Cooperative Ecosystem Studies Units Network

Cooperative Ventures

An update of activities from the Pacific Northwest Cooperative Ecosystem Studies Unit

Summer 2007

Lichen Ecology in the Western Arctic Parks

Peter Neitlich, Plant Ecologist, Western Arctic National Parklands

Background: Since 2002, the National Park Service (NPS) has partnered with Dr. Bruce McCune and PhD candidate Emily Holt of Oregon State University (OSU) through the Pacific Northwest Cooperative Ecosystem Studies Unit (PNW CESU). The focus of their work is to study the condition of lichen winter range in Bering Land Bridge National Preserve (BELA) and to document the poorly known lichen flora in Noatak National Preserve (NOAT). These two parks account for some 9 million acres of arctic tundra, boreal forest and alpine habitat. Approximately 75% of the flora is composed of nonvascular plants—lichens, mosses and liverworts.

Lichens play several key ecological roles in arctic ecosystems. They represent the primary winter forage for caribou and reindeer, and serve as a major food source for muskoxen, Dall Sheep, small mammals and arthropods. These animals in turn represent a major prey base for higher level predators (e.g., wolves, bears, raptors, etc.). Lichens are a major source of primary productivity and fixed nitrogen. They grow slowly and disperse poorly, thus requiring long periods to recover following major disturbances such as fire or intense grazing. Estimates have ranged from 50 to 250 years to recover a full complement of biomass and diversity, depending on habitat and study design.

The entirety of BELA is allotted to reindeer grazing. Reindeer grazing was established as a Native industry on the Seward Peninsula in 1892 to assist with food shortages caused by international overhunting of marine mammals. With non-Native industrial herding, numbers peaked at 650,000 animals in 1931, causing significant range damage from which northwest Alaska is still recovering. Since that time reindeer have been restricted to Native ownership and numbers have fluctuated between 10,000 and 100,000 animals.

With guidance and cooperation from McCune and the NPS, Holt initiated two projects whose combined objectives were to:

1. Assess the condition of winter range and the relationship of community structure to grazing in BELA
2. Describe basic lichen community patterns and their relationship to major landscape variables and successional patterns
3. Inventory macrolichen species and rate each in relative abundance
4. Determine the current state of pollutant accumulation in well-studied mosses and to place levels in the context of known lichen sensitivities
5. Establish baseline long-term grazing and pollution monitoring plots
6. Provide greater understanding of particularly sensitive communities and areas.

Results: Unexpectedly, reindeer grazing did not appear to affect the species diversity of lichens, but (as expected) had a large effect on the height of the lichen mat. Lichen communities were classified into three distinct associations which occur in different landscape conditions, and landscape occurrence of these communities may now be modeled. Tremendous numbers of macrolichen taxa (341 at last count) have been documented from NOAT. Including Dr. Teuvo Ahti has contributed significantly to the project. Dr. Ahti, a 70 year old Finnish scholar and international lichen expert, clarified the taxonomy and noted that he had found enough mate-

Please see Lichen Ecology on page 4

Mission

The Pacific Northwest Cooperative Ecosystem Studies Unit (PNW CESU) is a partnership for research, technical assistance and education to enhance understanding and management of natural and cultural resources.

In this issue:

The PNW CESU and *Cooperative Ventures* have produced our first themed newsletter, focusing on project activity in Alaska. If you have any comments or suggestions about this newsletter, or have ideas about future themed newsletters your input is greatly appreciated, please contact us at pnwcesu@u.washington.edu.

