ALASKA NATIVE SCIENCE COMMISSION

Volume 3, Issue 1 **Listening…and Learning (Naalaktuaqtuni Ilitchiruni-lu)** Fall 2002

This newsletter is published twice annually. We invite your comments and information from your community.

Vice-Chair's Message


Orville Huntington

Too many times I see people from Native organizations speaking incorrectly for me. I live in Huslia Alaska and practice our Native traditions every day.

For those that do not know where Huslia is, it is 250 miles Northwest of Fairbanks in the Koyukuk River valley of Interior Alaska. It is not connected to any other place by road. I hunt, fish, trap, and live from the land, and teach those things to our youth every day I am in Huslia. The only days I travel to urban areas, are to meet and represent the people from the villages, or with my job as a refuge information technician with the U.S. Fish and Wildlife Service. I sit on the Tribal Council and our village corporate board, among many others. I was born in Huslia and still live there. I have a wildlife biology degree and practice science in every form everyday.

If you look at the make up of the ANSC, we represent a large group of Native people and communities, but with a solid scientific background. I grew up with science used against

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ALSO INSIDE THIS ISSUE…

ANSC Awards Mini-Grants to Twelve Communities

Below is a list of Alaska Native communities and summary descriptions of how they plan to use mini-grants that they received from the Alaska Native Science Commission to conduct research or reduce contaminants in their region. The ANSC mini-grant program is funded by the Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR):

Aleknagik Traditional Council: Collecting samples from berry habitat, lakes, rivers, and bays for possible contamination; along with testing of berries, salmon, caribou/seal/moose meat.

Atmautluak Traditional Council: Study water and land contaminants which cause subsistence food to decline.

Native Village of Buckland: Test river water and drinking water for contaminants and parasites to ensure the health of the people of Buckland.

Clarks Point Village Council: Uncover the causes of defects (sores and growths) found in salmon by training youth to collect samples and monitor water temperature.

Eek Traditional Council: Research the possible contaminant/pollutants present in the Kuskokwim River that contributes to the sores and discoloration of meat of Chum and Chinook salmon.

Ekuk Village Council: Establish a burn barrel site for the disposal of garbage and human waste, as the village currently does not have a garbage dump of any kind.

Native Village of Emmonak: Study the causes of illnesses found in the fish, plants, animals/mammals, of the region by training people of the village to pursue the studies.

Native Village of Koyuk: Sustain the traditional lifestyle of the people by having elder's lead hunts, and traditional food gathering as well as teach the Inupiaq language.

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*A copy of ANSC Newsletter Vol. 3-1 can be downloaded from ANSC's Website at: www.nativescience.org

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Vice Chair's Message Continued from page 1

my Native people, but now the science and the Native people are starting to work together. By working with science and using a strong element of Alaska Native Traditional Ecological Knowledge, we can go a long way to preserving our mother earth. I travel to many places representing the grass roots Native perspective on the ANSC's behalf. I do a lot of speaking from a person who was born in, lives in and is still a part of a village who practices the ways of our ancestors, but that's another story.

ANSC Mini-Grants continued from page 1

Kwethluk Indian Reorganization Act Council: Improve sanitation in the community by covering up pit privies that are located in town and tend to flood with the coming of spring, threatening the health of the people.

Native Village of Napaskiak: Study the contamination effects of the open dump site in the middle of the village to the environment surrounding the village.

Naqsragmiut Tribal Council: Examine the health of fish and caribou harvest for contamination by heavy metals or radio nuclides that threaten the health of the subsistence users of Anaktuvuk Pass.

Yukon-Kuskokwim Health Corporation (Hooper Bay, Toksook Bay, Mekoryuk, Quinhagak**) :** Determine the amount of methyl mercury in pacific halibut that may cause adverse health effects in humans.

The Alaska Native Science Commission would like to welcome and introduce its newest Commissioner, Sven Haakanson Jr. from Kodiak, AK. To learn more about ANSC's Commissioners, please visit our website at: www.nativescience.org.

Nutrition & Food

The articles that follow were shared at a meeting held at the Alaska Native Science Commission among Native, state, federal, and university organizations. The intent of the meeting was to get a better idea of "who was doing what" in the area of food and nutrition so they could better serve their respective constituencies. A copy of these articles and others can also be found on ANSC's website: www.nativescience.org.

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Ak Native Dietary Subsistence Food Assessment Project

Under the Alaska Native Tribal Health Consortium, this project aims to improve future studies about Alaska Natives' food and their health. To develop a survey form that accurately measures food intakes of Alaska Natives over time, we will first gather information about what people eat in two regions. This will be immediately useful in telling us more about what people are eating now. Second, we will collect commonly eaten Native foods and analyze them for their nutrients. This is a four year project, funded as one of seven studies by the Native American Research Center for Health (Alaska NARCH), it began in October 2001.

The Center for Indigenous Peoples' Nutrition and Environment (CINE) of McGill University, Canada, is partnering with us. **Primary Investigator**: Anne Lanier, MD MPH , Jennifer Johnson, Project Coordinator (**729-3650**, jsjohnson@anmc.org), Tim Gilbert, Betsy Nobmann, Harriet Kuhnlein, Julien Naylor

This project is important because:

- Diet is a fundamental factor in many chronic health problems, including heart disease, cancer, diabetes, and dental caries.
- The diets of Alaskan Natives have changed in recent years. Previous studies indicate that more processed foods are being eaten, and less subsistence or traditional foods.
- We do not have information about the nutrients in many Native foods.

Subsistence food assessment continued from page 2

- Current diet survey forms now in use in Alaska that measure intake over time have not been tested to measure their accuracy.
- With a greater understanding of diet of Alaska Natives, we can all apply the knowledge generated and help to reduce heath disparities.

Participants (i.e., pilot communities):

- The goal is six villages from each region with local interviewers from each region.
- Yup'ik Eskimos of the **Yukon-Kuskokwim** Delta region: We are still meeting with Traditional Councils and offering them the opportunity to participate in the study. To date, we have met with Council members in Emmonak, Chevak, Kwigillingok, and Mountain Village. We also plan to talk with Native representatives in Bethel, Chuathbaluk, and Napaskiak.
- Inupiaq of the **Kotzebue** region: We have resolutions from the IRA Councils to work with Shungnak, Buckland, Noatak, and Pt. Hope. We anticipate receiving resolutions with Kivalina and Kotzebue.

Methods:

- A local person will be hired in each region to collect 24-hour diet recalls from a total of 120 people in each region, ages 13 and up.
- Diet recalls will be collected in each of the four regions over one year, to account for dietary variation between the seasons.
- The data will be analyzed for nutritional content and used to identify the foods most commonly consumed.
- This information will be used to develop a food frequency questionnaire.
- The food frequency questionnaire will be tested and validated.
- Native foods that are commonly eaten but have not previously been adequately analyzed will be collected and sent to the USDA labs for analysis.

Dietary Benefits and Risks in Alaskan Villages

Aleutian/Pribilof Islands Association, Inc., Anchorage, Alaska

The project, "Dietary Benefits and Risks in Alaskan Villages", addresses dietary questions raised by Native people living in villages throughout Alaska. What are the risks associated with environmental contaminants bio-accumulating in traditional foods; and how do they compare with the health, social, economic, and cultural consequences which could result from a shift to alternative, market-based diets? This project establishes a model for addressing traditional food concerns and demonstrates methods for increasing village-based leadership and cooperation between communities, researchers, and government agencies.

