

A full-page background image showing a vast, rugged glacier flowing through a valley. In the background, majestic snow-capped mountains rise above a layer of clouds. The foreground is filled with a dense, lush green forest of coniferous trees. The overall scene is captured in a vibrant, slightly blue-tinted color palette.

# Annual **2014** Highlights

University of Alaska Fairbanks  
School of Natural Resources and Extension

# change

**2014 WAS A YEAR OF CHANGE.** On July 1, the UAF School of Natural Resources and Agricultural Sciences and the Cooperative Extension Service combined to form a new unit.

We're now the UAF School of Natural Resources and Extension. The goal of the merger is to strengthen the research, teaching and outreach missions of both former units, which include the Agricultural and Forestry Experiment Station. We've been partners for years, but we're working more closely than ever to extend our resources. Extension staff and researchers in Palmer now share space at the Matanuska Experiment Farm and we're integrating our work across the state as opportunities open.

Our clients will not notice any change in service. Extension remains the outreach arm, delivering the latest research findings and community education, and the experiment station provides the research arm. Together, our programs play a vital role linking the knowledge generated at the university to meet the needs and interests of Alaskans.

The school provides relevant, hands-on natural resources research and academic instruction for undergraduate and graduate students. After streamlining its undergraduate offerings, the school now offers one Bachelor of Science degree in natural resources management. This strengthens our academic offerings, which provide a wide variety of relevant disciplines, including sustainable agriculture, policy and law, ecology, forest sciences, economics and planning.

As we move into 2015, we know we face some serious challenges, especially from a funding standpoint, but we also believe it will be an exciting year as the merger becomes reality. We have set the groundwork for a really strong unit and we look forward to the coming year.

**Fred Schlutt**

*Vice Provost for Extension and Outreach and Director of UAF Cooperative Extension Service*

**Steve Sparrow**

*Interim Dean of the UAF School of Natural Resources and Extension and Interim Director of the Alaska Agricultural and Forestry Experiment Station*





# New Guide

## PROVIDES ALASKA HERB INFORMATION

**BARBARA FAY'S GRANDMOTHER** introduced her to aromatic herbs. Fay held the basket while her grandmother picked garden herbs and tucked the extras in her granddaughter's braids. "I would smell them all day," she said.

After moving to Fairbanks in 1967, Fay read up on herbs, tested different varieties in her garden and began teaching classes with a friend in their homes. They talked about folklore and growing and cooking with herbs, and they served a five-course meal.

Horticulturist Pat Holloway invited her to plant an herb bed and to research varieties in the Georgeson Botanical Garden. Over time, Fay recruited other gardeners, who formed the "Herb Bunch" and continued the work.

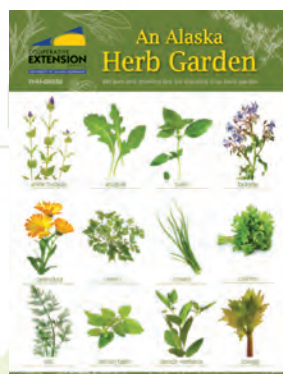
Fay's class materials and research from the garden formed the framework for a new 76-page guide on Alaska herbs published by Extension.

*An Alaska Herb Garden* features a section by Holloway on cultivating herbs and information about harvesting, storing and using herbs. It includes recipes collected for Fay's classes and by Herb Bunch members Virginia Damron and Marsha Munsell. Home economist Roxie Dinstel tested recipes and edited the guide.

Holloway said the guide will be a great asset to gardeners and others interested in herbs. She credits Fay. "This is her idea, her baby. She is the one who got us all riled up about herbs."

- ❖ Copies of *An Alaska Herb Garden* are available from Cooperative Extension offices or by calling 877-520-5211.
- ❖ Recipes and detailed information are available for 25 herbs, including anise hyssop, arugula, basil, borage, calendula, chervil, chives, cilantro, dill, lemon balm, lemon verbena, lovage, marjoram, Mexican mint marigold, mint, nasturtium, oregano, parsley, rosemary, sage, savory, sorrel, sweet woodruff, tarragon and thyme.