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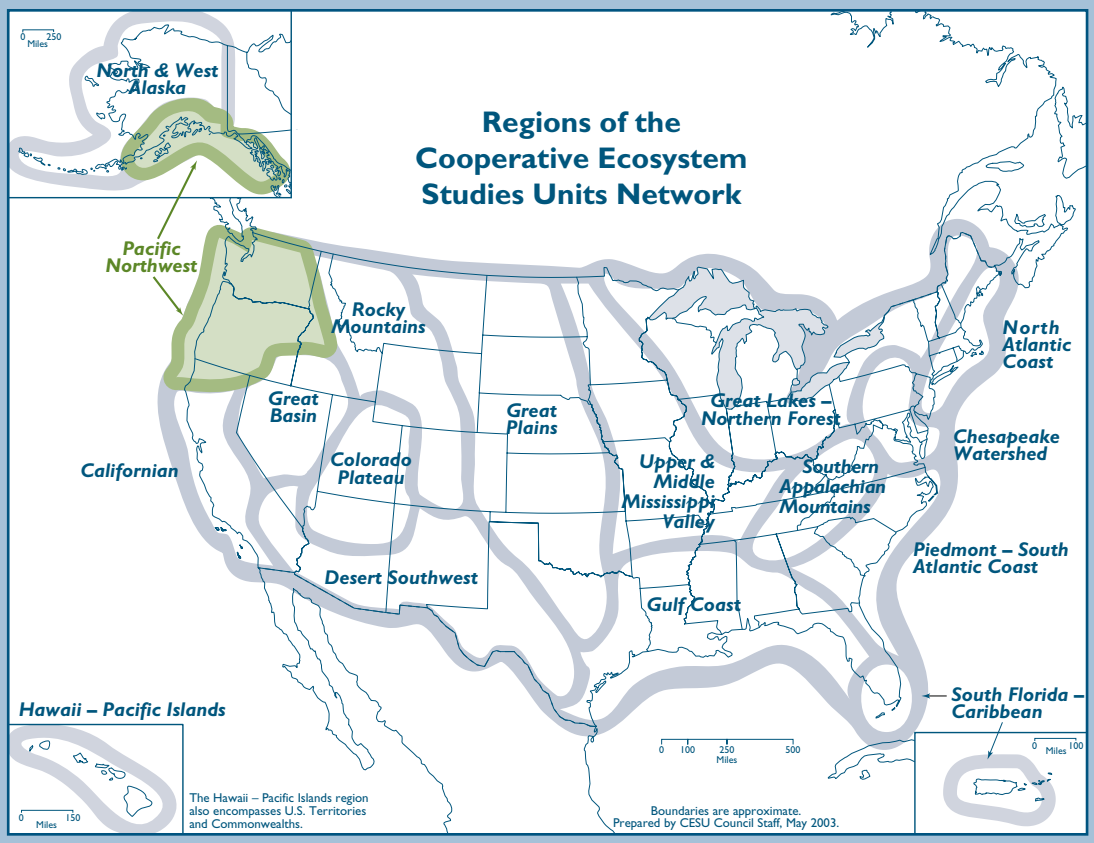
PNW CESU PARTNERS

Federal:
US Bureau of Reclamation
US Forest Service
(PNW Research Station)
National Park Service
Bureau of Land Management
US Geological Survey
US Fish and Wildlife Service
Natural Resource
Conservation Service
Minerals Management Service

University:
University of Washington (host)
Oregon State University
Southern Oregon University
University of Vermont
Tuskegee University
Heritage College
University of British Columbia
University of Alaska – SE
University of Alaska – Anchorage
Washington State University
University of Oregon
University of Idaho
Western Washington University
Portland State University
Oregon Institute of Technology
Saint Mary's University
Eastern Washington University
Alaska Department of
Fish and Game

Contact information for all of our representatives can be found on our Web site:
www.cfr.washington.edu/research.cesu/participants.asp

The PNW CESU and the CESU National Network



The **PNW CESU** encompasses a region extending across Washington, Oregon, Northern California, Western Idaho and Southeast Alaska, and is hosted by the University of Washington. As a member of the CESU National Network, the PNW CESU is a working partnership among leading academic institutions, federal, state and non-governmental organizations.

The **CESU National Network** is organized around biogeographic regions across the United States. Each Region is served by a distinct CESU, with all CESUs linked together in the National Network. The goal of the Cooperative Ecosystem Studies Unit Network is to improve the scientific base for managing federal lands by providing resource managers with high quality scientific research, technical assistance and education through their working partnerships.

Visit our Web site at: www.cfr.washington.edu/research.cesu

- Browse our on-line project library
- Download the project summary form
- Find helpful materials for initiating a project through the PNW CESU

Alaska Project Activity

The PNW CESU bio-geographical region encompasses parts of Washington, Oregon, California, Idaho, and Alaska. This edition of *Cooperative Ventures* is focused on the State of Alaska, to provide a look at the many fascinating projects from "The Last Frontier".

The Alaska Region and the PNW CESU have a long history of close knit cooperation. This collaboration has ranged from small projects to multi-year, multi-agency efforts. Since 2001, 8 University partners and 4 Federal partners allocated more than $2.8 million in project money through the PNW CESU's cooperative agreements. The Bureau of Land Management (BLM), the US Forest Service (USFS), the National Park Service (NPS) and the US Fish and Wildlife Service (USFWS) all use the PNW CESU in the State of Alaska. The recent inclusion of the Mineral Management Service (MMS) into the PNW CESU will likely produce new cooperative project activity within the State of Alaska.

The PNW CESU has been able to cultivate numerous unique cooperative projects between the NPS and the Alaska Department of Fish and Game (ADF&G). In these projects, ADF&G operates as the principal investigator with expertise in areas of ethnography of Native Alaskans and wildlife management that the NPS has called upon numerous times since they became a PNW CESU partner.