The intent of this research is to combine data on dietary risks and benefits, contaminants, and documented, village-specific health conditions. The study design will also provide a model for data evaluation and the development of practical community-based health recommendations. The Aleut community is starting at the grassroots level. They want their communities to have the opportunity to share in the process of making dietary decisions. They anticipate being able to engage in the process of interpreting the research findings and make their own decisions about the foods that they will feed to their families.

There are five specific aims to be accomplished over a four-year research period. Each phase will be coordinated by the Aleutian/Pribilof Islands Association, Inc.(A/PIA), a regional health consortium, and supplemented by the support and assistance of local village coordinators, village advisory groups, and a technical team of experts. The project will result in new data which will be compared with existing village-specific data to better understand and communicate the benefits and risks associated with traditional and store-bought. A summary of the five aims are as follows:

- To develop, utilize, and evaluate a model for combining a variety of village specific data streams including diet, epidemiological effects and contaminant levels in animal tissue, human blood, traditional foods, and store-bought foods for the purpose of providing a risk/benefit analysis.
- To document the diets of two Alaskan villages including types, quantities and methods of preparation, for the purpose of guiding contaminant research and providing a model for long-term tracking of traditional and store-bought food consumption trends.
- To collect preliminary data on nutritional value, as well as levels of persistent organics, radionuclides, and heavy metals in traditional foods for tracking of contaminant trends.
- To provide a balanced assessment of both the risks associated with environmental contaminants and the nutritional, cultural, and physical benefits of a traditional and store-bought diet.

- To develop, utilize and evaluate a model which requires greater community responsibility, involvement, guidance and participation with researchers and government agencies, and increase community awareness by providing culturally appropriate information and training.

Through this project, a cooperative, community driven model for understanding the risks and benefits of a rural diet is demonstrated. At the local level, the project seeks to empower Alaska Natives to actively participate in the evaluation of their diet and the protection of health, community, and culture. At the regional level it provides a model for development of a process for increasing cooperation between state, federal and tribal governments. Internationally, it encourages environmental health data which can be compared with native diets in other Arctic countries. This supports U.S. commitments under the Arctic Monitoring and Assessment Program (AMAP), of the Arctic Council.

What's on ANSC's Websites:

WWW.NATIVESCIENCE.ORG

- **ANSC's Origins**
- **Commissioners**
- **Goals & Concerns**
- **Arctic Contaminants**
- **Traditional Knowledge**
- **Eco-Tourism**
- **Current Projects**
- **Past Projects**
- **Code of Research Ethics**
- **Guidelines for Cultural Respect**
- **Newsletters & Related Links**

WWW.NATIVEKNOWLEDGE.ORG

- **About This Project**
- **Resource Guide for Tribes**
- **Look for Information In The Database**
- **Native Concerns Raised in Regional Meetings**
- **Research Summaries**

ALASKA TRADITIONAL DIET PROJECT

What is the Alaska Traditional Diet Project or ATDP? The main feature of the project is the administration of a comprehensive dietary survey to identify types and amounts of traditional foods plus store bought foods that are consumed in Alaska communities. The surveys will be administered by tribes through grants from the Alaska Native Health Board. The goal is to administer the survey to 1,000 people in rural communities.

The dietary survey consists of a core survey, which are foods commonly consumed in all regions of Alaska and regional surveys that include traditional foods generally localized in various ecoregions of Alaska.

Thirteen communities are participating: Brevig Mission, Stebbins, Louden Tribal Council (Galena), Bill Moore's Slough (Kotlik), Scammon Bay, Iqurmiut (Russian Mission), Kwethluk, Togiak, Ekwok, Igiugig, Clark's Point, Craig, and Klawock.

What will the dietary survey do? The survey will provide information to help determine how much and what contaminants people are exposed to, and the benefits and health effects associated with diet. It can also be used to provide advice to promote health and reduce adverse health effects associated with diet. And it will help preserve all other benefits associated with the traditional food lifestyle.

A personal dietary assessment, including a nutritional analysis, will also be provided to each individual participant. This information could include risk and benefit assessments of the individual's diet and will be confidential.

A comprehensive final report summarizing information from the study will combine data reported from all communities and will be public information. The report will include information, such as tables summarizing dietary data reported for all of Alaska and broken down by region community.

The surveys will be available for other organizations to use in other communities and regions to broaden information on dietary patterns across Alaska.

The project which utilized and trained individuals in communities to administer the surveys are also designed to enhance community capacity for additional projects and research.

How is the Project Managed? The project is directed by the Alaska Native Health Board. The principle investigator is Mike Bradley and Angela Ross, a research associate at ANHB, also serves as project coordinator. Elizabeth Nobmann with IDM Consulting and Kari Hamrick with ICHS at UAA serve as consultants. The project is funded by a grant from the Agency for Toxic Substances and Disease Registry (ATSDR). An oversight committee that has consisted of up to 50 participants has been formed to guide the project. The project is expected to be completed by January 15, 2003.

AK Traditional Diet Project Update - August 2002

Despite the many challenges faced during the summer subsistence season, participating communities have worked very hard to schedule and complete interviews. We are pleased to announce that data collection is now complete!!! We are currently reviewing completed surveys and working with interviewers to resolve data questions. Data entry is still moving along smoothly. We are also following up with communities on their final financial reports and grant distributions. We would like to send our greatest thanks and appreciation to participating communities, especially the interviewers and coordinators, for their hard work and dedication to the project.

Final survey numbers:
Scammon Bay - 50
Russian Mission - 46
Kwethluk - 60
Craig - 94
Igiugig - 20
Ekwok - 35
Stebbins - 79
Brevig Mission - 79
Togiak - 50
Klawock - 60**
Louden (Galena) - 33
Clarks Point - 42
Total: 715

**Estimate—final number not yet confirmed

Revised Study Timeline:

- Interviews complete/submitted to ANHB: July 31, 2002
- Conduct quality assurance/compile and clean data: August 31, 2002
- Data entry: October 31, 2002
- Data analysis on foods: November 30, 2002
- Draft summary report: November 30, 2002
- Individual nutritional analysis: December 31, 2002
- Final summary report: January 15, 2003
- Community presentations of results: TBD

Oversight Committee

Our last meeting focused on the new traditional food sampling and analysis phase of the ATDP, made possible through supplemental funding from ATSDR. We discussed several lab options, and came up with a standard list of questions for assessing and comparing these labs. The primary goal for our next meeting will be to finalize the list of assessment questions as well as the procedure for lab selection. We would also like to set a timetable for lab selection and food testing.

We would like to extend a very hearty thank you to everyone on the oversight committee for their invaluable guidance and time spent on the diet survey. We look forward to their continued participation as we move into the new food sampling and contaminant analysis phase of the ATDP! We would also like to thank our friends at ATSDR who worked very hard to provide funds for this project and also for being such cooperative and productive participants in the oversight committee.

ALASKA BRIN: Biomedical Research Infrastructure Network

BRIN is an Institutional Development Award funded by the National Center for Research Resources, a division of the National Institutes of Health

OVERVIEW: In September 2001, the University of Alaska (UA) accepted a $6 million award to form an Alaska Biomedical Research Infrastructure Network (BRIN). The national BRIN program helps universities in rural states develop biomedical research excellence. BRIN research themes are blends of federal and state priorities. BRIN is the biomedical analogue of the National Science Foundation's EPSCoR program.

