

# Natural Resource News

UAF School of Natural Resources and Agricultural Sciences  
Volume 3, number 2 July 2003

## SNRAS to lead CESU research unit

THE UNIVERSITY OF ALASKA HAS BEEN selected as the host institution for the new North and West Alaska Cooperative Ecosystem Studies Unit (CESU) under the leadership of the UAF School of Natural Resources and Agricultural Sciences and the Agricultural and Forestry Experiment Station (SNRAS/AFES). The CESU program is a national network of creative partnerships among federal agencies, universities, and other nonprofit organizations. The collaborations are designed to yield scientific information needed for managing federal resources, while enhancing university research and teaching efforts. Because agencies often must work together to address complex environmental issues that transcend administrative and scientific boundaries, the scope of the CESUs includes the biological, physical, social, and cultural sciences.

Each study unit serves a defined biogeographic area. The North and

West Alaska CESU encompasses western Alaska (including the Aleutians), north-central Alaska (the Interior), and arctic and subarctic Alaska. Southeast Alaska is included in the Pacific Northwest CESU, for which the University of Washington is the host institution; UAA and UAS are partner institutions in that CESU.

“Our CESU will partner with the University of New Hampshire and the Alaska SeaLife Center, and other university and non-university partnerships are being explored,” said Carol Lewis, SNRAS dean, director of AFES, and principal investigator for the CESU project. “Because the host institution for our CESU is the entire University of Alaska, UA Anchorage and UA Southeast also are participants in this initiative.”

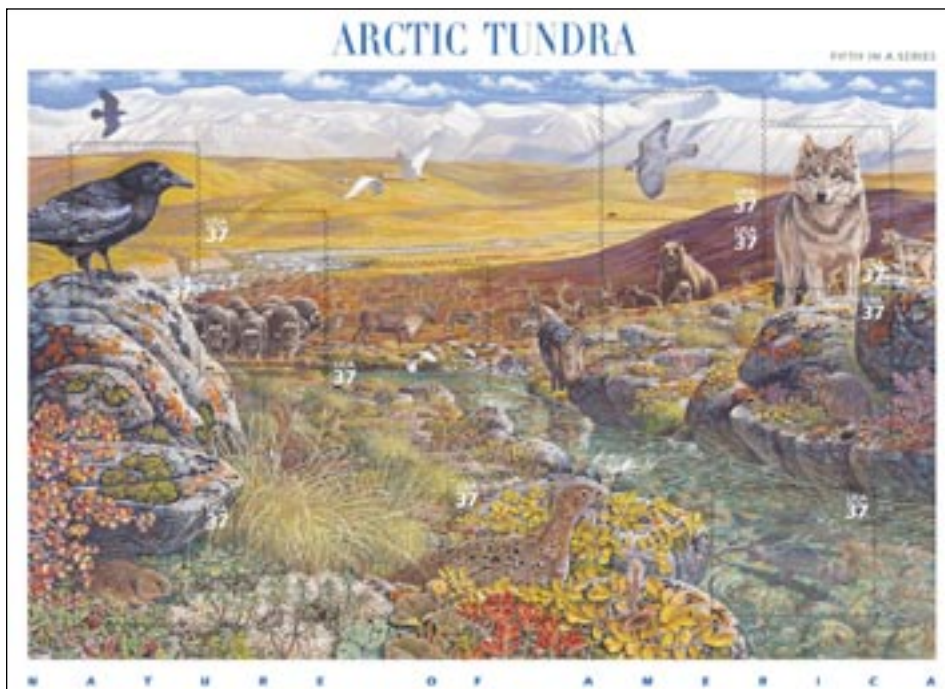
Federal land management, environmental, and research agencies share several science-based goals with universities: high-quality science, usable knowledge

*Brome grass,*  
*Bromus inermis.*  
—Photo by  
Larry Allain @ USDA-  
NRCS PLANTS Database



for resource managers, responsive technical assistance, continuing education, and cost-effective research programs. “The idea behind the CESU partnerships is that sharing resources and expertise will serve these interests,” Lewis said. Participating agencies enjoy the advantage of university resources, which in turn gain financial support and enhanced personnel. Lewis said that as of mid-May five agencies have announced their participation: the Bureau of Land Management, the U.S. Geological Survey (Biological Resources Division), the National Park Service, the USDA Forest Service, and the National Marine Fisheries Service.