Clearly, opportunities exist for future CESU projects. Please contact the PNW CESU if you would like to initiate a project. **cv**

US Fish and Wildlife Service Alaska Project Highlight

Project Title: Variation in Salmon Abundance at Togiak National Wildlife Refuge over the past 3 centuries
Funding: $30,000
Collaborators: Daniel Schindler, University of Washington, Pat Walsh, Tongiak National Wildlife Refuge
Project Goal: Develop a paleoecological research program to reconstruct the historical population dynamics of anadromous sockeye salmon within the Togiak National Wildlife Refuge of southwestern Alaska

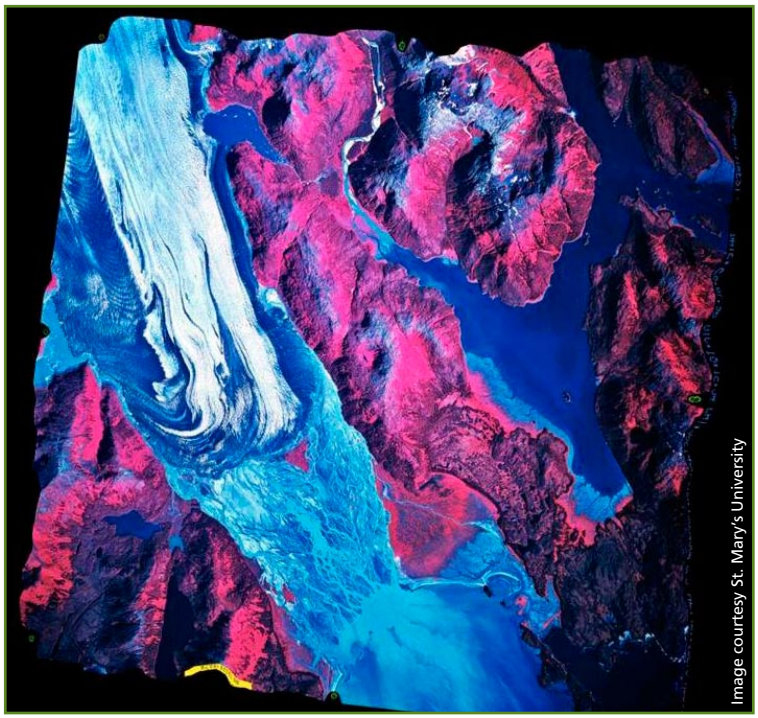
PNW CESU Project Activity

Saint Mary's University of Minnesota initiates two new Alaska National Park Service wetland mapping projects.

Saint Mary's University's GeoSpatial Services (SMU GSS) program, a new member of the PNW CESU, is initiating two National Park Service wetland mapping projects at Glacier Bay and Wrangell St. Elias National Parks in Alaska. The Glacier Bay National Park and Preserve project is a digital conversion of the existing aerial imagery and photo interpretation data, under the direction of Jess Grunblatt, the NPS Alaska Inventory Coordinator. This project's product will include ortho rectified imagery, interpreted land cover and National Wetlands Inventory (NWI) data at scales consistent with the NPS mapping standards.

The Wrangell St. Elias National Park project is a partnership between the NPS and USFWS and is being managed by Jerry Tande, the USFWS Acting Regional NWI coordinator. The project involves original wetland mapping, using park aerial photography. SMU GSS and the USFWS will be spending a week in the park during the summer of 2007 developing interpretation conventions.

SMU GSS has worked with the USFWS since 2002 mapping wetlands and providing digital conversion service. Their ongoing projects include the Yukon Delta National Wildlife Refuge (NWR), Togiak NWR, Fairbanks area trend analysis, North Slope's NPRA and Lake Clark National Park. They also have numerous mapping and GIS development projects across the lower 48 states. GSS (**www.geospatialservices.org**) is a University project center tied to the Resource Analysis Graduate Program (**www.gis.smumn.edu/**). For additional information please contact Barry Drazkowski at **bdrazkow@smumn.edu**. **cv**



New Glacier Bay Orthophotos.

rial on the trip to name some new species that had been "on the back burner" since he originally found them on a trip to Alaska in 1967. Holt has collaborated with Lawrence Livermore National Laboratory in applying advanced radiometric techniques to lichen growth rate study. This could represent a large step forward in this field, as lichens do not have any discernable annual growth patterns and transplant studies are very painstaking.

The NPS will follow up the range findings with a series of reindeer-caribou-muskox grazing exclosures in which mat height will be compared to unexclosed plots. They will also follow up OSU's research on post-fire habitat modeling with more intensive work through their fire program. The NPS is pleased to have intensive baseline data sets that may be used to monitor grazing as well as lichen community change in NOAT due to pollutants from global sources or local mineral development (e.g. heavy metals).**cv**

Graduate student Emily Holt searches for species in a late-successional lichen stand in BELA's Lava Beds. This area has not been grazed in hundreds of years due to natural landscape barriers. A one acre plot is likely to host more than 60 lichen species.

Unnamed drainage from the Inaccessible Range near Copter Peak, Noatak National Preserve Alaska. This was the site of OSU's pilot NOAT lichen communities study.