Each BRIN builds from the special talents and opportunities already in the state and addresses national research needs. For Alaska, our starting point was a May 2000 meeting on high latitude contaminants and biomarkers that the National Institute of Environmental Health Sciences sponsored in Anchorage. At that time, we resolved to develop UA expertise in "Toxicogenomics" - a science born from the 21st century revolution in genetic biology. Toxicogenomics asks how chemical contaminants damage proteins and genes in cells and tissues.

The national BRIN program aims to create enduring and self-sustaining research cores in the universities of each rural state. The Alaska BRIN will hire established investigators to build vigorous cutting-edge programs at UA. We will strive to leave a legacy of biomedical faculty who will win repeatedly in national competitions for federal funding in Toxicogenomics. Our Alaska emphasis will be on subsistence food species.

Each BRIN research core forms the heart of the statewide Biomedical Network that links research at the doctoral campus to teaching at the graduate, undergraduate, and pre-college levels across the state. Students are trained to ask Alaska-relevant questions using state-of-the-art concepts and techniques.

RESEARCH CORE: Gerald Plumley at the University of Alaska Fairbanks (UAF) is BRIN Co-Principal Investigator (Co-PI) and Director of the Research Core.

Toxicogenomics springs from the explosively-expanding knowledge of the human genome. Genomics reveals that since all vertebrates share many similar genes, all manufacture almost identical proteins. Toxic contaminants can disturb the normal functioning of these genes or modify the corresponding proteins. Thus environmental toxicants could cause disease.

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Fish and wildlife research is strong in Alaska. All fish and wildlife contain chemical contaminants; in Alaska these contaminants come from local sources and also from lower latitudes. We do not know whether these low-level toxicants perturb the genetics and physiology of subsistence species as they pass up the food chain.

The Alaska BRIN research projects will explore the impacts of contaminants on the genes and proteins in subsistence food species. To initiate and to sustain these efforts, BRIN funds will be used to support the following:

New teaching/research tenure track faculty:

- A senior-level, "Magnet Research Scientist", to be recruited at UAF. To win this position of Research Leader, a candidate should have made seminal research contributions in genomics or molecular toxicology, have a strong history of NIH R01 research funding, and bring current R01 funding.
- A junior-level biomedical scientist to be recruited at University of Alaska Anchorage [UAA]. Successful candidates must bring a strong publication record, have post-doctoral research training, and present a credible, well-documented research agenda in toxicogenomics.

New research instrumentation: Alaska BRIN will invest over $1 million in state-of-the-art equipment including:

- A *real-time quantitative PCR apparatus* and a *micro array system and robotics unit* to facilitate study of the changing patterns of gene expression. With NSF EPSCoR funds, our Genetics Core Lab recently acquired devices to sequence DNA to isolate nucleic acids by partially denaturing high performance chromatography and to screen rapidly for mutations.
- *A time-of-flight mass-spectrometer* to permit protein quantification (see protein structure at the left) and to reveal post-genomic protein modifications. Proteomics capability complements the emerging capacity for genomics at UAF.

Seed grants, small college partnership grants, and small equipment grants will "kick-start" new research ideas and allow collection of pilot data to develop competitive proposals for major NIH-funded programs in biomedical research.

Teaching and mentoring: Research in the university should always interface with teaching. UAF will support: 1) BRIN graduate research fellowships, 2) undergraduate student research projects [BURA, the BRIN Undergraduate Research Access program], 3) supplies, travel, and salaries for research mentoring which pair UA junior faculty with more experienced scientists, and 4) exchanges of faculty between institutions for research training.

BIOINFORMATICS CORE: Genomic and proteomic researchers generate complex extended data sets. Merely collecting long strings of base sequences does not necessarily provide meaningful understanding of cells or diseases. We need computational and biomathematical expertise to guide our design of experiments and to refine our analysis of the data streams. The Bioinformatics Core will address those challenges.

This Core will be one component of a new Bioinformatics Program, to be jointly funded by the NSF EPSCoR program, the NIH BRIN, the NIH COBRE program, the Arctic Regional Supercomputer Center at UAF, the Institute for Systems Biology in Seattle, and UAF. The Bioinformatics Program at UAF will include:

New teaching/research tenure track faculty:

- A position in Bioinformatics funded by NIH BRIN.
- A position in Bioinformatics/Biostatistics funded by NIH COBRE.
- Two Bioinformatics faculty (one of them a senior Magnet Investigator who will be Program Leader) funded by Alaska NSF EPSCoR.

Development of computer and statistical models that allow BRIN faculty and others at UA to glean new insights from our locally generated research data and to enrich the teaching environment for our students.

Workshops and seminars for faculty and students in areas related to Bioinformatics and Biostatistics.

Undergraduate and graduate training for professions in Bioinformatics and quantitative biology.

LIAISON CORE: Carl Hild at UAA is BRIN Co-PI and Director of the Liaison Core.

The Liaison Core provides an interface between BRIN research activities, Alaska educational entities, and citizens of the state who have a strong interest in biomedical research questions and findings. The specific aims of the Liaison Core are:

- To develop and maintain a BRIN Network among Alaska's academic institutions,
- To link the Alaska BRIN to academic researchers outside Alaska,
- To provide a communication channel between Alaskan governmental and community organizations and biomedical research at UA,
- To create a two-way research dialogue which facilitates understanding between western scientific research and Alaska Native and traditional knowledge.

Biomedical and Health Research at the University of Alaska is supported by three other major federal capacity-building initiatives which have been funded within the past year:

- The NIH/National Institute of Neurological Diseases and Stroke has funded a **Specialized Neuroscience Research Program (SNRP)** at UAF. SNRP is recruiting a senior investigator and augmenting the research programs of three junior faculty with equipment, supplies, and mentoring. The Principal Investigator is Professor Lawrence Duffy at UAF (907-474-7525).

AK BRIN continued from page 6

- The **Center for Biomedical Research Excellence (COBRE)** is another NCRR/IDeA program at UAF and UAA. It will establish an Alaska Native Health Research Center with an emphasis on obesity and diabetes. The Principal Investigator is Professor Gerald Mohatt at UAF (907-474-6415). The Co-PI is Professor Bert Boyer at UAF (907-474-7733).

The National Science Foundation **Experimental Program to Stimulate Competitive Research (EPSCoR**) includes all UA major administrative units. Two EPSCoR Research Focus Areas are, "Integrative Approaches to Environmental Physiology" and the "Alaska Genomics Initiative", have many biomedical aspects. Professor George Happ (907-474-1527) is Project Director for NSF EPSCoR and PI for NIH BRIN.

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ANSC Commissioners and representatives from the National Science Foundation's Office of Polar Programs (i.e., Tom Pile, Renee Crain & Louie Tupas) meet on ways to collaborate more effectively last June.

A Prospective Study of Alaska Natives and American Indians

Funded by: National Cancer Institute, beginning 9/01

Primary Investigator: **Anne Lanier**, MD, MPH 729-3663 aplanier@anthc.org AK Native Tribal Health Consort.

Initial Target Populations:
Navajo Nation (Dr. Marty Slattery, Utah)

Plains Tribes and Strong Heart Study Participants (Dr Jeff Hendricks, South Dakota)

Alaska Natives (Participating Health Corporations in Alaska: SEARHC, YKHC, SCF)

Few studies of the etiology of chronic diseases have been done among Alaska Natives and American Indians (AN/AI).

