

Empowering Communities Through Education



**University of Alaska Fairbanks
Cooperative Extension Service**

2006 PROGRAM HIGHLIGHTS



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From the Director



For more than 75 years, the University of Alaska Fairbanks Cooperative Extension Service has been empowering people through educational programs. As the outreach arm of the university, Extension has been busy fulfilling our mission to provide ready access to practical, research-based information while meeting the challenges that face the people of Alaska. The programs highlighted in this year's annual report are just a few of those we deliver statewide to enhance the well-being of our citizens and communities. I hope you enjoy reading about our programs and thank you for your continued support.

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PROMOTING ECONOMIC DIVERSIFICATION

Expanding Small Business in Rural Alaska

Eating native berries can be good for your health, and Alaska's supply is plentiful and varied. But turning this bounty into an economic benefit can be challenging.

Last year the Seldovia Village Tribe—a federally recognized Indian tribe located on the lower Kenai Peninsula—came to Extension seeking help in developing a new jams and jellies product line marketed through its Alaska Tribal Cache business. The tribe had received a grant from the Administration for Native Americans to help Seldovia economically diversify while providing valuable job skill training to local youth.

"Our grant through ANA is helping us to expand economic viability in Seldovia," said Rosanna McInnes, marketing and project director for the Seldovia Expansion Enterprise project. "The work that the Extension team is doing for us is valuable, and with their guidance and resources, we are confident that we are moving in the right direction."

Extension is working with the tribe through its Small Business Development

Project, which aims to improve and develop profitability for businesses, especially in rural areas, by working with individuals, groups and communities.

Extension Home Economist Roxie Rodgers Dinstel assembled a team to work with the tribe, take an in-depth look at the business and ensure the profitability of new products. Extension home economists and food specialists along with Quentin Fong, fisheries marketing specialist with the UAF Fishery Industrial Technology Center, worked with the Seldovia Expansion Enterprise project staff to examine their line of products. The group looked at not only what was currently being produced—but also for gaps in the market.

Products currently under consideration are fresh berries, frozen berries, low-sugar spreads, berry lollipops, berry teas and fruit leather. Each of these products will be taste tested and evaluated in view of market gaps. Marketing plans will be developed before deciding which products will make it to the Alaska Tribal Cache line.



Roxie Rodgers Dinstel dehydrates fruit pulp to make fruit leather. Dinstel is working on developing new recipes for a variety of berry products.

"It is exciting to work with a committed group of individuals who are trying to provide jobs for rural Alaska," Dinstel said. They are committed to building a strong economic base for the community of Seldovia."

Food Product Development

Food product testing focuses on ways to increase commercialization of several Alaska-grown products.

Extension Food Science Specialist Kristy Long and Research Assistant Kamolluck Trateng are conducting studies in Alaska's first, and so far only, state-approved food product testing facility to assess the flavor, juiciness and other attributes of reindeer

meat, determine which Alaska-grown potato varieties make the best bakers or french fries, and explore new hull-less barley varieties for taste.

"The potential for future projects with UAF, individuals developing products for farmers markets and bazaars, and small commercial food companies is endless," Long said.

Researchers with the UAF School of Natural Resources and Agricultural Sciences and School of Fisheries and Ocean Sciences are developing an economical reindeer chow by replacing protein in the feed from soybeans with waste from fish-processing operations.

Testing the relative "fishiness" of reindeer meat raised on these feeds is an integral part of making these fish-based feeds—and the meat from animals raised on them—marketable. SNRAS research faculty Greg Finstad and Eva Wiklund worked with Long and visiting Swedish researcher Lisbeth Johansson to develop protocols for testing reindeer meat using trained food testers.

Extension Food Product

Development Program researchers

also tested eight Alaska potato varieties for glucose content and acceptability as a refrigerated french fry product. The initial tests indicate that the high glucose content of the potatoes is a barrier for their use as a french fry because of the intense browning of the fries.

Alaskans put their taste buds to the test one more time to help determine the potential for developing a commercial, Alaska-made whole-grain cracker product for market. Although final analysis of the data is pending, an initial review indicates that consumers did not perceive any difference in the taste of the mother and daughter varieties.

SNRAS is currently developing new hull-less barley varieties that will withstand the heavy winds and rains of late summer.

The data from research conducted in Extension's food product testing kitchen supports Alaska Native reindeer herders and Alaska farmers who need reliable information to better market products statewide and nationally.