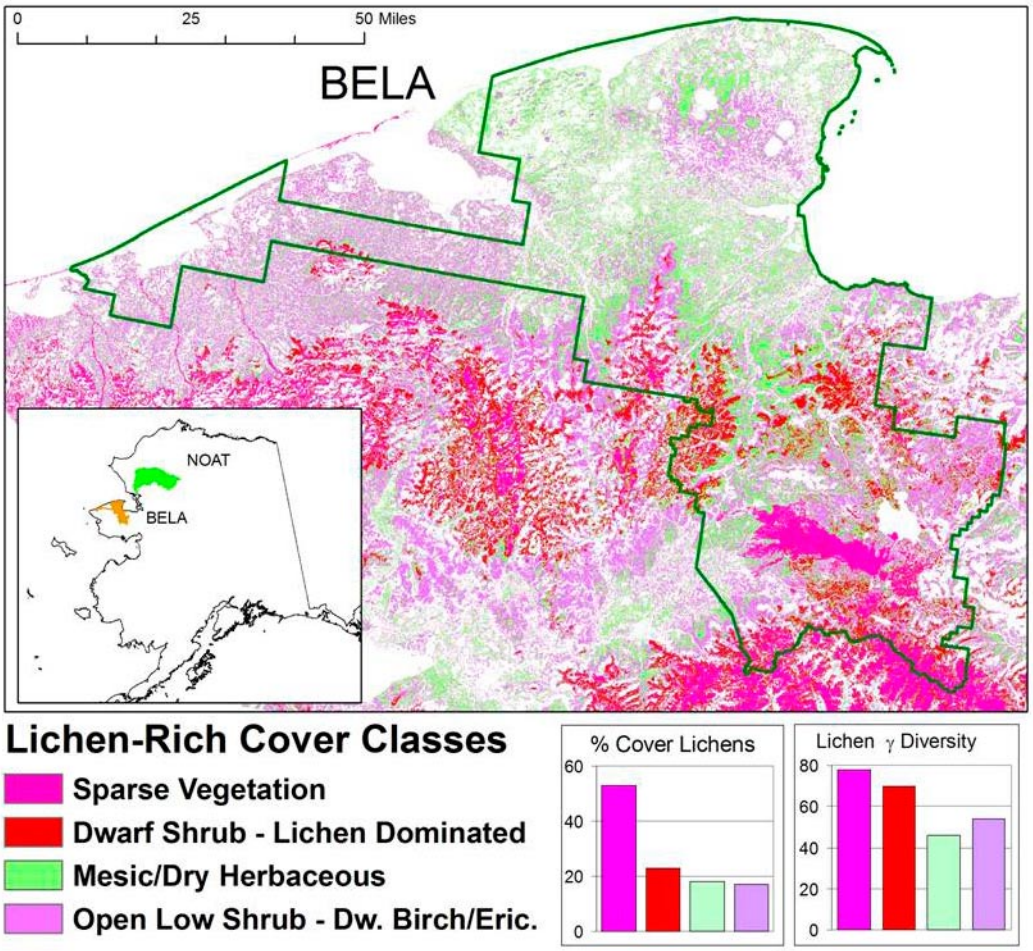


Image courtesy NPS

Bering Land Bridge National Preserve Lichen Rich Cover Classes.

Subsistence Production and Family Networks in Buckland, Alaska

Rachel Mason, National Park Service; James Magdanz, Alaska Department of Fish and Game; and Amy Craver, National Park Service (formerly of University of Alaska, Institute of Social Economic Research)

In 2004, the Western Arctic National Parklands, the Institute of Social and Economic Research (ISER) at the University of Alaska Anchorage and the Alaska Department of Fish and Game (ADF&G), Division of Subsistence, initiated a cooperative study of subsistence production and family networks in Buckland, an Inupiaq village in Northwest Alaska, through the Pacific Northwest Cooperative Ecosystem Studies Unit (PNW CESU). Similar studies have been conducted in the communities of Deering, Wales and Shungnak. In 2007, an additional study will in begin in Kiana. Taken together, the Shungnak, Buckland and Kiana projects are the most ambitious attempt to understand social networks beyond those associated only with harvest of subsistence resources. The Buckland research stands out because it employs both qualitative and quantitative social science research methods. Finally, the project is administratively notable because it involves use of a PNW CESU cooperative agreement to establish a project involving three partners: a federal agency, a state agency and a university.

Photo courtesy James Magdanz (ADF&G).

The Buckland survey crew, February 2004. Back row right to left: Bessie Barger (Buckland IRA), Eileen Devinney (WEAR), Rachel Mason (NPS), Charlie Gregg (ADF&G), Amy Craver (ISER). Front row right to left: Josie Thomas (Buckland IRA), Eva Lee (Buckland IRA), Nora Hadley (Buckland IRA), and James Magdanz (ADF&G).