This 5-year proposal focuses on the development of an AN/AI cohort to obtain a better understanding of the disparities and disease, rates and risk factor knowledge that exist between AN/AI's and the US white population. The major scientific goal of the study is determine how diet, physical activity, and other lifestyle and cultural factors relate to the development and progression of chronic diseases such as cancer, heart disease, stroke, Type 2 Diabetes, chronic lung and respiratory diseases, and related mortality form these diseases. Longitudinal data will be used to identify factors that contribute to health and prevent disease. The first five years will be used to develop reliable and valid methods to obtain diet, physical activity and lifestyle information; and to determine the most efficient and effective ways to recruit and track study participants from diverse populations. The input of local communities is being used to develop culturally appropriate questionnaires that will accurately capture dietary intake, physical activity pattern, lifestyle, and cultural habits. Indian Health Service records will be used to access study-related data.

Recruitment of participants will begin in year three. Alaska hopes to recruit and retain 3,000 participants among our three participating health corporation. Eventually, with expanded funding, it is hoped that 80,000 people will be enrolled and followed nationwide, with additional tribal groups participating.

Age of enrollees: 18 years and up

Dietary Component: A Dietary History Questionnaire (DHQ) is being developed, which will have a separate module for Alaska, to give us a better understanding of the quantity and types of subsistence foods being eaten, as well as the market foods.

The DHQ is planned to take about 45 minutes and to be read to each participant by a touch screen computer in an interactive format.

DEC's Fish Monitoring Project

What we're doing:
With funding from the Environmental Protection Agency (EPA) and the National Oceanic Aeronautical Administration (NOAA), we're analyzing over 600 samples of salmon (all five species), halibut, pacific cod, sablefish, black rockfish, lingcod and pollock for heavy metals (methyl mercury, lead, cadmium). A subset will be analyzed for dioxins and furans, pesticides, PCB congeners, inorganic arsenic, and chromium VI. Samples will be collected primarily in marine waters throughout the state.

We will also analyze Northern pike from lakes in the Koyukuk, Kuskokwim, Yukon, and Susitina River drainages and Sheefish for heavy metals.

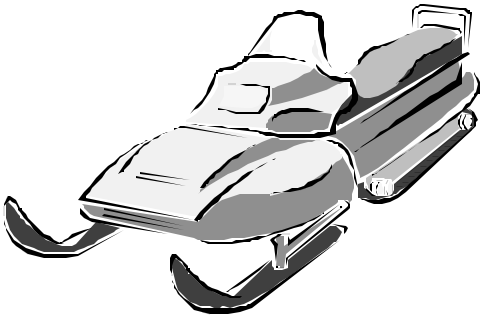
Why we're doing it:
To reinforce that Alaskan seafood is safe to eat.

Persistent organic pollutants (POPs) are appearing everywhere, including pristine Arctic climates. The assumption is that the majority of these pollutants are coming from somewhere other than Alaska. Limited samples of Alaskan fish have not found levels of concern. The Department of Environmental Conservation wants to fortify those studies with a broader sample size that includes more species and more locations.

International markets are concerned about contamination and want evidence that products are safe. Over 60% of the seafood processed in the U.S. comes from Alaskan waters. Based on high contaminant levels in other states, federal agencies have issued national consumption advisories for some fish species. Information about the quality of Alaskan species is needed to reduce concerns.

Alaskans - especially those living in rural areas - eat much more wild food than people in other parts of the United States, and for Native Alaskans harvesting local food is an integral part of their culture.

What it will tell us:
By comparing results to national health standards set by EPA and FDA, the Alaska Department of Health and Social Services, Division of Public Health, Epidemiology Section will be able to determine if any consumption advice should be given.



Summary of Current Alaska Native Nutrition Research Projects

Revised July 24, 2002
Compiled by Elizabeth D. Nobmann, Ph.D., M.P.H., R.D.
EDN Nutrition Consulting

The following are several current research projects to investigate foods that Alaska Natives are consuming and the impact on their health. I've referred to project proposals, where available, to summarize the purpose of each project.

None of the studies include more than 13 communities. There are about 220 villages in Alaska, so although there are a variety of projects, there are still villages not included.

TITLE: Alaska Traditional Diet Project
AGENCY FUNDED: Alaska Native Health Board
FUNDED BY: US Agency for Toxic Substances & Disease Registry
PRINCIPAL INVESTIGATOR: Mike Bradley, DVM mbradley@anmc.org

SYNOPSIS: The project developed and is administering a comprehensive diet survey using a food frequency instrument in 13 villages, determining what and how much contaminants people are exposed to and the benefits and health effects associated with diet. Data are now being collected in this 2-year project. The food frequency is based on the best information currently available but the instrument has not been validated or replicated.

TITLE: Alaska Native Dietary and Subsistence Food Assessment Project (one of seven Native American Research Centers for Health grants awarded in Alaska)
AGENCY FUNDED: Alaska Native Tribal Health Consortium
FUNDED BY: US Indian Health Service with National Institute of General Medical Sciences
PRINCIPAL INVESTIGATOR: Anne P. Lanier, MD, MPH - aplanier@anthc.org; Tim Gilbert is the overall Principal Investigator - tjgilbert@anthc.org
SYNOPSIS: In collaboration with Alaska Native organizations, this methodological investigation will develop a dietary assessment instrument and enhance nutrient database information on Native foods, thus enabling future investigations to more accurately evaluate the effect of the diet including traditional Alaska Native foods on chronic diseases. Six communities in each of two regions are being selected to participate in this four year study which will collect 24 hour recalls in four seasons to determine current eating practices, analyze foods for nutrients, and ultimately develop and validate a food frequency instrument useful in the two regions.

TITLE: Diet and Nutrition Knowledge, Attitudes, and Practices of Alaska Natives (one of three grants part of the Centers of Biomedical Research Excellence - COBRE/CANHR)

Continued from page 8

AGENCY FUNDED: University of Alaska Fairbanks Institute of Arctic Biology
FUNDED BY:
PRINCIPAL INVESTIGATOR: Kari Hamrick, Ph.D., R.D. ankjh@uaa.alaska.edu; (Other components under Gerald Mohatt, Bert Boyer, and Kelly Hazel)
SYNOPSIS: Purpose is to evaluate the dietary pattern, nutrient intakes, and food sources of Alaska Natives to improve the understanding of the nutritional value of subsistence foods. A secondary objective is to determine the prevalence of overweight and associated behavioral factors such as body image, knowledge and attitude toward diet practices and weight management strategies. Villages are being identified for this multi-year study.

TITLE: Influence of maternal nutrition on pregnancy and infant outcomes in Alaska Native populations
AGENCY FUNDED: Alaska Native Tribal Health Consortium
FUNDED BY: US Indian Health Service with National Institute of General Medical Sciences (another NARCH grant)
PRINCIPAL INVESTIGATOR: Kari Hamrick ankjh@uaa.alaska.edu

SYNOPSIS: The objective of this prospective cohort study is to investigate the influence of maternal nutrition on pregnancy and infant outcomes in Alaska Native populations. Three-day food intake data will be obtained from pregnant women who are participating in the Maternal Cord Blood Monitoring Program in three regions.

TITLE: A Prospective Study of Alaska Natives and American Indians
A cohort study of Alaska Natives and American Indians health issues including a nutrition component
AGENCY FUNDED: not yet funded
FUNDED BY:
ALASKA CONTACT: Anne P. Lanier, M.D., M.P.H. aplanier@anthc.org
SYNOPSIS: A cohort study is in the design phase.

TITLE: Dietary Benefits and Risks in Alaskan Villages
AGENCY FUNDED: Aleutian/Pribilof Islands Association, Inc.