*Barbara Fay tends her hydroponic herb garden at her home. Photo by Hollis Fay*



# distance

## EMBRACING **Technology** TO REACH MORE ALASKANS

**MAY BUONGIORNE** tends a two-acre garden and raspberry patch in the Dry Creek community, about 40 miles east of Delta Junction.

Some 70 area residents rely on the garden's bounty, so Buongiorne eagerly signed up for the four-month Master Gardener training offered by videoconference in Delta Junction.

While agent Steven Seefeldt taught the class in Fairbanks, Buongiorne and six other gardeners tuned into the weekly videoconference in Delta Junction.

Buongiorne said Seefeldt did a great job of blending plant science and a practical approach. Despite the long commute, Buongiorne said, "It was totally worth it." She felt more confident about gardening last summer, and she used the resources she received.

In addition to the hands-on workshops it is known for, Extension reaches Alaskans in a variety of ways, including the university's videoconference network, online training, audio conferences and other forms of distance delivery.

Agents use the OWL network, with video and webinar connections in libraries across the state, to offer sessions on health and energy topics. The Sitka agent taught a workshop on extending the growing season, which attracted 56 people in nine Southeast libraries.

Since she lives in a remote location, May Buongiorne wishes more classes were offered by distance delivery. "If you get these kinds of opportunities, take them," she advises.



- ✦ Extension used the videoconference network in 2014 to teach small business workshops, a series for individuals interested in starting a specialty foods business, and trainings for pesticide applicators and food protection managers.
- ✦ Thirty-five aspiring farmers from Ketchikan to Aniak participated in the 12-week Alaska Growers School session taught via audioconference or computer.
- ✦ Individuals who wish to become Master Gardeners or 4-H leaders may take the training online.

*Program Assistant Marsha Munsell leads a food safety workshop using the university videoconference network in Fairbanks, with participants in Palmer, Barrow, Kodiak and Tok.*





# Field Course

## NRM DEGREE PREPARES ALASKA STUDENTS FOR CAREERS

**EVERY MAY**, University of Alaska Fairbanks students majoring in natural resources management take to the road to explore the amazing and vast classroom that is Alaska.

From Fairbanks to Seward, academics and adventure meld to help NRM students understand how the state's natural resources are managed. Meeting with natural resources managers in private industry, agencies and parks, students get ideas for future careers in conservation, park protection and interpretation, regulation, restoration, soil science or forestry.

Students learn about sustainable stewardship of natural resources in Alaska's many and diverse ecosystems and get a realistic picture of careers available in the natural resources management field.

The NRM degree provides a foundation in a wide variety of relevant disciplines: sustainability science, sustainable agriculture, policy and law, natural resource and social science measurements, ecology, economics and planning.

This naturally inspiring curriculum prepares students for careers emphasizing stewardship of the great outdoors. Alumni are found in positions of leadership throughout Alaska and beyond — from agency heads to military to government posts, they are using their education to make a difference.

# career

*A Natural Resources Management student takes a quiet break at the Cleanwater River during the 290 field course in May 2014.*

- ❖ Alum Colin Barnard credits the soils class he took during his NRM studies with leading him to a career with the Salcha-Delta Soil and Water Conservation District.
- ❖ Jeff Roach was honored by the UAF Alumni Association with an alumni achievement award this year. He says the NRM degree was the key to the great jobs he got.
- ❖ Anna Atchison loves every aspect of her job as government relations manager at Fort Knox Mine. In her time studying for an NRM degree, she learned about the challenges of managing the state's natural resources.
- ❖ View a short video about the field course at [www.youtube.com/watch?v=iXUhSngmsXc](http://www.youtube.com/watch?v=iXUhSngmsXc).



