



## Cattle on Knapweed Research

### Polson Grazing Units

Herbicides have been widely used to suppress spotted knapweed, a noxious weed that infests thousands of acres on the Flathead Reservation, and millions of acres throughout North America. However, herbicide control is expensive and must often be reapplied every three to five years. In response to the high costs, environmental concerns and health risks surrounding herbicides, the Confederated Salish and Kootenai Tribe (CSKT) and MSU have been working together for the past seven years to explore alternatives.

In the fourth and final year, our current study examines the combined use of targeted cattle grazing and bio-control



Heifers grazing the Polson Grazing Unit research pastures

insects at a site on CSKT tribal lands near Buffalo Bridge, southwest of Polson. Field work began in May 2013 and ended in August 2015, with an additional year of data collection in 2016. We are testing two different strategies to increase cattle consumption of spotted knapweed without harming the native grasses and wildflowers, and without harming the bio-control insects that already inhabit the site. The two strategies are: 1) diet training and 2) high stock-density grazing. The bio-control insects we monitor are two insects that feed on spotted knapweed roots (Cyphocleonus and Agapeta) and one insect that feeds on the leaves and seeds of spotted knapweed (Larinus).

While data analysis is still under way, preliminary results indicate that targeted cattle grazing and bio-control insects work well together. We found diet training did not increase cattle preference of spotted knapweed and targeted grazing was effective with or without diet training. After three years, targeted cattle grazing with bio-control insects decreased spotted knapweed plant density 66% (from 56.5 to 19.2 plants/m<sup>2</sup>). There were 26% fewer spotted knapweed plants than with bio-control insects alone.

## Welcome to Flathead Reservation



The Flathead Reservation is comprised of the Bitterroot Salish, the Pend d'Oreille and Kootenai tribes. Aboriginal territory exceeded 20 million acres in present day Idaho, British Columbia and Wyoming. In the 1855 Treaty of Hellgate, the Tribes reserved for their use what is now known as the Flathead Reservation. The reserved lands consist of 1.317 million acres in northwest Montana. The Flathead Reservation overlaps four counties: Missoula, Lake, Sanders and Flathead.

## A People of Vision

*“Our stories teach us that we must always work for a time when there will be no evil, no racial prejudice, no pollution, when once again everything will be clean and beautiful for the eye to behold—a time when spiritual, physical, mental and social values are inter-connected to form a complete circle.”*

Salish Culture Committee

*Our mission is to protect, preserve, perpetuate and enhance the language, culture and traditional lifestyles of the Kootenai people.*

Kootenai Culture Committee

# Youth Development

## Flathead Reservation 4-H Mentoring Program

Native American students make up the largest minority group in Montana—about 11 percent. Native students have the lowest high school graduation rate. Two major factors are their lack of social and emotional skills as they navigate the world of academia. Flathead Reservation Extension 4-H began a mentoring program in 2012. The National 4-H Center and the U.S. Department of Justice provide funding for 4-H National Mentoring Programs. The mission of the program is to increase the developmental assets of youth, ages 9-14 and their families. This is accomplished through hands-on activities that support social/emotional skill building, directly resulting in academic competencies.

During the past year 90 mentor-mentee matches participated in 12 months of mentoring. Mentees are in grades K-6 and are recommended to the mentoring program by a school counselor. Mentors are local high school students who complete an application and a review/approval process before being matched with their mentee in a one-on-one relationship. Matches participate in individual and group trainings to expand their knowledge and skills in appropriate relationship building. Forty-five matches met weekly for lunch and skill building activities.

A monthly 4-H club meeting is held in conjunction with a Family Night Out event. The program starts with mentees during afterschool hours where they engage in 4-H activities. When families arrive, everyone enjoys a complementary supper. Families can participate in family strengthening activities during this time. Areas of focus are: Building Trust, Family Support,



This pair participates in a reading activity during after school hours.



A father and son enjoy Family Night Out.

Kindness/Community Service, Building Positive Family Communication, Working Together/Problem Solving and Strengthening Family Traditions.

During the past year, mentored youth showed competency increases in both social skills (75%) and emotional competence (70%). Youth also showed academic improvement in at least one subject (14%), two subjects (42%), three subjects (21%) and four or more subjects (23%).

## Linking Youth to Environmental Practices using STEM Technologies

With the natural resources on the Flathead Reservation, the need for Native American students in Science, Technology, Engineering and Mathematics (STEM) fields continues to be critical for successful resource stewardship. Three years ago, the Montana 4-H Center for Youth Development received the Children, Youth and Families At Risk (CYFAR) grant. MSU Flathead Reservation Extension, Salish Kootenai College (SKC) and Two Eagle River School (TERS) partnered to support TERS goals to keep high school youth engaged in STEM based careers.

The team introduced video filming opportunities in year three to include field trips to the Ninepipes Reservoir, a tour of prehistoric Lake Missoula, and a two day trip to Bozeman with stops at the historic Butte Mining Museum and the Berkeley Pit. While in Bozeman, youth toured the MSU public television station, Native American Studies building and Museum of the Rockies. Youth took videos along the way, combining knowledge of history and film development.