Kamolluck Trateng tests glucose and enzyme levels in Alaska-grown potatoes at Extension's food product development kitchen. Photo by Edwin Remsberg, USDA/CSREES

Assisting Alaska's Dairy Producers

Dairy farming in Alaska is a real challenge, and the industry is struggling to survive with fewer than 10 operating dairy farms in the state. Recently, the Alaska Board of Agriculture and Conservation asked Extension for assistance in understanding the difficulties repeatedly experienced by the dairy industry.

With the assistance of UAF Extension and through collaboration with Utah State University Extension, a nationally recognized dairy economist was contracted to analyze the Alaska dairy industry.

Bruce Godfrey, Utah State University dairy management economist, worked with UAF Extension Livestock Specialist Milan Shipka to visit dairy farms throughout Alaska and initiate the process of gaining familiarity with the farms. Godfrey developed a questionnaire aimed at gathering specific financial and management data from each farm.

Godfrey relied on UAF Extension Program Development Specialist Bill Hall to visit the farms and help farmers complete the questionnaire. Godfrey's work resulted in the first complete economic analysis of dairy farming in Alaska in more than 25 years. His report was presented to the Alaska Board of Agriculture and Conservation and details Alaska's dairy economics compared to those of five western states.

"Two important points from that report are that producing milk in Alaska costs more than producing milk in the Lower 48," Shipka said. "And milk production per cow on Alaska dairy farms is considerably lower than Lower 48 counterpart farms."

As a result of Godfrey's analysis, the Alaska Board of Agriculture and Conservation chairperson formed the Dairy Industry Ad Hoc Committee, as part of the Division of Agriculture, Alaska Department of Natural Resources. Again, Extension's expertise was sought to help develop long-term solutions to problems faced by the Alaska dairy industry.

The committee consisted of a feed supplier, dairy creamery operators and experts, Alaska governmental representatives, and various non-agriculture related business people. Shipka produced a report comparing dairy farming in Alaska to dairy farming in the western United States, specifically pointing out difficulties faced by Alaska farmers. The committee was provided with the report before the first meeting.

Shipka presented a report to the committee comparing dairy farming in Alaska to dairy farming in the western United States, specifically pointing out difficulties faced by Alaska farmers.

"The people in the dairy business in Alaska are my friends, and I always want to be optimistic and support their endeavors," Shipka said. "At the same time, I have to be realistic. With the small number of farms and the consequent lack of critical mass, the real question that needs to be asked is whether or not Alaska has a dairy industry."

The committee will be using this information, along with information from other experts, to develop recommendations for dealing with the problems of Alaska's dairy industry.

These potential solutions will be provided to Alaska's new governor in early 2007.

Educating Teens on Early Childhood Development

Research has found that supportive connections help teenagers develop into healthy and successful caregivers and parents. In an effort to provide that support in Nome and surrounding regions, Extension's Home Economics and 4-H and Youth Development Agent Kari van Delden teaches a section of the early childhood development class for the Northwestern Alaska Career and Technical Center.

The course takes place over a three-week period and is offered annually. Students spend over an hour in class learning about how children develop and approximately three hours a day in an early childhood education setting, such as Head Start, daycare or preschool, practicing what they have learned. The curriculum covers child development from the prenatal stage through kindergarten. Topics include language development, importance of early experiences, value of routines, classroom management and the basics of brain development.

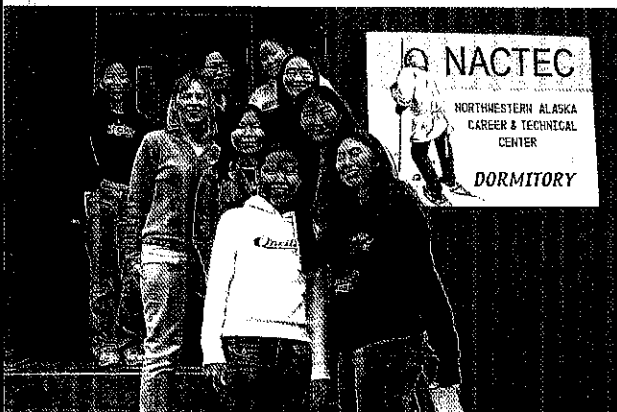
"Working at Extension, I get to teach on a variety of topics—but I can honestly say this is my favorite class," van Delden said.