# Peonies

NEW CASH CROP FOR ALASKA



**A LITTLE OVER A DECADE AGO**, just about the only peonies growing in Alaska were a few backyard bushes. Now 24 farms belong to the Alaska Peony Growers Association.

Horticulture Professor Pat Holloway said commercial production began in 2004 with small test plots in Fairbanks, Kenai and Homer. By 2012, more than 100,000 roots had been planted by 38 growers. The projected statewide harvest for 2015 is over 1 million peony stems.

By surveying 38 growers, Holloway determined sales of fresh-cut peony stems doubled from 2011 to 2012. More than 25,000 stems were sold in 2013, at \$2 to \$10 per stem.

Holloway, who initiated peony trials at the Georgeson Botanical Garden, tracks growth and development of the new industry. "Growers, industry support groups, legislative leaders, educational and research organizations need to know basic statistics on crop production, markets and growth in order to support and fund activities that promote this industry," Holloway said. "Hard numbers also provide a great wow factor."

Peony growing is a long-term investment for farmers because roots take several years to produce buds that can be sold and there is a steep learning curve surrounding soil quality and fertilizers. Professor Mingchu Zhang has determined that peonies require 16 essential nutrients. "Each one is irreplaceable," he said. "If one is missing the plant won't perform."

# STORY

- ❖ Cooperative Extension Service agents work with potential and existing peony growers, offering workshops, nutrient analysis and pesticide recommendations and making site visits to peony farms.
- ❖ There were 75,264 stems harvested in Alaska in 2014. Six growers sold to national and international (Canada and Taiwan) markets either individually or through a pack house.
- ❖ The variety Sarah Bernhardt and white blossoms are the top sellers, followed by corals, creams and blush pink.



*A bumblebee is attracted to a peony at the Georgeson Botanical Garden.*





EXTENSION CELEBRATES

# 100 Years



- ❖ After Extension was founded in Fairbanks, the two Extension agents almost immediately left on a road trip around Alaska to organize 4-H clubs, and teach home economics and agriculture.
- ❖ Extension's first field office opened in Palmer in 1936 to work with the 200 Matanuska Colony farm families and 100 other families that had homesteaded in the area.
- ❖ Extension now has nine district offices with 34 agents in Fairbanks, Delta Junction, Palmer, Anchorage, Nome, Soldotna, Juneau, Bethel and Sitka. 4-H offices are also located in Dillingham, Kodiak and at Eielson Air Force Base.

**THE COOPERATIVE EXTENSION SERVICE** marked its centennial in 2014.

The Smith-Lever Act established Extension to “aid in diffusing among the people of the United States useful and practical information,” particularly in the areas of agriculture, home economics and rural energy.

A national network of educators affiliated with land-grant universities extends research-based information on these subjects and a lot more to the people.

Extension came to Alaska in 1930, after Congress amended the Smith-Lever legislation to include the territory. In its early days, Extension helped Matanuska colonists, homesteaders and others thrive in Alaska's challenging environment. It continues to work with Alaskans today — whether it's helping them garden, can salmon, use a GPS or season firewood.

Extension provides the “service” in its name in a variety of ways, whether it's providing advice on food preservation, or, as a Bethel agent did this year, walking through a house with a flashlight looking for bedbugs.