FUNDED BY: National Institute of Environmental Health Sciences (NIEHS)
PRINCIPAL INVESTIGATOR: Michael Brubaker mikeb@apiai.com
SYNOPSIS: With a focus on the villages of Atka and St. Paul, this project addresses dietary questions raised by native people living in villages throughout Alaska. What are the risks associated with environmental contaminants bio-accumulating in traditional foods, and how do they compare with the health, social, economic and cultural consequences which result from a shift to alternative, market-based diets? This project establishes a model for addressing dietary concerns and demonstrates methods for increasing village-based leadership and cooperation between communities, researchers, and government agencies. The project will result in new data which will be compared with existing village-specific data to better understand and communicate the benefits and risks associated with rural diet.

TITLE: The Inuit Diet and Health Study
AGENCY FUNDED: not yet funded
FUNDED BY:
PRINCIPAL ORIGINATORS: Peter Bjerregaard (p.bjerregaard@dadlnet.dk), Eric Dewailly, T. Kue Young, Sven Ebbesson
SYNOPSIS: A long term study is proposed to give reliable dietary advice based on knowledge of what causes disease among the Inuit in three countries and in particular about the effects of the traditional diet and lifestyle. Approximately 12,000 Inuit/Yup'ik people from Alaska, Canada and Greenland will be recruited, interviewed, examined and have blood drawn to begin the study. Participants will be followed for maybe 20 or 30 years. As of June 2002 the study outline was being taken to the Inuit Circumpolar Conference (ICC) and other Indigenous groups for review.

Other Studies are being conducted where the primary focus is not diet, but where dietary information is being collected. For example:

TITLE: Genetics of Coronary Artery Disease in Alaskan Natives (GOCADAN)
AGENCY FUNDED: Medlantic Research Institute in partnership with Norton Sound Health Corporation
FUNDED BY: National Institute of Health
PRINCIPAL INVESTIGATOR: David C. Robbins, M.D. (dcr1@mhg.edu)
SYNOPSIS: The project's aims are to carefully document CVD and CVD risk factors among 1200 Alaska Natives using a cross-sectional study design which includes interviews, physical exams, laboratory measurements and other measures. This five-year project began in 1999.

Mr. Craig Dorman, U of A Vice President of Research, takes time to meet with ANSC Commissioners last June.

Western Airborne Contaminants Assessment Project

PROJECT OBJECTIVE: Inventory airborne contaminants in national park ecosystems using a network of sites in parks of the western United States to provide spatially extensive, site specific, and temporally resolved information on the exposure, accumulation, and impacts of airborne toxic compounds.

BACKGROUND:
The "Western Airborne Contaminants Assessment Project" has been initiated to determine the risk to ecosystems and food webs in western national parks from the long-range transport of airborne contaminants. It is being designed and implemented by the National Park Service's Air Resources Division in cooperation with many western national parks, the Environmental Protection Agency, the U.S. Geological Survey, and several universities.

Airborne contaminants can pose serious health threats to wildlife and humans. Some toxic compounds tend to "biomagnify" meaning that small concentrations in air, water, snow, and plants, can result in large concentrations at higher levels of the food chain: like fish and mammals. Biological effects of airborne contaminants include impacts on reproductive success, growth, behavior, disease, and survival. Subsistence hunters and gatherers in Alaska depend on wild food sources that may be affected by airborne contaminants.

The contaminants of concern are compounds and elements that are sometimes called Persistent Bioaccumulative Toxics or PBTs. This group contains a variety of persistent organic pollutants (POPs) such as PCB, DDT, and HCH; as well as elements such as mercury (Hg). These materials are direct or indirect products of human industrial activity and can be transported thousands of miles in the atmosphere. In some cases they can be deposited to aquatic or terrestrial ecosystems and then be re-emitted back into the air to continue their long journey through the atmosphere. Some of these materials have specific properties that permit them to accumulate, preferentially, in colder areas of the global environment. This phenomenon has been termed "cold condensation" and has been observed for some types of PCB, HCHs and even mercury. Hence, it is expected that high elevation and latitude ecosystems may be at greater risk due to the accumulations of these toxic compounds.

Several workshops have been conducted since January 2001 to assist in developing this program. As a result, a design has emerged that is centered around six key national parks in the west representing a latitudinal gradient as well as a coastal to interior gradient. Figure 1 (right) shows the broad elevation range and average latitude for many national parks in the west. The red bars represent the keystone parks in which all indicators will be sampled, if sufficient funding can be acquired. Note that Olympic and Glacier as well as Kings Canyon and Rocky Mountain National Parks are pairs of coast and inland sites located at roughly the same latitude. The green bars represent parks at which a smaller subset of samples will be taken if additional funding is available. At each of the six parks, two lake catchments will be selected at two different elevations. Samples will be collected at these sites to tell us where and to what extent airborne contaminants have been deposited on these landscapes, and how these contaminants may be distributed within food webs.

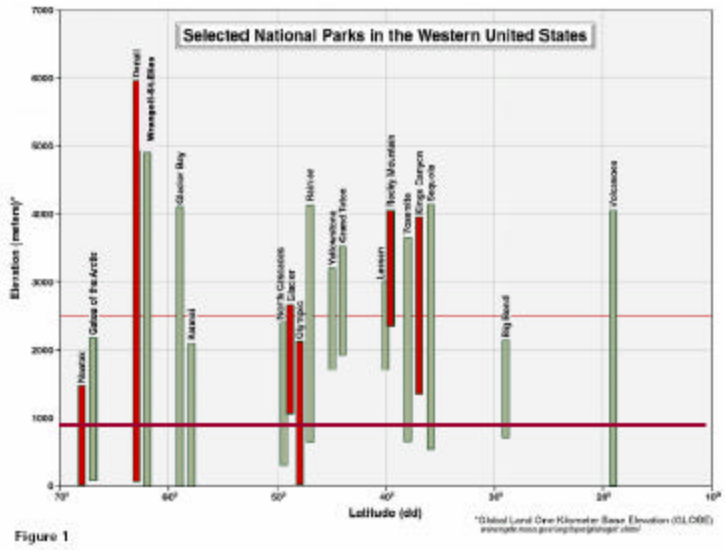


Figure 1

CONTAMINANT SAMPLING:
There are a variety of ecosystem indicators that have been successfully sampled to provide information regarding contaminant accumulation and impacts in terrestrial and aquatic systems. The project will collect field samples of the following indicators and carefully analyze them in state-of-the-art laboratories. Each indicator is paired with some information indicating what the results would tell us about airborne contaminants (see Figure 2 below & on next page).

A broad suite of persistent organic pollutants that have been used by humans for decades will be measured such as PCBs, DDT, DDE, HCH, HCB, etc. We will also analyze for the presence of "current use" chemicals including pesticides, flame retardants and others. Mercury is of key interest and will be measured in all materials along with other metals in specific indicators.

SNOW
Measure of direct atmospheric loading, collected annually, in many alpine cases 90% of the annual precipitation

FISH
Direct measure of food web impacts and food web bioaccumulation

WATER
Measures hydrophilic "current use" chemicals

LAKE SEDIMENT
Sediment provides historic trends (~150 yrs) of contaminant loading to watershed

LICHEN
Direct measure of food web impacts and metals bioaccumulation

"TREE" BARK
Collected along altitude gradients in all 19 parks, measure of ecosystem exposure, comparisons within and among sites, parks, and elevations.