High school students from Nome public schools, the Bering Straits School District and Northwest Arctic Borough School District have access to the class. Students who attend the class are in three main categories: those who want a career in early childhood, those who are parenting or pregnant, and those taking the class because they want to know more about parenting for their future. The evaluations and letters from past students have shown it to be beneficial for all three groups.

"It helped me learn how to think about children more on their level rather than from my perspective or an adult's point of view," one student said.

Juniors and seniors have the option of taking the course for credit. van Delden teaches Language and Literacy Development ECE123 through a partnership with the UAF Northwest Campus. This course is one of the required classes for students working toward an associate's degree in child development.

"I believe it will help students once they reach the job market to have at least some college experience," van Delden said. "Taking this course might also be a jumping off point for students to attend the university."



Kari van Delden featured with teen girls who attend her early childhood development class offered through NACTEC.

Nutritionists Focus on Youth

With the growing number of overweight and obese children and adults in Alaska, helping youth make healthy lifestyle choices is becoming a critical service of Extension's Home Economics program.



"Giving youth information about nutrition, emphasizing the importance of regular fitness activities and helping them learn to set realistic goals is a good start in the right direction," said Julie Cascio, Extension home economist.

To achieve these goals, Cascio held programs at summer camps, a local library and a charter school in the Matanuska-Susitna Valley.

An interactive program on fats in foods at 4-H camp helped one teen visualize what she was eating. Her mother observed, "My daughter grabbed a candy bar for a snack between classes. She opened the candy bar—then couldn't eat it."

Cascio had a ready solution, when Palmer Librarian Candy Kopperud called Extension with concerns about middle school youths snacking on junk food as they hung around the library after school.

Cascio designed and led a series of weekly after-school programs at the library to give teens information on making healthy choices. Activities based on various nutrition topics, active movement and preparing healthy snacks helped the youths gain ideas about healthy choices. The students were encouraged to set goals for healthy lifestyle choices during the next week.

The principles and activities in helping youths learn to set goals to incorporate nutrition and fitness into their lifestyle were also used in an intensive week long program at the Academy Charter School in Palmer. During the program middle school students learned to identify reliable research-based nutrition information resources online and were asked to write and report on a nutrition topic of interest to them. Fitness activities were integrated throughout each day to illustrate the importance of physical activity in their lives.

Mixing, kneading and baking their own bread received favorable reviews. Preparing snacks like hummus and pinto bean dip were new experiences to most of the students. Tasting tamarind, fennel and freshly ground nut butters on a field trip offered more new opportunities.

"The opportunity to do some cooking drew many students to this program, and the kids were having a great time doing it," Cascio said.

Military Kids Get Support

4-H Summer Camp: "Be Aware, Get Prepared"

"Remember that people will forget what you've said and what you did, but they never forget how you made them feel." As she looked around at the campers on the first day of 4-H Summer Camp, Marianne Kerr, Extension 4-H agent and military liaison for Alaska, kept hearing this saying as it ran through her head.

"Many of the same campers I first met at 4-H camp last summer came back, and it's

a wonderful testament to the strength of what camp can do for a young person," Kerr said. "The benefits of this camp program go way beyond words."

A few years ago, Kerr received a \$15,000 grant from Kansas State University to bring children of deployed Alaska National Guard members to 4-H Summer Camp at Meier Lake in Wasilla.

The theme of the 2006 camp was "Be Aware, Get Prepared" and was based on 4-H life skills education as well as the increasing self reliance of campers who are becoming more self-reliant due to a family member being deployed.



Several youths practice their archery skills during camp.

Twenty-six military youths from across Alaska and 25 4-H youth members from the Matanuska-Susitna district 4-H program attended. Three adults were connected with the National Guard and the youth coordinator of the Alaska National Guard Family Programs also volunteered. Older teens from the military and 4-H volunteered and worked as camp counselors. After the first few hours, it was difficult to tell who was from 4-H and who was from the military.

The 4-H military grant has made a huge difference in the lives of many Alaskan children. More and more Alaskan kids experience a parent being deployed. And the recent deployment of 600 National Guard members has especially affected youths in rural Alaska.