The Buckland study produced about 50 transcribed key respondent interviews and 81 natural resource harvest interview schedules. The key respondent interviews were designed in accordance with qualitative research methods and the harvest interviews consistent with quantitative survey methods. After completion of the fieldwork, ADF&G researchers coded harvest survey responses and ISER staff entered these data into software files for analysis. ADF&G researchers also entered the data into the Community Subsistence Information System (CSIS), a database of subsistence harvests throughout Alaska. The end product of the joint study will be a technical report with contributions from ISER, ADF&G and NPS personnel, presenting ethnographic research, a brief analysis of the survey data and discussion of the socioeconomic and regional context of the community findings.

Preliminary results from the qualitative interviews illustrate how sharing responsibilities for providing food, earning income, raising children and other domestic functions allow Inupiaq households to adapt and survive social and economic challenges. As in other Inupiaq communities, adoption, especially by grandparents or other relatives, is common. In 17 of the 25 complex households encountered, grandparents were raising their children. For example, the children's parents might be temporarily working or attending school in another community.

People in Buckland typically help each other in difficult times, especially along kinship lines. For example, they may lend or borrow money or share meat from hunting. Or, a person might catch a boat ride with someone, or provide gasoline for use in a snowmachine. Adopted children help both their birth parents and their adoptive parents by sharing subsistence foods or money. Ex-spouses are also included in support networks.

ADF&G's quantitative social survey complements the key respondents interviews. After the Buckland Indian Reorganization Act (IRA) Council provided a list of community members, ADF&G researchers attempted a 100% sample of all households. Eighty-one of 88 possible household surveys were completed, representing 93% of households.

"Preliminary analysis of the harvest survey data indicate that Buckland residents harvested an estimated 254,170 pounds of wild foods in 2003, equivalent to an average of 630 pounds per person."

Preliminary analysis of the harvest survey data indicate that Buckland residents harvested an estimated 254,170 pounds of wild foods in 2003, equivalent to an average of 630 pounds per person. This is similar to subsistence harvests documented in other Northwest Alaska communities. Caribou accounted for 34% of the total harvest, followed by chum salmon (13%), bearded seal (12%) and smelt (6%). The subsistence diet was diverse; residents reported using 70 different species of wild foods from bears to berries.

James Magdanz (ADF&G) and Amy Craver (then associated with ISER) used the Buckland data to diagram the social networks. These networks extended far beyond Buckland to other

Please see Subsistence Production on page 6

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communities, regional centers of Kotzebue and Nome, and more distant larger cities, such as Anchorage. For example, one man in his 50s told Amy Craver that he brings his son berries, caribou, "muktuk" (whale fat and skin) and seal oil every time he goes to Anchorage. He also mails packages of beluga whale muktuk to family members living in Point Hope, and shares extensively with relatives and elders within Buckland.

Photo courtesy James Magdanz (ADF&G).

Conducting a harvest survey.

Thirty-nine percent of the people named as sources of support did not live in the respondent households. Twenty-seven percent lived in other Buckland households, 5% lived in other communities and 7% worked for organizations like the regional Native non-profit organization, Maniilaq, located in Kotzebue. Nearly one-fourth (24%) of the people named as distributors of wild foods lived in communities other than Buckland. The most frequently named communities were the regional center of Kotzebue, the adjacent communities of Selawik and Kiana, and Point Hope, a more distant Inupiaq whaling village.

The Inupiaq people who live along the Buckland River have relied on kinship networks to obtain and distribute wild foods and to fulfill other needs of everyday life for centuries. Although modern technology, the cash economy and wage employment have altered many aspects of the local culture, there is still considerable cooperation in harvesting and processing and elaborate kinship networks still function as the community and individuals adapt to evolving social conditions while maintaining a core Inupiaq identity.

Photo courtesy James Magdanz (ADF&G).

Local researchers sorting Buckland households into piles to display networks of sharing.

The Buckland study of subsistence production and family networks has several implications for applied anthropology. Like other subsistence harvest studies, the project will be useful to managers, both within the NPS and for federal and state management, in making decisions affecting the use of wild resources for subsistence. The ADF&G Division of Subsistence's mission is to scientifically gather, quantify, evaluate and report information about customary and traditional uses of Alaska's fish and wildlife resources. In addition to monitoring harvest levels, the Division of Subsistence has documented extensive sharing of resources in rural Alaskan communities. This is also essential information for managers, since it is important to know that because of sharing networks some people harvest more than they consume, or consume more than they harvest. The Buckland project added a new dimension to subsistence harvest monitoring by documenting networks of decision-making and financial support, labor and equipment as well as subsistence resources.