Primary administrative functions of the CESU will be conducted within SNRAS/AFES, with support from other university entities. Participating federal agencies will pay the cost of CESU-affiliated federal employees stationed at the university, and will fund research and program development. Each participating federal agency will provide \$10,000 for the CESU’s startup development. The UA CESU proposal was completed by professors Gary Laursen, senior research professor at the UAF Institute of Arctic Biology and Peter Fix, assistant professor of outdoor recreation management at SNRAS. Further support was provided by Craig Dorman, UA vice president for research; Jim Johnson, now UA vice president for human resources; and Ted DeLaca, UAF vice provost for research. The winning proposal covered the first five years of the Alaska CESU, July 2, 2003 to June 30, 2008.



On July 2, a first-day-of-issue ceremony was held at the University of Alaska Fairbanks to introduce ten commemorative U.S. postage stamps that feature arctic tundra flora and fauna.

# SNRAS welcomes Agricultural Research Service

THE FEDERAL AGRICULTURAL RESEARCH Service (ARS) has reestablished an Alaska unit based at SNRAS. The new Subarctic Agricultural Research Unit will work on projects to enhance the productivity, profitability, and environmental quality of Alaska's farming industry and natural resources. ARS previously operated an Alaska unit that was closed in the mid 1980s.

ARS, the principal in-house research agency of the U.S. Department of Agriculture (USDA), is charged with extending scientific knowledge through research projects and technology transfer in agriculture, nutrition, technology, and the environment. Alberto Pantoja, entomologist and research leader for the new unit, comes to Alaska from the University of Puerto Rico, Mayaguez, where he was associate dean for research at the Agricultural



*Alberto Pantoja*

Experiment Station. He said that although ARS scientists won't teach regular UAF classes, as affiliate faculty they will share their expertise at seminars, conferences, and as graduate committee members.

Research is currently focused in three main areas: integrated pest management (IPM), food technology and fish byproducts, and plant germplasm. Current ARS staff members in Fairbanks are: Pantoja; John Clark, administrative officer; Dennis Fielding, research entomologist; Jeff Conn, research agronomist in weeds management; Peter Bechtel, research food technologist; and Sultan Begna, postdoctorate in entomology. Located at Palmer, Alaska, are horticulturist and curator David Ianson; plant pathologist Nancy Robertson; and plant physiologist Donald Carling, former SNRAS faculty member. Seven technicians work for the unit: Katherine Beattie, Daniel Labarre, Heather Averett, Kathryn Brown, Kaye Hessinger, Christine Macknicki, and Linda DeFoliart. Pantoja said the ARS

unit will recruit researchers to fill two positions for the IPM program and one food technologist for the fish byproducts program.

Innovative pest management strategies suitable to northern latitudes support crop and nursery production systems and sustainable natural resource practices. IPM systems incorporate biologically based controls, host resistance, cultural control, resistance management, and application technology for the control and suppression of major insect, pathogen, and noxious weed pests that affect field, vegetable, horticultural crops, and rangeland ecosystems. In cooperation with the university, current research conducted by Fielding and Begna aims to develop and evaluate biologically based control systems for grasshoppers. Conn and Pantoja are also working on projects under the IPM umbrella. Conn will investigate the regional invasiveness of weeds and the longevity of seed in soil.

Biochemist and food scientist Peter Bechtel investigates potential uses of fish byproducts. Finding uses for the waste produced during fish processing contributes to industry profitability and environmental protection.

The Alaska Plant Materials Center in Palmer, operated by the state Department of Natural Resources Division of Agriculture and funded primarily by the USDA, is one of the twenty-seven sites in the ARS nationwide National Plant Germplasm System (NPGS), a cooperative effort by state, federal, and private organizations to preserve the genetic diversity of plants. The sites conserve seeds and other genetic materials of crops and their wild relatives. Ianson is curator for Alaska's Arctic Genetic Resources Unit, the repository for native arctic and subarctic plants, some useful in environmental restoration, some with potential medicinal value, and some grains, legumes, and vegetables adapted to high latitudes. For more information, see the NPGS website at [www.ars-grin.gov/npgs](http://www.ars-grin.gov/npgs) or the ARS site at [www.ars.usda.gov](http://www.ars.usda.gov).

## Nunavut symposium held at UAF

AS PART OF A SPRING SYMPOSIUM SERIES, THE UAF Canadian Studies program hosted guests from Nunavut Territory in April.

Nunavut, meaning "our land" in the Inuktitut language, has been home to Canadian Inuit for millennia and part of Canada for more than a century. It is the first Canadian territory where political control has been returned to the indigenous population, approximately 29,000 residents.

Two Nunavut officials contributed to the symposium, "Self-governance in Nunavut: Traditional and Contemporary Perspectives." Participating in the panel were Jack Hicks, director of Nunavut executive and intergovernmental affairs, Eva Aariak, Nunavut commissioner of official languages, and a panel of UAF faculty.