Films were compiled and polished for a big screen debut and celebration in May at the Johnny Arlee and Vic Charlo Theater. Students honored visiting tribal elders as part of TERS Elders Week by gifting their elders with sweet grass and fresh flowers to support and strengthen the youth cultural and generational connection. Nurturing past and present connections are critical elements to the future success of native youth, and technology binds their success in today's media world.



A TERS student honors an elder during the premier of his iMovie at the SKC Theatre.

# Home and Family



## Supplemental Nutrition Assistance Education



Supplemental Nutrition Assistance Program Education (SNAP-Ed) addresses Montana's goals for increasing food security and healthier food choices. Participants learn to choose foods with maximum nutrition at the lowest cost. Impact and data outcome show curriculum is working to improve food insecurity and nutrition in Montana and it will continue to improve as we work with key partners, making changes at the policy, systems and environment level.

On the Flathead Reservation, over 960 students in first, third and fifth grades learned about healthy eating, food safety and physical activity in a series of six lessons. A large percentage of students talked about reducing their intake of soda and other sugar-laden beverages. A fifth grade teacher says she heard her students discussing food labels and sugars in foods. They challenged each other to reduce intake of soda and other sugary drinks.

Both adult participants and youth are encouraged to participate in regular physical activity as well as choosing a variety of foods from the five food groups on MyPlate. This year 70 adults participated in SNAP-Ed classes. Many adults reported making healthy changes in their diets, as well as increasing physical activities.

- A young father says he learned a new way of cooking because of the lessons. He says he grew up eating very fatty, fried foods and always struggled with weight. He says he likes how he's learned to cook healthy, delicious food with many different vegetables. He says he will continue working on portion control and include vegetables in family meals.
- A third grade student from Arlee reports that her family drastically decreased their sugar consumption. She says, *"This program has changed me and my families' lives. My mom quit buying sugary drinks and we even cut back on other foods with added sugars."*
- As a result of our lessons, a first grade teacher says she noticed even her pickiest students trying new fruits and vegetables at lunch.

## Fresh SNAP

Prior to 2013, Supplemental Nutrition Assistance Program (SNAP) recipients were unable to purchase farm fresh produce with SNAP dollars at the Polson Farmers Market. A community partnership of caring individuals are bridging the gap between local farm fresh produce and SNAP recipients by providing a Fresh SNAP match of \$10 for \$10 at the

Polson Farmers Market. SNAP recipients may spend \$10 of their SNAP dollars at the market and receive an additional \$10 matching funds to help stretch their food budget at the market. The Fresh SNAP recipients may take a variety of classes. They may learn to harvest and cook a nutritious meal as well as learn methods of food preservation to preserve fresh produce for future use. Participants learn practices that increase their nutrition intake and reduce food insecurity.

Sponsors and coordinators include Polson Farmers Market Co-op, Lake County Community Development Corporation, Salish Kootenai College and Flathead Reservation MSU Extension. Funding for this program is



**SNAP recipients purchase fresh produce at the Polson Farmers Market and learn to cook healthy meals for their family or safely preserve produce.**

made possible through CSKT Department of Human Resources Development and Town Pump. This program has grown from 31 SNAP recipients (4 repeat customers) and \$245 to local growers in 2013 to 53 SNAP recipients (14 repeat customers) and \$1,840 to local growers in 2016. In addition, 32 SNAP recipients attended six classes. One SNAP recipient now volunteers for the market and is helping to teach others the benefits of Fresh Snap.

## Keeping Food Safe for Montanans

In January, 2015, the Montana Rule for Retail Food Establishments went into effect and included the 2013 Federal Food Code to protect the safety of food for all of Montana and those who visit the Big Sky Country. To support this effort, Flathead Reservation MSU Extension partnered with the Confederated Salish and Kootenai Tribes sanitarian and both Lake County and Lincoln County Environmental Health offices to help license Montana food establishments throughout 2016. Ten eight-hour ServSafe classes were attended by over 250 participants representing a wide variety of individuals interested in keeping food safe, including volunteers, head start, culinary students, coffee shops, churches, K-12 schools, gas stations, lounges and other establishments serving food in their community.

# Partnerships and Collaborations

## Summertime success on the Flathead Reservation

During the school year, K-12 schools on the Flathead Reservation serve more than half of the student body free and reduced meals. During summer months, families need additional resources. Summer may cause hardships for families who depend on school year organizations to feed and provide supervision for their children. With this in mind, the Flathead Reservation MSU Extension, Friends Forever Mentoring, The Peoples Center and several school district Summer Feeding Programs came together to bring meals and healthy lifestyle activities to children and their families.

Daily programs and activities included four hours of supervision with the opportunity for youth to eat breakfast and lunch. Children and families in attendance enjoyed language learning, cultural arts and traditional games such as shinny, double ball and beading. Summer project

leaders also used Science, Technology, Engineering and Math (STEM) curriculum projects to support summer learning.

Over 650 people participated throughout the summer. The partnerships and collaboration was successful in outcomes meeting the needs of children and their families.



### Contact Us



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



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