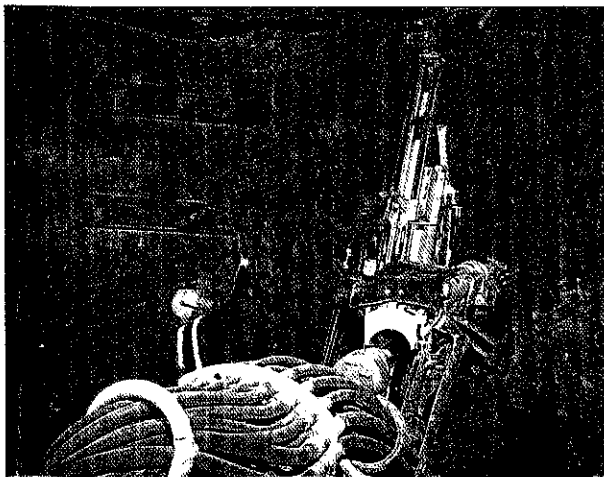
In June 2007, 4-H agents and volunteers will pack up crates, boxes and bags and move the camp to the Bethel area. Youths from the surrounding areas will be invited and camp will relate to their daily lives as well as a situation with a parent deployed.

BUILDING PARTNERSHIPS

Classes in Delta Junction

Extension has recently joined the "Partners for Progress in Delta," an educational consortium created to deliver training and education for career advancement, university degrees or continuing education credit in the Delta Junction area. UAF's Tanana Valley Campus, Delta Mine Training Center, Delta/Greely School District and Alaska Works Partnership are also members of the consortium. The group was instrumental in obtaining funding to build the Delta Career Advancement Center. DCAC has a 7,000 square foot workshop inside its 9,600 square foot facility, allowing year-round, real world cold climate construction training. The center also houses a smart classroom and a computer lab.

Additionally, Extension also collaborates with DMTC to offer short courses on the basics of mining, mineral identification, and use of global positioning systems in many Alaska rural communities. Courses are developed by Extension faculty educators and delivered through adjunct instructors with the UAF Tanana Valley Campus.



Student miner works with a jumbo rock drill as he learns ground control, the process of securing the mine shaft to make a safe work area. Photo courtesy DMTC

DMTC serves as Alaska's primary source of training for bedrock and open pit miner safety certification and is also the principal provider of Mining Extension education in Alaska.

Extension's partnership in these projects will strengthen UAF's educational capacity in Delta and provide additional visibility for traditional areas of Extension outreach such as cold-climate building techniques, home and work environment safety, consumer awareness and family finances, horticulture, pest management, home gardening, and livestock production.

Wiping Out Alien Plant Species

Eliminating invasive or exotic plants from the environment is costly, estimated at about \$34 billion annually in the United States alone. Thus far, 17 states have formed state invasive species councils as a mechanism to coordinate their efforts and increase the effectiveness of their invasive species management programs.

Alaska has joined these states by forming the Alaska Invasive Species Council Working Group to address and prevent impacts from invasive species. While Alaska is huge, relatively unspoiled and far from regions where alien plant pests are taking hold, it is still vulnerable to serious impacts from non-native species.

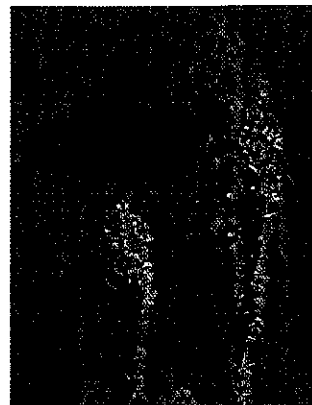
Extension Agriculture and Horticulture Agent Michele Hébert, in partnership with state and federal agencies, developed the concept for the council. Although funding for the council doesn't exist yet, the

Environmental Protection Agency has provided one year of funding for its establishment.

In early spring, 38 individuals from around the state met at the U.S. Fish and Wildlife Service building in Anchorage. Among them were representatives from state, federal, university, citizen, Native, conservation and military organizations. The meeting established the council working group and its mission.

"The goal of our working group is to minimize invasive impacts in Alaska by facilitating collaboration, cooperation and communication," Hébert said. "We know plants typically not native to an existing ecosystem have the potential to wreak economic and environmental disaster."

Last fall in Anchorage, purple loosestrife was found growing wild along Chester Creek. An extremely aggressive flowering perennial with



Purple loosestrife.

purple spikes, the plants can develop dense thickets that are almost impossible to eliminate. Sale of the plant has been banned in 27 states. Alaska Extension officially placed purple loosestrife on its "do not plant" list for Alaska in 2004.

According to Hébert, purple loosestrife can wipe out native plants, cover creek bottoms, overgrow wetlands, ruin fish passage and prevent access to recreational areas.

Helping Alaskans Build Better Homes



CCHRC building.