Another illustration of the project's value to applied anthropology is that it provides an ethnographic context to survey research. Amy Craver's in-depth interviews with members of two extended families added such a context. Instead of just knowing that people in two households were connected to each other, we learned of ways they supported one another. Data collection efforts have rarely taken this social network approach. For example, data-gathering instruments, such as census forms, are designed for the more typical independent, nuclear households of mainstream America. Throughout the nation, census data are collected and analyzed on an individual or household basis. But when Inupiaq households are categorized as if they were conventional American households, the data collected are often incomplete and do not account for the special Inupiaq understanding of household and family. Since most standard household surveys do not consider the important inter-household relationships, some of the most interesting and significant aspects of rural Alaska's domestic economy—the rich and complex economic relationships among cooperating households —are not described. The Buckland study illustrates that researchers and policymakers can make important contributions by expanding and refining the concept of the household based only on residence. **CV**

PNW CESU Partner Profile
University of Alaska Southeast

UNIVERSITY OF ALASKA SOUTHEAST

The National Park Service (NPS) and the University of Alaska Southeast (UAS) have been working together for many years on projects related to natural resource management and education. The establishment of the National Park Service's Inventory and Monitoring Program resulted in the creation of the Southeast Alaska Network (SEAN), which has greatly increased the level of active collaboration between the NPS and UAS. SEAN includes Glacier Bay National Park and Preserve, Klondike Gold Rush National Historic Park and Sitka National Historic Park. The primary administrative vehicle for these collaborative efforts has been agreements established through the PNW CESU.

Currently SEAN administers several ongoing projects with UAS. In 2005, SEAN funded comprehensive assessments of coastal watershed and estuarine resources within their parks. UAS reports provided park managers with recommendations for managing and monitoring freshwater and marine resources within SEAN parks. In the last three years, individual parks in Southeast Alaska have initiated collaborative projects with UAS faculty in a variety of areas including: anthropology, ecology and biogeochemistry. Using the PNW CESU, UAS cultivated a cooperative relationship outside of Southeast Alaska. In 2006, UAS faculty began working with the Southwest Alaska Network to develop coastal watershed assessments.

UAS' inclusion in the PNW CESU has increased collaboration between UAS and the USDA Pacific Northwest Forestry Sciences lab in Juneau. In 2006, the lab provided funding for a cooperative project evaluating the terrestrial/aquatic linkages that control nutrient loads and productivity in forested watersheds in the Tongass National Forest.

Specific Research projects by UAS Faculty

Dr. Daniel Monteith (Anthropology)

Ethnographic Overview and Assessment for Huna Tlingit and Dry Bay Tlingit Cultures in Glacier Bay National Park and Preserve, Alaska.

This project involves conducting an ethnographic overview and assessment for the Huna Tlingit and Dry Bay Tlingit, peoples who traditionally occupied Glacier National Park and Preserve lands. The overview and assessment will document the cultural history, traditional cultural practices and relationship with Glacier Bay's landscape. The study will satisfy NPS inventory requirements, be used for planning purposes, assist each group in Native American Graves Protection and Repatriation Act claims, convey information to park visitors and be used by Huna and Dry Bay Tlingit peoples in cultural preservation efforts.

Geikie Inlet in Glacier Bay National Park and Preserve (GBNPP). GBNNP and UAS have developed a mutually beneficial relationship through the PNW CESU.

Traditional Cultural Property Studies in Lower Glacier Bay.

This project gathers information pertaining to Bartlett Cove, Point Gustavus and Berg Bay, including historical, ethnographic and archaeological data that will allow the NPS to evaluate the three properties in terms of the National Register criteria for Traditional Cultural Property's and if determined eligible, nominate them to the National Register of Historic Places.

Dr. Eran Hood (Environmental Sciences)

Pacific Salmon as Indicators of Ecosystem Health.

Pacific salmon are an important biotic resource to many national parks in both southeast and southwest Alaska and may be an indicator of the health of these ecosystems. This project is intended to examine the efficacy of using salmon as an indicator of riparian ecosystem health and thus its potential use as a park "Vital Sign." A literature review will be coupled with several experiments that examine salmon-soil-plant interactions and processes to assess how salmon nutrient inputs to terrestrial ecosystems can be adequately measured and whether this measurement reflects the importance of salmon to the function of these ecosystems.

Soil Contributions to Watershed Functions: Influence of Basin Characteristics on Carbon and Nutrient Inputs to Southeast Alaska Streams.

This project is a collaboration with Dr. Rick Edwards and David D'Amore at the USDA Forestry Sciences Lab in Juneau. Land managers are increasingly called upon to manage at watershed scales but few integrative tools have been developed to assist managers in assessing management effects on whole basins. In particular, new methods are needed to evaluate the effects of land use change over large scales in the diverse landscape of the Tongass National Forest. This research will establish a template

Please see UAS on page 8

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for watershed nutrient research on important representative geomorphic landforms that can be applied to other catchment types within the region. In addition, the project will contribute to our understanding of how climate change is affecting carbon dynamics in wetland regions and will further provide insight into future roles of forest ecosystems in southeastern Alaska within the global carbon cycle.