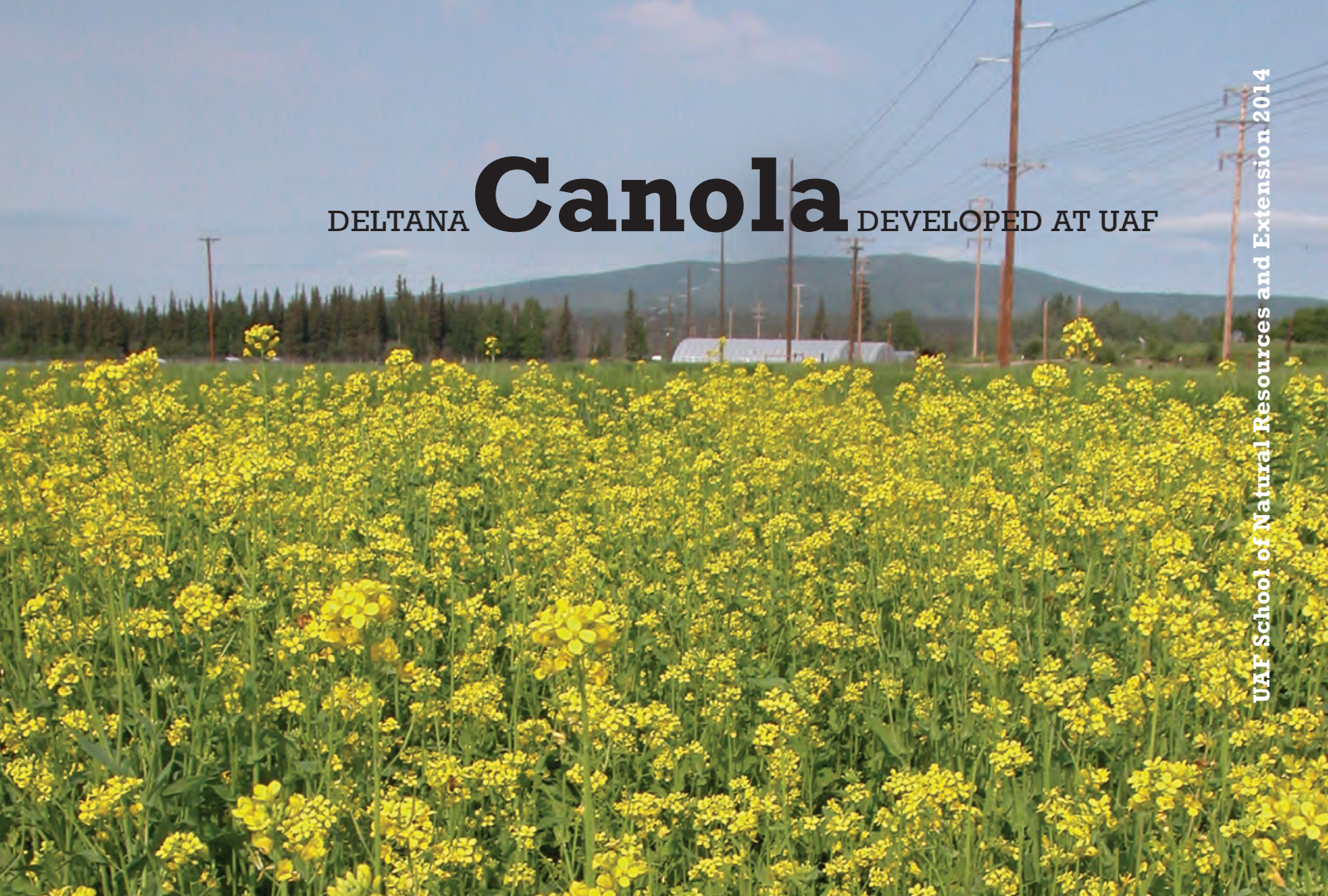
Alaska Extension celebrated the centennial with weeklong information fests in several communities — teaching practical classes on everything from keeping moose out of your gardens to baking bread.

*Pioneering Extension agent Lydia Fohn-Hansen, center, worked out of a tent and taught canning to the newly arrived Matanuska colonists in 1935.*

# celebrate



# DELTA Canola DEVELOPED AT UAF



✦ Delta Junction farmer Bryce Wrigley tested Deltana last summer on five acres, with a comparison trial of five acres of A.C. Sunbeam as the standard and met the market requirement of less than 2 percent green seeds on both varieties.

*Deltana canola has been field tested by researchers at the Fairbanks Experiment Farm for the past several years.*

**ONE-OF-A-KIND AGRICULTURAL** research in the U.S. is being conducted at UAF, where scientists are growing non-genetically modified Polish canola.