With energy costs steadily rising, especially in rural Alaska communities, Extension is focused on providing research-based information to make Alaska more economically sustainable for the long term. Extension Energy and Housing Specialist Rich Seifert has taught classes on cold climate building techniques across Alaska for more than 16 years. And while the information Seifert delivers is

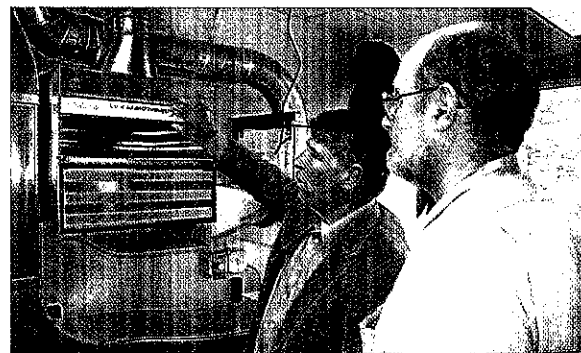
research-based, much of it has been done in Canada and Scandinavia.

"We've had to rely on a considerable amount of information from other circumpolar countries of the world because there hasn't been a central point for broad-based Alaska housing research—until now," Seifert said. "With the arrival of the Cold Climate Housing Research Center on the UAF campus, all that is going to change."

The CCHRC is an industry-based, nonprofit corporation created to facilitate the development, use and testing of energy-efficient, durable, healthy and cost-effective building technologies for Alaska and the world's cold climate regions. A collaborative research partnership between Extension and CCHRC is seen as a win-win situation by CCHRC president and CEO Jack Hébert.

"CCHRC has always looked at Extension as a resource for education and outreach, and we wanted to help them develop their building science curriculum," says Hébert, who also sees the potential for an exchange of educational materials and collaborative publications.

With its outreach office at the CCHRC building, the Extension Housing and Energy Program will be poised to extend applications of research on cold climate technologies and products for all Alaskans, including the development of strategies for greater energy security and economically sustainable homes throughout the state.



Research and Testing Facility Director Mike Musick describes the sophisticated ventilation system of the CCHRC building to Rich Seifert.

Web Site Offers Energy Alternatives

Extension Rural Development Program staff are forever wrestling with the question of "how to reach folks scattered throughout rural Alaska." Sometimes a telephone call or e-mail offers an easy answer. But other situations—such as the escalating cost of fuel oil—call for more of a "show and tell" solution.

That's why Bob Gorman, Extension resource development agent, diverted 2004 grant money earmarked for "increasing distance delivery" toward the recently unveiled wood-burning website, www.alaskawoodheating.com. The site outlines a wealth of detailed information to break the dependence on dwindling oil supplies by using the state's renewable resources—mainly trees. Features include an interactive map listing harvestable trees by region, tree-harvesting safety, home and municipal heating studies, links to manufacturers, and best of all, an online heat calculator. This easy-to-use section computes heating costs based on home location, square feet, insulation, heat system, type and cost of fuel.

Another section offers a tree-species table to determine the amount of heat each type yields. Cottonwood, for example, logs in at 14,500,000 BTUs per cord, while birch tops the list at 23,600,000 BTUs per cord.

"A person can click on the map and get the cost calculator for a tree species in that area," Gorman said.

Arriving at this point took more than a year. When a few rural folks suggested a get-together to discuss wood heating, Gorman figured rather than burning \$15,000 to \$20,000 on a wood-energy workshop, why not use the funds to develop a Web site.

"Focusing on wood heat in the home would offer a community intranet where people all over the state could interact and share information," he said.

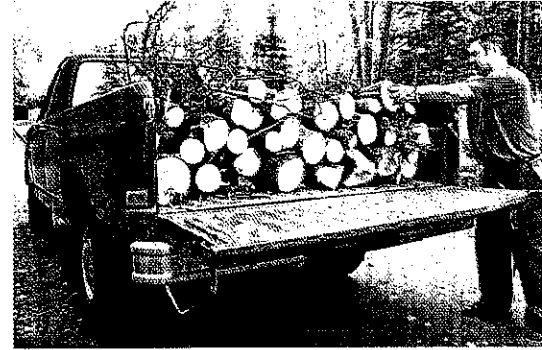
With that goal in mind, Gorman convened a brainstorming session with Extension rural development team

members, including Program Assistant Heidi Veach, Program Assistant Karen Petersen and Natural Resource Economist Lee Elder. Petersen researched case studies, Veach chipped away at wood sources and Elder went surfing—web surfing. At first, the waves were few and far between.