In the early 1980s, Hicks worked in what is now Nunavut with several Inuit

communities on local and regional issues. He later worked for the governments of Canada and Nunavut to develop policies for the new territory. Aariak, a former radio and TV reporter for the CBC, is an educator. As languages commissioner she works to protect and promote Nunavut's official languages.

At a public slide presentation and commentary on Nunavut's cultural and physical landscapes, the officials were joined by Julian Tomlinson, who has worked extensively with communities in Nunavut and teaches at Aurora College in Inuvik, Northwest Territories.

All of the visitors participated in discussion of the social, political, geographic, and cultural aspects of the Canadian territory. The symposium series was funded by a \$15,000 grant from the Canadian government.

# Field season!

THE SUMMER FIELDWORK SEASON IS IN FULL swing at research sites across Alaska and at the AFES farms in Palmer and Fairbanks, as many of the faculty and staff conduct scientific observations and related activities that focus on crops, trees, and microbes during the short Alaska growing season.

At the AFES farm in Palmer, this season's research involves experiments on turf grass and potatoes, and trials of lettuce, cabbage, baby greens, and grain. In Fairbanks, greenhouse work with small fruits and forget-me-nots continues. At the Fairbanks Experiment Farm, a peony production study continues at the botanical garden. Other research includes variety trials on cereal grains, forage grasses, legumes, and other crops; also the timing of harvest and height of cut for brome grass and alfalfa. Ongoing data collection for the universal soil loss equation, crop phenology, and stress effects on crops continue at the farms at Fairbanks and Delta Junction.

Out in the woods in the Bonanza Creek Experimental Forest and the Caribou Poker Creeks Research Watershed, studies originally begun with the Frostfire experiment continue to focus on how wildfire affects soil dynamics, log decomposition, and carbon balance. Long-term moisture dynamics of tree growth are also under study, and black spruce sites are being set up for log decomposition research. SNRAS researchers are also studying arctic soils and carbon cycling.



Soil scientist Dave Valentine collects soil samples as part of a log decomposition study.

—Photo by Jessica Garron

## SNRAS faculty & staff changes

**Mingchu Zhang**, a new faculty member in the department of plant, animal, and soil sciences, has visited SNRAS and will begin his duties as assistant



professor of agronomy in August. Zhang holds a PhD in soil science and an MS in soil fertility from the University of Alberta in Canada. He completed a BS at the Agriculture University of Central China in Wuhan, People's Republic of China.

Since 1998, Zhang has been a research agronomist with the Agronomy Unit of the Alberta Agriculture, Food, and Rural Development agency. During the winter of 1997–98, he was a visiting scientist in agriculture at Tohoku University, Japan, and from 1993 to 1997 was a research associate at the University of Alberta.

Zhang's research interests include the relationship of soil fertility to plant nutrition and soil environmental chemistry. Recent investigations include the effects of manure and compost on soil quality and crops; heavy metals from municipal composts; phosphorus runoff; and greenhouse gas emissions.



Fiscal technician **Jason Theis** has replaced Mist Mashaney in the SNRAS/AFES business office. A 1995 UAF graduate, he formerly worked in career services. Although Jason was born in King Salmon, Alaska, he was raised in Oregon and did not return to Alaska until he enrolled at UAF, where he earned a bachelor's degree in biological sciences. His interests include working with plants and plant propagation.

Two staff changes have occurred in the AFES publications office. **Deirdre**

**Helfferich**, who joined the staff in spring 2002 as publications assistant, is now the managing editor. She replaced Neal Muirhead, who left the staff last fall. Currently working half time in the position, Helfferich is in the office Tuesdays, Thursdays, and the afternoon on Fridays. Her other endeavors include working as managing editor at *Mushing* magazine and as publisher and editor of the monthly journal, *The Ester Republic*.

**Doreen (Dodie) Fitzgerald**, who had been working in the publications office on a temporary basis, was hired in June as information officer and science writer. At UA she previously was an information officer for the statewide administration and editor for the UAF Geophysical Institute, a position she left to complete her master's degree at Michigan State University. After returning to Fairbanks, she most recently was the technical editor at Alyeska Pipeline Service company.