Canadians began releasing canola as an edible product during World War II. The UAF research hails back to the 1970s, when rapeseed (an inedible close cousin to canola) trials were conducted for industrial oil.

Along the way, Professor Mingchu Zhang had obstacles to overcome, such as securing breeding stock, which is difficult to get, and the goal of meeting market standards (less than 2 percent green seeds) for an edible product.

The culmination of the research is Deltana canola, which is perfectly suited for growing in the Interior. "There is very high potential if we can convince people to do it," Zhang said. "It's non-GMO; it has purity."

Alaska grown canola can be used for cooking oil or as meal for animal feed. In addition to being a nutritious crop, canola may offer relief to farms that deplete soil by continuously growing barley. "Canola is a good rotational crop for Delta," Zhang said. Processing will require special equipment and hefty investments, but Zhang believes Deltana will prove beneficial for Alaska and predicts international markets will be interested.





# Youth

PROGRAM OFFERS  
DIVERSE ACTIVITIES



*Jessy Brockmeyer pets a dog while a member of the 4-H mushing club prepares for dog mushing. Photo by Cassie Jackson*

# Kids

- ❖ Research indicates that high school seniors in 4-H are nearly two times more likely than other seniors to plan on going to college.
- ❖ Members participate in a 4-H international exchange program — either staying with host families in other countries or hosting youth from Japan. This past year, 21 youth from Japan stayed with families all over the state.
- ❖ Activities are coordinated by 4-H agents and staff in Fairbanks, Palmer, Juneau, Soldotna, Anchorage, Bethel, Juneau, Kodiak, Sitka and Dillingham. Every military installation in Alaska hosts a 4-H program.

**4-H OFFERS A LOT OF VARIETY THESE DAYS.** In addition to traditional programs, such as raising animals, cooking and sewing, participants may break-dance, luge, serve as legislative pages and study martial arts, science or photography.

A seventh-grade class at Effie Kokrine Charter School in Fairbanks is a 4-H mushing club. Teacher Cassie Jackson works geography, English, math and history into the curriculum and students meet with mushers. Nenana musher Jessie Holmes is working with the class this year and other mushers will stop by.

Students learn about dog care and how to harness the dogs and also about mushing equipment and technique. The class culminates with a couple of spring sessions during which students mush a four-dog team.

Jackson worked with 4-H agent Kendra Calhoun to set up the program. She says tying school subjects to hands-on opportunities that the kids are interested in motivates even reluctant learners. It also gets them outside for exercise.

Freshman Jessy Brockmeyer joined the club as a seventh-grader and liked it so well he has returned as a junior handler the past two years. He will show students how to approach and work with dogs.

He had never mushed before joining the club. "I got to learn something new — and I liked it," Jessy said.

Some 15,000 Alaska youth participate in 4-H every year, through after-school and special interest activities, camps and summer exchanges. See more information at [www.alaska4h.org](http://www.alaska4h.org).



# Boreal Alaska

LEARNING, ADAPTATION, AND PRODUCTION, A RESEARCH AND K-12 OUTREACH PROJECT, IS ENHANCING THE UNDERSTANDING OF THE BOREAL FOREST

**IN ONE OF THE MOST AMBITIOUS** forest regeneration experiments in Alaska, University of Alaska Fairbanks forest scientists surveyed the massive Rosie Creek Fire site (burned in 1983) to determine biomass potential. Previous work was halted after funding disappeared decades ago. “I knew there was more to the story,” said Professor Glenn Juday. “With BAKLAP we were able to salvage the initial investment and make it pay off 30 years later. That’s really gratifying.”

The data the researchers collected on forest regrowth gives state foresters unprecedented information to better discern the impacts of a changing climate.