SUBSISTENCE NATIVE FOODS
Direct measure of food sources used by Native people (ptarmigan, moose)

Figure 2

The project will take place over a five-year period as indicated in the table below:

2002	2003 2004 2005	2006
Pilot Studies: design & methods development	Field sampling, chemical analysis, database development, QA/QC, data interpretation	Final databases, interpretative report, and publication

The airborne contaminants project will be a team effort, including not only scientists from a variety of institutions but also resource experts and specialists from each of the participating national parks. Determining where and when to obtain samples will be closely coordinated with National Park Service (NPS) personnel and they will be involved in the interpretation of the results. A written research plan will be developed in 2002 and a peer review panel will meet to evaluate the approach and make recommendations for improvements prior to full implementation in the spring of 2003. Information about contaminants in western national parks that is gained from this project will be used to inform the public about the status of contaminant impact to these areas, determine if long-term airborne toxic compounds monitoring is needed, and to develop programs that protect parks from contaminant impacts in the future.

FOR FURTHER INFORMATION CONTACT:
Chris Shaver, Chief
Air Resources Division
National Park Service Denver, Colorado
chris_shaver@nps.gov
303-969-2074

ADDITIONAL INFORMATION SOURCES:
NPS Airborne Contaminants Web Site:
www.nature.nps.gov/ard/aqmon/air_toxics

The European Airborne Contaminants "EMERGE" Web Site:
www.mountain-lakes.org/index.html

NATIONAL PARK SERVICE AND GLOBAL CLIMATE CHANGE

Introduction: The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. NPS protects, restores and maintains natural and cultural resources and associated values. They are managed within the broad ecosystem and global context.

The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

NPS collaborates with federal, state, tribal, international and local governments, private organizations, and businesses to work toward common goals.

NPS incorporates research findings and new technologies to improve work practices, products, and services, and shares technical information and expertise with public and private land managers. NPS contributes to knowledge about natural and cultural resources and their associated values: management decisions about resources and visitors are based on adequate scholarly land scientific, as well as local knowledge and information.

The NPS works to protect and enhance the global environment through the strengthening of management, operation, and preservation of critical habitats and outstanding natural and cultural resources. It also shares management responsibilities for preservation and conservation of natural and cultural resources with neighboring international authorities. Through international cooperation, the NPS continues to strengthen and improve its own capabilities to achieve its domestic mission and extend the benefits of natural and cultural conservation throughout the world.

Purpose: The National Park Service strives to meet its original goals, while filling many other roles as well: guardian of our diverse cultural and recreational resources; environmental advocate; world leader in the parks and preservation community; and pioneer in the drive to protect America's open space. NPS protects, restores, and maintains natural and cultural resources and associated values. We manage them within their broader ecosystem context.

NPS contributes to knowledge about natural and cultural resources and their associated values: management decisions about resources and visitors are based on adequate scholarly and scientific information.

Arctic Land Manager: The NPS manages vast acreage of arctic lands and waters, including entire ecosystems, saved by the American people for the benefit of the American people and for worldwide residents. With over 54 million acres of land and more than 20,000 river miles, the NPS is the steward of highly valued landscapes. The NPS has a core commitment to sustain and to restore the natural systems of the planet. The NPS of the 21st century is a principal leader of national and global efforts to preserve biodiversity.

Management: To manage effectively the NPS must be aware of the variety of changes that might be occurring. The NPS is embarking on an Inventory and Monitoring program that will help assess changes in the Arctic. The NPS is willing to host research and be "living laboratories", research platforms for an accumulating database. The US needs an outreach program that educates and communicates information about contaminants in global climate change in the Arctic. It is essential for the public to be able to make informed decisions to minimize risks to their families and communities. It is incumbent on all public agencies to provide this type of information crucial to the overall health of our citizens. The NPS is particularly well suited to working with the arctic communities, since many of our employees live there.

Strategic Location: The NPS lands contain headwaters (spawning and rearing areas) for many streams and rivers important to the fisheries of the Yukon River and Bering Sea. The recent salmon disasters have had a profound negative effect on fisheries, on commercial and subsistence users and have international implications. We do not know how loss of biological productivity in the headwaters affects the systems or if Persistent Organic Pollutants (POPs) are affecting reproduction and survival.

Regulatory: The Department of Interior and National Park Service are part of interdepartmental Federal Subsistence Board that regulates subsistence uses of fish and wildlife on federal lands and waters.

Contaminants: POPs are effectively scavenged from the atmosphere by snow and concentrate in cold environments. The lofty mountaintops and spectacular glaciers on NPS lands are becoming sinks for POPs. Glaciers may be storage areas for POPs that could be released to the aquatic environment in the future. The increase in POPs in the arctic affects subsistence and other foods (commercial, sport taken) such as salmon and wildlife.

Climate Change: The climate shifts experienced this year, with warming in Alaska affecting cooling in the eastern U.S., need to be investigated. Damages to infrastructure from increased storms and permafrost melt result in increased costs to taxpayers across the country.

Traditional knowledge: Scientific biological data as well as ethnographic accounts would suggest that moose and beaver are new to the Northwest Alaska areas. However, site data from the late 1500s suggest their presence, showing cycles longer than either the ethnographic or scientific data bases have covered.

LABS USED FOR CONTAMINANT TESTING OF ALSAKA WILDLIFE/TRADITIONAL FOODS

LAB	# of Times Used for Alaska Samples	Contaminants
AXYS Analytical, Analytical Services, Sydney, British Columbia, Canada	4	Organo-chlorines
National Marine Fisheries Service, Seattle	2	POPs
Oak Ridge Nat Lab	1	Radionuclides
Institute of Arctic Biology Department of Biology and Wildlife UAF	1	Mercury
Analytical Services Environmental Research Center SUNY	1	POPs
TDI-BI, B&B Labs, College Station Texas	1	POPs
Geochemical and Environmental Research Group, (GERG) College Station, Texas	1	POPs
Frontier Geosciences, Seattle	1	Mercury
Mississippi State	1	Ocs
Canadian Wildlife Service	1	Ocs
RTI (Research Triangle Institute) N.C.	1	Ocs
Michigan State University	1	Ocs
NIST	1	POPs, Metals
Battelle Marine Science Laboratories, Sequim, Washington	1	Metals
University of Minnesota Soils, lab	1	Metals
Environmental Chemistry Branch Lab, USACOE, Omaha, NB	1	POPs
Analytical Environmental laboratories in Colorado	1	POPs