"Finding the data on so many levels took forever, and when I did find something, I wondered if it was any good," Elder recalled.

Alaska Housing Finance Corporation and Flattop Technical Service came up with data based on 20,000 homes, and Elder found an energy-usage calculator run by the Canadian government.

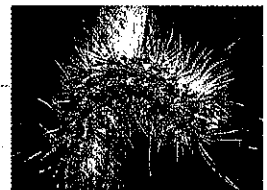
Finally, after half a year of compiling data and graphics, the team sent the paperwork to webmaster Peter Torkelson and the tweaking began, mostly centering on too much or too little information.



A wood cutter shows the correct way to load and unload timber from a truck bed. Photo by Michael Conti

Now that the website offers a colorful display of easily accessible energy alternatives, the next project involves teaching communities and corporations how to manage the forests, Gorman said.

"We can't just go around cutting wood the way the steamboat lines did in the old days—one boat would consume 300 cords a day."



Gypsy moth larva.

On the Lookout for Exotics

The Extension Integrated Pest Management Program teaches environmental awareness while helping to safeguard Alaska's natural resources. The IPM team serves as proactive first detectors through the performance of monitoring, trapping and educational outreach to help prevent destructive, imported pests—known as exotics—from becoming established in Alaska's forests, woodlots, agricultural fields, home gardens and greenhouses.

Community forest health is a major focus of the IPM Program. Participating in collaborative gypsy moth monitoring, IPM staff place approximately 300 traps in 20 communities across the state each year. From this monitoring, a major breakthrough occurred when IPM Technician Cathy Turner captured a European gypsy moth.

Because the pest was detected, additional monitoring and trapping were performed to prevent it from becoming established in Alaska. "This early detection work is very important in light of increased tourism to Alaska, especially by vehicular routes," said James Kruse, U.S. Department of Agriculture Forest Service entomologist. "Gypsy moths are moved by people, usually in immature stages, such as cocoons."

Kruse added that gypsy moths are ranked in the top three insect threats to Alaska. Gypsy moth caterpillars have the ability to defoliate all deciduous tree species, especially aspen. This insect has such a broad host range that even nontimber products and native plants can be devoured, including cranberries.

The combined IPM Program team is experienced at assisting the public with identifying pests, diagnosing plant disorders and delivering educational programs. Annually, this team raises the pest management awareness level of more than 14,000 people. The diverse clientele served include urban and rural residents, educators, youth groups, community agencies, garden clubs and the green industry (landscape, nursery, tree care).

FEATURE: Water Quality Program a Success Story

For the last five years, Extension has been a partner with the Municipality of Anchorage, Bureau of Land Management, Anchorage Waterways Council and several other state agencies and organizations on a dog waste program called "Scoop the Poop." The issue came to light when the State of Alaska published its 303(d) list of impaired water bodies.

Eight creeks and three lakes in the Municipality of Anchorage were on the list for fecal matter pollution. In response the partners formed a committee and created the "Scoop the Poop" project.

"The goal of the program was to raise awareness and educate the public about a dog poop problem," said Fred Sorensen, Extension resource agent and Water Quality Program coordinator.

The program had a number of phases, including a series of posters, TV and radio spots, and sponsored "poop stations" where the community could find pick-up bags and trash cans. The partners also sponsored and held a community cleanup of the trail system on BLM land within the municipality—with extensive and popular hiking and skiing trails used year-round. For the first year of the event, local user groups were the targeted audience. The results, partially due to weather, were

not as successful as hoped, and many of the trails didn't get cleaned up.

The following year the community cleanup was open to the general public with food and entertainment adding a festival atmosphere to the event. Meanwhile, the new city system of "poop stations" included the trail system on the BLM land tract.

For the next few years the event was a success. Literally truckloads of dog poop had been collected. However, in 2005 the project turned a corner and attendance was about the same, but the amount of poop was less than expected.

There was not as much poop showing up on the trails even though the usage had not changed. People were picking up after their dogs and placing it in the trash cans at the trailheads. In 2006 the committee decided to cancel the community trail cleanup event and focused on a different festival at a dog park in the city. The success of the cleanup meant the demise of the event.

"It would be great if every creek cleanup or other public awareness event concerning water quality or public health issues had to be cancelled due to lack of need," Sorensen said.

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