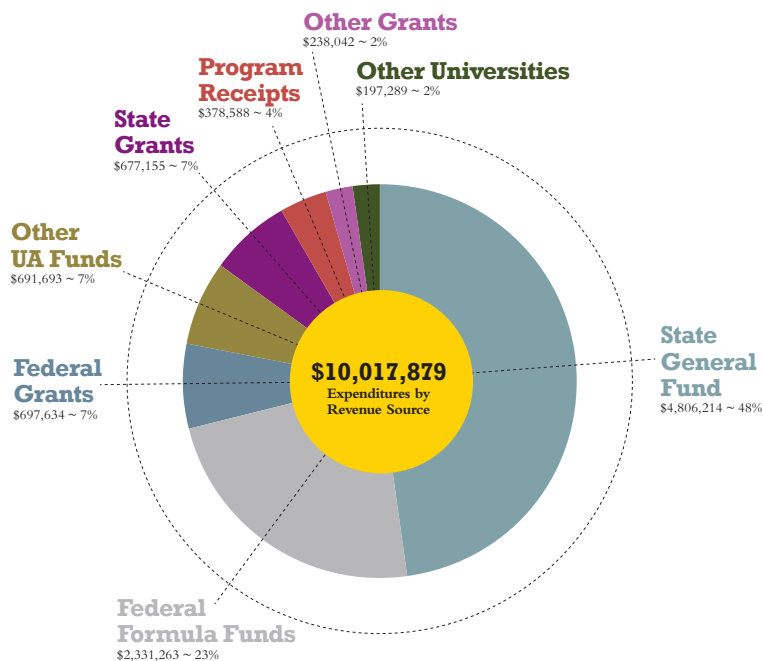
The outreach aspect of the program, OneTree Alaska, shares the excitement and creativity of science, technology, education, art and math education through the study of birch trees. The program conducts K-12 outreach to thousands of Fairbanks-area students and offers unique professional development opportunities for teachers.

Students grow saplings, tap for sap, create art from tree products and create business marketing plans. Collaboration with schools, artists, graduate students and scientists is key to success. “The community has really embraced OneTree and made it its own,” Janice Dawe, OneTree Alaska’s director, said.

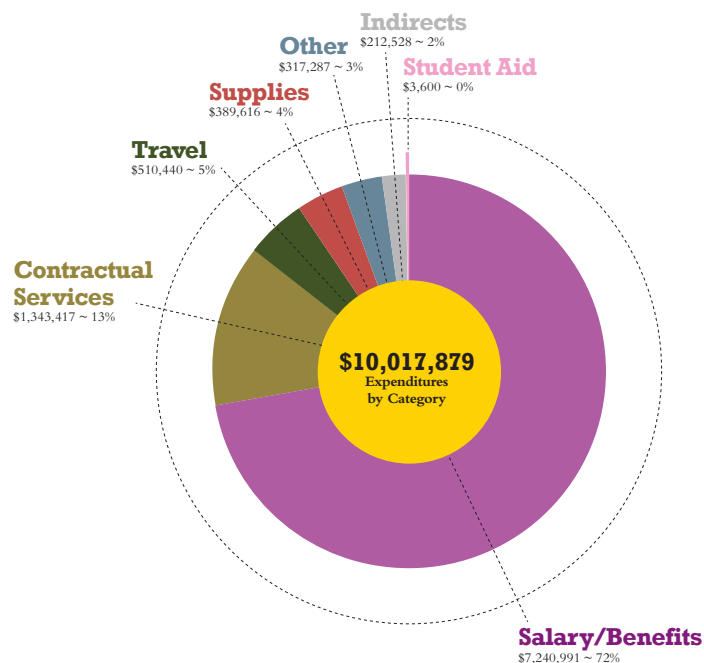


Graduate students take forest measurements for the BAKLAP project.





July 1, 2013 – June 30, 2014 (State FY14)  
SNRE Expenditures by Revenue Source  
Total: \$10,017,879



July 1, 2013 – June 30, 2014 (State FY14)  
SNRE Expenditures by Category  
Total \$10,017,879