhouse utilized this year as an education opportunity for the Teen Tumbleweed Runaway Program (dedicated to helping homeless and at-risk teens). Approximately a dozen youth constructed their own 4 x 4 square foot growing box in the greenhouse, and met throughout the summer for educational sessions and maintenance of their garden boxes. This will be an ongoing project for Tumbleweed participants.

County educated Master Gardeners were available at the garden throughout MontanaFair to educate the public, answer questions and provide tours.

The demonstration garden would not be the amazing educational opportunity that it is without the caring volunteers of the Master Gardener Program. Dedicated Master Gardener volunteer Joann Glasser and her husband Cory were instrumental in designing and installing the brickwork, irrigation system and garden beds.

The demonstration garden has improved aesthetics in this area of MetraPark, and many compliments were given by MetraPark employees who enjoyed this garden as a summer “green space” oasis. Future plans include utilizing greenhouse and garden sites for K-12 and adult education programs.

Connecting Generations Across 4-H

In Yellowstone County, adult volunteers are the heart of the 4-H program. In many counties, they generally range in age from 21 to 75, which leads to a crucial question: How do we engage these different generations to make a quality 4-H program? Rather than focusing on differences between generations as a barrier, the Yellowstone County 4-H Extension agent incorporated methods to better communicate with leaders from multiple generations.

4-H leaders, parents and other Extension agents attended Generational Workshops that were designed to showcase how generational differences affect not only how each views the world but also how these various perspectives influence work life, volunteerism and youth education. These unique characteristics impact 4-H at all levels from local clubs to the national program.

The MSU Extension Yellowstone County 4-H agent shared research-based information highlighting each generations’ influences and fundamental values, and tips on motivating and relating to various-aged volunteers and methods to engage them. Incorporating generational knowledge in the local program, the 4-H agent adapted written notifications and even how meetings were conducted. For example, agendas and relevant documents disclosing meeting goals and purpose is essential for Millennials
An Extension agriculture agent presents information to fourth grade students.
Improving the Nutrition Status of Homeless Families

Poverty is a complex and overwhelming problem in our community. Those with incomes below the Federal Poverty Level (FPL) are very low-income families. Many people wonder how they can help change the lives of people in poverty. The MSU Expanded Food and Nutrition Education Program (EFNEP) of Yellowstone County seeks to change lives of people at this income level. Recently EFNEP partnered with Family Promise of Yellowstone County to educate families about healthier eating choices and increased daily physical activity. Family Promise provides meals, shelter and a safe non-judgmental environment for local homeless families that need community support and a chance at a healthier, happier life.

Through the EFNEP Eating Smart • Being Active series and by incorporating the experiential learning process, Yellowstone County Nutrition Educators teach adults with minor children to make healthier food choices on a limited budget, how to read food nutrition labels and ways to practice food safety. The goal is to increase their ability to select and purchase foods that will improve the nutritional quality of the meals they serve to their families.

Another component of each lesson is physical exercise. EFNEP educators encourage participants to try physical activities designed for the program. One option is to use an interactive walking video. Walking is one of the simplest ways to get exercise and offers many benefits for people of all ages, income levels and in different stages of health wellness. For one young man who spent every day walking to his appointments, this was his favorite part of class. After trying out the video, he would often ask “When are we going to do that walking thing? That is fun!” There were always lots of smiles and laughter.

Through the Yellowstone County EFNEP program in 2017, 340 adults were educated about nutrition and physical activity in over 15 different communities. This impacted 1,119 family members that experience poverty. The hands-on approach allows participants to gain practical life skills necessary to make positive behavioral changes. Through the MSU EFNEP program and our community partnerships, participants also experienced increased self-worth, recognizing that they have something to offer their families and their communities.

EFNEP Educates for 50 Years

As the Expanded Food and Nutrition Education Program (EFNEP) celebrates the 50th anniversary of its beginning, it is a great time to look at the success of EFNEP in Yellowstone County. EFNEP began teaching homemakers, always women, using one-on-one, in-home and hands-on instruction. Teaching changed to offer in-home classes with groups of friends. Now EFNEP offers group classes at community locations, with often as many men as women attending the classes.

In the early years of EFNEP, while the mothers were being educated, their children were also being taught through a special 4-H program led by EFNEP 4-H educators. The goal was for parents and children to receive the same information on preparing and eating nutritious meals and snacks. Youth were then taught a series of lessons at after school sites.
EFNEP educators now teach a six-lesson series in Title I schools during class time for grades one, three and five. In 2017, 1,357 students were enrolled in the EFNEP program in 65 classrooms throughout Yellowstone County.

Does EFNEP make a difference? In a meeting with a caseworker of a partner organization, it was mentioned that even after graduation from college, she remembers EFNEP and the vegetable soup made in her first grade class using fresh, canned, and frozen vegetables. She still makes that and taught her children that a least-liked vegetable put with a favorite veggie tastes good. The funny green puppet used in third grade taught her about the Fight BAC (bacteria) rules of Clean, Separate, Cook, and Chill. From fifth grade, she recalled how quickly germs multiply in food. All of these things, plus MyPlate knowledge, help her safely feed her family healthy meals. Educators often meet people who have an ‘EFNEP story’ of recipes handed down in their family or how, as a child, EFNEP helped their family secure food. EFNEP makes a positive and lasting impact on many lives.
### Montana State University Extension 2017 County Program Highlights

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