---

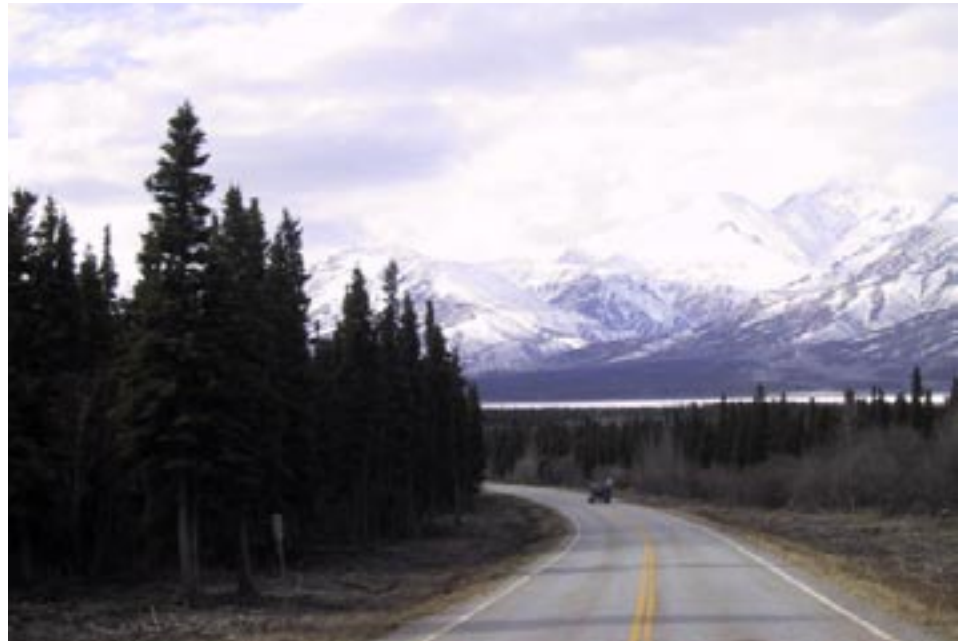
## Notes

---

**TWO GRADUATE STUDENTS** at SNRAS, **Paul Duffy** and **Evan Kane**, were awarded research funding through the Global Change Student Research Grant Competition sponsored by the Center for Global Change and its funding partners, the Alaska Sea Grant College Program and the Office of the Vice Provost for Research. Duffy, who is in forest sciences, submitted a proposal titled “The Role of Climate in the Disturbance Ecology of the Alaska Boreal Forest: Implications for Future Climate Change.” Kane, an interdisciplinary student in forest ecology, proposed research on “Interaction Between Production and Landscape Position in Controlling Soil Carbon Accumulation in Fire-Prone Black Spruce Ecosystems.”

**SNRAS ALUMNUS Kristjan Bregendahl**, a Denmark native who holds an MA in natural resource management from UAF, was appointed to the faculty at the Iowa State University (ISU) College of Agriculture in April. In 2001 he earned a doctorate in agriculture at ISU, where he carried out nutrition and physiology research in pigs and poultry and won an award for teaching excellence from the ISU graduate college. Now an assistant professor in poultry nutrition, one of his research goals is to understand how diet affects intestinal health and function in poultry.

**SNRAS STAFF MEMBERS Larry Burke** and **James Levison** were recognized for their service to the university at the UAF employee longevity awards in May. Levison is the manager of the AFES/Cooperative Extension business office. Burke is the superintendent of



*The spring road trip for resource management majors introduces students to a wide range of resource locales and enterprises in Alaska. —AFES file photo, 2002.*

the AFES farm in Fairbanks. Both were honored as 20-year veterans of the UAF staff.

**A KUAC-TV PROGRAM**, “Growing Alaska,” in late March featured animal science professor **Milan Shipka** and research assistant **Jan Rowell**. Geography professor **Cary de Wit** has been a regular guest this year on KUAC public radio, discussing the geopolitical past and present of various nations.

**FOUR OUTSTANDING STUDENTS** enrolled in SNRAS programs were recognized by Dean Carol Lewis at the 2003 Outstanding Student awards ceremony: **Cody Burgess**, forest sciences; **Robert Wiskeman**, geography; **Matthew Dusenbury**, plant, animal and soil sciences; and **Michael Gibson**, resource management.

**THE SPRING FIELD COURSE**, Natural Resource Management 290, this year involved 21 students and 10 members of the faculty and staff. The course, which is completed by natural resource majors, involves travel to resource-related destinations and enterprises in several regions of the state. This year the trip included the Kenai Peninsula, and the Palmer, Denali Park and Delta areas.

To simplify terminology, we may use product or equipment trade names. We are not endorsing products or equipment mentioned. Publication material may be reprinted provided no endorsement of a commercial product is stated or implied. Please credit the researchers involved, the University of Alaska Fairbanks, and the Agricultural and Forestry Experiment Station.

The University of Alaska Fairbanks is accredited by the Commission on Colleges of the Northwest Association of Schools and Colleges. UAF is an AA/EQ employer and educational institution.