TRADITIONAL FOOD CONTAMINANTS TESTING PROJECTS IN ALASKA July 2002			**Mike Bradley Alaska Native Health Board (907) 743-6119, mbradley@anhb.org**		
REGANIZATION CONTACT	**DATES**	**SPECIES**	**CONTAMINANTS**	**LOCATION**	**LAB(S)**
North Slope Borough Dept. of Wildlife Management Todd O'Hara	1992-present	bowhead beluga ringed seal polar bears, fish, terrestrial mammals	POPs PCBs, Pesticides	Arctic Ocean Beaufort Sea	Radionuclides Oak Ridge Nat. Lab Dept. of Ecology and Evolutionary Biology ,University of Tennessee, Knoxville, **POPs:** Environmental Conservation Division Northwest Fisheries Science Center, National Marine Fisheries Service, Seattle, WA **Metals**: Institute of Arctic Biology Department of Biology and Wildlife UAF
Alaska Sea Otter and Stellar Sea Lion Commission (TASSC) Lianna Jack, Dolly Garza (UAF MAP), Donna Willoya	2001	Gull eggs	Persistent Bioaccumulative Contaminants (PBTs) – POPs, PCBs, Pesticides, Dioxins/Furans, Total Toxaphene, Metals	Kotzebue, Togiak, Sitka, Unalaska, Merkoryuk	AXYS Analytical (Ocs, PCBs, Dioxins) Frontier Geosciences – (metals)
World Wildlife Fund Michael Smolen	1999 - present	salmon, coastal fish species	Western Alaska Y-K Coastal region, Merkoryuk, Hooper Bay		Analytical Services Environmental Research Center SUNY Oswego, NY TDI-BI, B&B Labs, College Station Texas.
Cape Romanzoff communities, World Wildlife Fund Michael Smolen	2002? - 2003	salmon, coastal fish species	Cape Romanzoff Region Geochemical		Environmental Research Group, GERG College Station Texas.
Institute of Marine Science, UAF, Larry Duffy	1999-2000	salmon, pike, grayling	Mercury	Western Alaska	Frontier Geosciences, Seattle
U.S. Fish and Wildlife Service Phillip Johnson	2001-2002	chinook, chum salmon	POPs		
Aleutian/Pribilof Islands Association	2001-2005	sampling plan in process	POPs, heavy metals, radionuclides, nutrients	St. Paul and Atka	
U.S. Fish and Wildlife Service Keith Mueller & Angela Matz	1998-1999	burbot livers	Ocs	Yukon River drainage	AXYS Analytical Services, Sydney, British Columbia, Canada
Red Dog Mine, National Park Service, ADEC	2001	berries, plants	Metals	Noatak, Kivalina	Battelle Marine Science Laboratories, Sequim, Washington; University of Minnesota Soils, lab.

NE Cape Site, St. Lawrence Island, DOD – ATSDR Robert Johnson	2000-2001	fresh water fish, reindeer	POPs	St. Lawrence Island	Environmental Chemistry Branch Lab, USACOE, Omaha, NB
Cook Inlet Contaminants Study, EPA, Roseanne Lorenzana	1997	marine fish, mollusks, snails, marine plants	POPs, metals	Cook Inlet: Tyonek, Seldovia, Port Graham, Nanwalek	AXYS Analytical Services, Sydney B.C. Canada
Dutch Harbor Study, EPA, Mark Ader	1999		POPs, metals		EPA Region 10 labs
Coville River, DOD, ATSDR Curtis King - DOD Contractor Robert Johnson - ATSDR	2000	Fish	POPs,	Colville River around Umiat AFS site	Analytical Environmental laboratories in Colorado
Tanana Chiefs Conference Traditional Foods Contaminant Assessment Program Raphaela Stimmelmayr	2002-present	Fish, waterfowl, terrestrial mammals; berries, plants	POPs PCBs, Pesticides, metals; RDX, TNT;	Interior Alaska	
Copper River drainage, Goran Ewald	1994	Sockeye salmon, Grayling	POPs	Copper River drainage	
US Fish and Wildlife Service, Phillip Johnson	1997 - present	Adult male polar bears	Organochlorines	Barrow, Nuiqsut, Kaktovik, Wainwright, Point Lay, Point Hope, Gambell, Savoonga, Shishmaref, Wales, and Little Diomede	Mississippi State, Canadian Wildlife Service, RTI (Research Triangle Institute) AXYS labs, Michigan State University
USGS The Seabird Tissue Archival and Monitoring Geoff York	1998-present	Sea birds	POPs Mercury	Gulf of Alaska, Bering Sea, Bering Straight	National Institutes of Standards and Technology (NIST)
USGS, The Alaska Marine Mammal Tissue Archival Project, Geoff York	1987-present	Marine mammals	POPS, metals	Marine ecosystems	NIST, NMFS

Summary of Alaska Nutrition Research Projects underway at Institute for Circumpolar Health Studies (UAA)

July 2002

Title	Funding Source	Cooperating Organizations/ Key People		
Alaska Traditional Diet Project (ATDP)	Agency for Toxic Substance Disease Registry (ATSDR), ANHB	ANHB, ICHS, IDM Consulting , Alaska Native Health Board Mike Bradley, Angela Ross, Betsy Nobmann – holds nutrition contract Subcontract to ICHS - Kari Hamrick	**GOALS** Develop a core and regional food frequency tools to compare regional use patterns of Indigenous Alaska foods, ascertain the main subsistence foods for estimating source of potential contaminants, increase the knowledge base as to regional food habits	**DESCRIPTION** FFQ tool has been developed using harvest data and consultation with participating communities. A "core" group of food was organized, and supplemented with regional food lists. Data collected in three eco-cultural regions (Arctic/sub-arctic, Interior/Yukon, and Southeast). Trained local residents are collecting data under agreements from village tribal councils with ANHB.
COBRE "CANHR" Center for Alaska Native Health Research	NIH Centers for Biomedical Research Excellence – Intra-structure building (COBRE) Grant to UAF-UAA system	UAF co-investigators , Jerry Mohatt, Bert Boyer, Cecile Lardon, Scarlett Hutchinson, Alisa Jenny, YKHC Research Partner, and participating community work groups UAA, Kari Hamrick, Janell Smith, Brian Saylor, Carl Hild, Donna Burgess.	**GOALS** Examine co-existing factors that contribute to body weight in Yup'ik communities: Communities to be determined in cooperation with Yukon Kuskokwim Health Corporation, village councils and/or tribal entities	**DESCRIPTION** **Year 1**: UAA IRB and YKHC Human Studies/Board have approved, moving through AK Area IRB process for formative research phase. **Year 2** Data collection, food intake, (24 hour recall and/or Regional FFQ) energy expenditure, anthropometrics (HT, WT, waist to hip ratio), percent body fat, knowledge/ attitudes toward body weight and diet. Information to be used in combination with biochemistry and cultural projects. **Years 3-5** Disseminate results, develop health education tools , and consult on health intervention program
NARCH Native American Research Center for Health	Indian Health Service (IHS) /National Institute of General Medical Sciences (NIGMS) of NIH Grant to Alaska Native Tribal Health Consortium	ANTHC Jim Berner, MD, Co-PI Katy Tayor, RN, Project Coordinator, Subaward to UAA-ICHS, Kari Hamrick, PI, Janell Smith, John Hopkins School of Public Health - Parul Christian, CDC/AIP, Village Research Coordinators - Carla Willetto, Sarah Angstman	**GOALS** Investigate the influence of maternal nutrition on pregnancy and infant outcomes. Prospective cohort will include pregnant Alaska Native women from North Slope Borough, YK Delta and Aleutian/Pribilof Islands. This is an addendum nutrition study to the Maternal Cord Blood Monitoring Program.	**DESCRIPTION** Detailed nutrient intakes to increase knowledge of benefits of traditional diet during pregnancy. FFQ to look at food patterns before age 13 and food habits after age 13. Three one day food dairies collected at prenatal visit 34-36 weeks gestation Obstetrical outcome variables, maternal anthropometrics and maternal blood micronutrient levels will also be investigated.