Dr. Sonia Nagorski (Environmental Sciences)

Scale and Distribution of Global Pollutants (Mercury and POPs) in Southeast Alaska Network park watersheds.

The main goal of this project is to conduct a contaminants survey in freshwater benthic macroinvertebrates, streambed sediments and stream water in a variety of watersheds in the SEAN. Both Mercury and POPs are highly volatile and tend to become concentrated at high latitudes due to atmospheric circulation patterns and polar temperature controls, and Mercury imports from China in particular are projected to continually increase. In addition, salmon and birds may act as powerful biovectors of these contaminants; accumulating them in oceans and distant source areas and depositing them in riparian areas as they pass through to spawn or migrate. This project, planned for 2007, will provide original data that will evaluate the current scale of these contaminants in SEAN freshwater streams, examine the landscape patterns that explain their distribution and also pertain to the "Vital Signs" program by serving as a baseline data set to which future contaminants monitoring can be compared.

Dr. Sonia Nagorski and Dr. Eran Hood

Technical Assistance in Evaluating and Developing the Water Quality Monitoring Component of the National Park Service's Southeast Alaska Network Inventory and Monitoring Program.

The goal of this project is to provide technical support for the National Park Service Inventory and Monitoring Program, SEAN activities. UAS is evaluating and summarizing water quality information and developing water quality monitoring components for the SEAN Vital Signs Monitoring Plan.

Dr. Ginny Eckert (Biology) and Dr. Eran Hood

Assessment of Coastal Water Resources and Estuarine Conditions in Selected National Parks of the Southeast Alaska.

UAS faculty collaborated with NPS personnel to identify sources of data and other information regarding the status of coastal water resources in four National Parks in southeast Alaska. The study assessed the state of knowledge regarding coastal water resources in these Parks, identified important biophysical factors and physical forcing mechanisms, identified current and imminent threats from human activities and published a report for each Park summarizing findings and offering recommendations for continuing studies.

Dr. Sonia Nagorski, Dr. Eran Hood, Dr. Sanjay Pyare (Environmental Science), and Dr. Ginny Eckert

Assessment of Coastal Water Resources and Watershed Conditions in and Adjacent to Selected Southwest Alaska National Parks

The goal of this project is to work with NPS personnel to identify sources of data and other information describing the status of coastal water resources in Aniakchak National Monument and Preserve, Katmai National Park and Preserve, Kenai Fjords National Park and Lake Clark National Park and Preserve. Separate reports for each Park are being generated to assess the state of knowledge regarding the condition coastal water resources in these Parks, describe important habitats and biological resources, identify current and imminent threats from human activities and offer recommendations for continuing studies.

Humpback whale in northern southeast Alaska. Unique black and white markings and distinctive trailing edge is used to individually identify each whale in our study.

Jan Straley (Biology)

www.uas.alaska.edu/sitka/WhaleResearch.html

Estimating Population Size of Humpback Whales in Southeastern Alaska Using Modified Mark-Recapture Models from a Long-Term Sighting Database of Individually Identified Whales.

This project utilizes photos from surveys of humpback whales in northern southeastern Alaska (e.g. Sitka Sound, Fredrick Sound and Glacier Bay/Icy Strait) collected since 1993 to create a long term sighting history database of individually identified whales. The database will be utilized to estimate the population size, via modified mark-recapture models, of humpback whales by the NPS and partners at R2 Resource Consultants. **cv**

Dr. Cathy Connor's *Cave inventory* project in Wrangell St. Elias National Park is in cooperation with the North and West Alaska CESU. Cathy Conner is assisted by Kevin Allred of the Tongass Cavers to carry out an initial reconnaissance of caves in the Wrangell St. Elias National Park. Work began last September with an additional field season planned for summer-fall 2007.

Pacific Northwest CESU Update

News from the Host University

The PNW CESU is proud to announce (although somewhat belated!) the addition of Joel Siderius as the "new" Program Coordinator. Joel joined the PNW CESU in July 2006 after working for the NPS as a biologist. He proved to be a great addition to the PNW CESU mission.

Fiscal year 2007 (FY07) got a strong start with several new FY07 task agreements being initiated and executed in 2006! One of those projects is highlighted on page 3 of this newsletter.

All NPS CESU Task Agreement and Modification paperwork must be submitted to the appropriate regional contracting office by **July 15, 2007** to ensure obligation before the end of the fiscal year. Though this date seems far away now, it is rapidly approaching and the PNW CESU strongly urges program managers to submit paperwork early to avoid delaying their projects. Remember that all project work must be approved by the NPS Research Coordinator (Darryll Johnson for the PNW CESU) before submission to contracting. Allow plenty of time before these deadlines to work with the NPS Research Coordinator.

NPS Research Coordinators in the Pacific West Region have agreed on a template to be used as a guide to streamline the process when drafting task agreements. The template has been made available as a Word document online at **www.cfr.washington.edu/research.cesu/announcements.htm**. The file name is "NPS 07 Task Agreement Template".

Program Coordinator Joel Siderius is actively maintaining the PNW CESU announcements page on the web site **www.cfr.washington.edu/research.cesu/announcements.htm**. Please check out this resource which lists a collection of ever changing job openings, grant announcements and other resources. If you have the need for free publicity contact Joel at **pnwcesu@u.washington.edu**. Help us make the PNW CESU web site an informative and valuable tool. **cv**

New Partner News

Eastern Washington University (EWU) has the distinction being the PNW CESU's newest partner! As of February 2007 EWU was officially admitted to the PNW CESU. A copy of the fully executed amendment officially adding EWU will be circulated to PNW CESU partners and posted online at the PNW CESU web site **www.cfr.washington.edu/research.cesu/** in the near future.

EWU is off to a fast start by completing a NPS Research Learning Network Project Proposal. NPS and USGS scientists see potential for long-term collaboration with EWU, especially with respect to the Elwha Dam removal project occurring at Olympic National Park. Look for more information about EWU at their web site **www.ewu.edu**.

If you are interested in initiating a project with EWU please contact the PNW CESU office. **cv**

Thanks to all partners for their support and cooperation during the numerous administrative tasks over the past year.

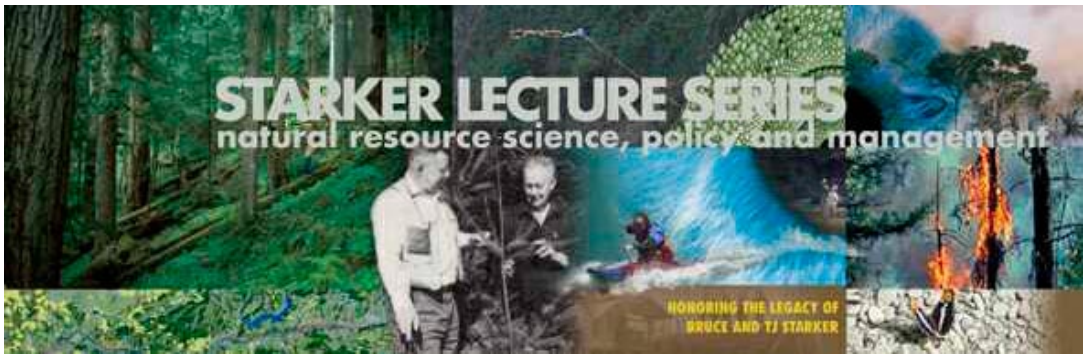
PNW CESU Announcements

University of Washington College of Forest Resources Centennial!
The PNW CESU host college, University of Washington (UW) College of Forest Resources is celebrating its 100 year anniversary in 2007. In September 1907, the School of Forestry at the UW, with Francis Garner Miller as Dean, opened with an enrollment of ten students. In 2007 the College of Forest Resources has grown to provide world class, internationally recognized knowledge and leadership for environmental and natural resource issues. Numerous activities are planned to celebrate this historic occasion. The calendar of events is online:
www.cfr.washington.edu/About/CFRCentennial.htm

Scientific Lecture Series Online
Oregon State University College of Forestry and UW College of Forest Resources are working towards making their scientific lecture series accessible online. This is a great resource for the many resource managers scattered about the PNW CESU bio-geographic region. You can now view previously presented lectures online or plan to attend future events by visiting the web sites listed below.

Oregon State University-Starker Lecture Series
www.cof.orst.edu/starkerlectures/

University of Washington- Denman Forestry Issues Series
www.cfr.washington.edu/news_pubs/video.htm



Conferences and Workshops

June 14-23, 2007, Victoria, British Columbia, Canada.
University of Washington and University of British Columbia are co-hosting the 2007 Summer Institute "Advances in Ecological Restoration"
www.continuingstudies.uvic.ca/eco/

June 17-21, 2007, Park City, Utah
13th International Symposium on Society and Resource Management (ISSRM)
www.issrm2007.org/

August 7-10, 2007, Portland, Oregon
International Scientific Conference Forest Growth and Timber Quality:
"Crown Models and Simulation Methods for Sustainable Forest Management"
www.westernforestry.org/crownmodels/crownmodels.htm

October 23-25, 2007 Fort Collins, Colorado
International Association of Wildland Fire:
"Human Dimensions of Wildland Fire Conference"
www.umt.edu/ce/cps/humandimensionsofwildlandfire.htm

…Any news from your institution or agency to share with the PNW CESU? Send announcements to Joel Siderius (pnwcesu@u.washington.edu) for inclusion in *Cooperative Ventures*, the official publication of the Pacific Northwest Cooperative Ecosystem Studies Unit.