Dietary Benefits and Risks in Alaskan Villages	NIH – NIEHS (National Institute of Environmental Health Sciences) Environmental Justice Grant Grant to A/PIA, subcontract to ICHS	A/PIA Mike Brubaker, Sue Unger Leslie Shallcross ICHS – Kari Hamrick Graduate Student Technical Advisory Committee Work Groups	**GOALS** Determine dietary intake of indigenous food sources to create a risk benefit model of possible dietary exposure to contamination. From a list of most frequently consumed foods, foods will be selected to be analyzed to determine contaminant and nutrient levels of those foods.	**DESCRIPTION** Food intake data initially collected from Atka in 1999 along with narrative statements of food harvesting/food safety concerns. Currently data being collected in St. Paul – 24 hour recalls and food frequencies used to increase validity.
RESOLVE (non-profit agency dealing with community environmental concerns, office in Washington, DC)	Citizen's Monitoring & Technical Assessment Fund granted to A/PIA	A/PIA Bob Patrick Leslie Shallcross ICHS contract Kari Hamrick Janell Smith	**GOALS** Collect intake data by species and amounts as part of process to develop benefits/risk model of nutrient intake and possible contaminants.	**DESCRIPTION** Collect and analyze food intake from 24 hour recalls and FFQ in two additional communities of Nikolski and Unalaska offering the opportunity to compare food intake data from St. Paul and Atka
CRESP (Consortium for Risk Evaluation with Stakeholder Participation**)** Amchitka Island Long Term Stewardship	Independent institutional competitive cooperative agreement from Department of Energy (DOE), Award to UAF, sub-award to ICHS	UAF- David Barnes, John Eichelberger, John Kelley, ICHS – Kari Hamrick, Carl Hild, Graduate Student, ADEC- Doug Dasher, APIA- Bob Patrick	**GOALS** Collect historical information to combine with nutritional data currently being collected in the Aleutian/Pribilof Islands. Purpose is to examine the current and long-term impacts from the Amchitka Underground Nuclear Test Area to the local terrestrial, near and far-field marine environment, and human health.	**DESCRIPTION** Extensive library search, qualitative analyses and report of findings to develop a long-term stewardship plan for Amchitka Island

Alaska Community Action on Toxics: Summary of Activities (NIEHS Grant) July 2000 to July 2004

Specific Aims. The primary objective of this grant is to establish self-sufficiency in Alaska Native communities, within existing health care systems, to minimize exposure to environmental contaminants. Specifically, the research team will collaborate to develop a series of training programs that address environmental justice and health issues of importance to the residents of St. Lawrence Island, Alaska. These programs will be designed by members of the St. Lawrence Island (SLI) communities in conjunction with research scientists and health care providers to:

1. Identify sources of contaminants affecting the SLI communities, such as contaminants from former utilized defense sites and the long-range transport of pollutants by oceanic and atmospheric currents;
2. Describe past and current health problems of SLI residents that may be linked to the identified environmental contamination;
3. Work toward ameliorating contaminated sites and preventing new sources of contaminants;
4. Create a training program for residents, community health specialists, and regional health care providers that address the prevention and treatment of environmental health problems in the SLI communities.

Summary of Activities Cont. from pg 16

This project is intended to serve as a model to establish the most effective way to exchange information among remote or isolated Alaska Native, maritime communities, health care providers, and scientists concerning environmental justice and health. Although the program developed through this study will be used to benefit St. Lawrence Island specifically, the project will provide descriptions, information, and mechanisms on how to repeat successes in similar situations in other locations in Alaska and other areas of the United States.

Collaborating Organizations.

Alaska Community Action on Toxics: ACAT was founded by Pamela Miller, in January 1998, in response to requests from individuals and tribes seeking assistance in their efforts to hold polluters accountable for their actions. ACAT is the only statewide organization working on Alaska toxics issues. ACAT provides coordination of the collaborative effort for this grant. Pam directs the grant project and she hired Savoonga's Sterling Gologergen to coordinate the work. Dr. Lorraine Eckstein of ACAT is serving as research consultant.

People of St. Lawrence Island: Yup'ik Elder and village health aide Annie Alowa requested assistance from ACAT in 1998, because she was concerned that the effects of contaminants on St. Lawrence Island may be leading to cancer, premature births, and miscarriages among her people. Before Annie died in 1999 from liver cancer, she motivated others on SLI to seek justice. She inspired Pam to produce a video featuring an interview with Annie about her efforts to draw attention to military hazardous waste sites on SLI. The video, *I Will Fight Until I Melt*, served as a catalyst for villagers, researchers, and health care providers to work together to obtain environmental justice. As a result, the following SLI organizations passed resolutions to support the work of this grant: the City of Savoonga; City of Gambell; Village of Gambell; Village of Savoonga; Sivuqaq, Inc.; and Savoonga Native Corporation. These six organizations (two city governments, two tribal governments, and two Native corporations) represent all of the people in their respective communities, which are all of the people who live on SLI.

State University of New York (SUNY). Dr. Ron Scrudato is Director of the Environmental Research Center of SUNY at the Oswego campus. He is an expert on persistent pollutants and their long range transport. He has been working collaboratively with the Akwesasne Nation (Mohawk) in addressing contamination in the Great Lakes region. Through the efforts of ACAT, Ron has been providing technical assistance to military advisory boards in Alaska since 1998. He learned about the efforts of the people of SLI and suggested that a proposal be submitted to the National Institute of Environmental Health Sciences (NIEHS) to develop self-sustaining health care programs similar to that established by the Akwesasne Nation. For this grant at SLI, Ron provides technical and scientific expertise. Dr. David Carpenter (School of Public Health) helps develop health care training and educational programs involving contaminants. Scientists Jeffrey Chiarenzelli and James Pagano work with the team to characterize military-derived and atmospheric sources of contaminants, and to analyze contaminant samples.

Norton Sound Health Corporation (NSHC). The NSHC provides health care to the residents of SLI. Kevin Zweifel, Director of Environmental Health, represents NSHC to the grant project. The NSHC medical staff collaborates with ACAT, SLI, and SUNY to design and implement the model for this project. The NSHC and SUNY health care experts coordinate the efforts of the community health care workers hired for the project.

Overview of Project. The grant project Advisory Committee is comprised of the three leadership entities of both SLI communities. Working with the assistance of ACAT, the Advisory Committee provides guidance and oversight to the project. The Advisory Committee ensures that the environmental justice and health needs of the SLI communities are addressed effectively. At the beginning of the project and throughout its execution, approval and suggestions for change will be sought from the residents of SLI and the Advisory Committee. The researchers will seek and receive input from the community concerning the methods outlined in this proposal.

GENERAL TIME LINE

Beginning of Project:

- Establish systems of communication to be used throughout the project to facilitate interaction among members of the collaborating groups;
- With permission from the SLI villages, establish environmental sampling programs to test for contaminants to be maintained throughout the course of the project.

First and Second Years of Project:

- Continue the environmental sampling program;
- Review scientific literature and other documents that may be relevant to the project;
- Design and launch a health assessment program in collaboration with members of the St. Lawrence Island community that will be completed by the end of the second year of the project.

Third Year of Project:

- Continue the environmental sampling program;
- Design and begin an environmental justice and health training program tailored to the needs of the St. Lawrence Island community that takes into account the information obtained in the first two years about contaminants and health problems on the Island.

Continued on page 20

USE THIS SPACE FOR YOUR NOTES:

YOUR NOTES:

CALENDAR OF EVENTS

ALASKA FEDERATION OF NATIVES CONVENTION
PLACE EGAN CONVENTION CENTER, ANCHORAGE, AK
DATE OCTOBER 21 – 26, 2002
INFOE HTTP://WWW.NATIVEFEDERATION.ORG/FLASH.HTML

ALASKA TRIBAL CONFERENCE ON ENVIRONMENTAL MANAGEMENT (ATCEM)
PLACE MARRIOTT HOTEL, ANCHORAGE, AK
DATE OCTOBER 29 – 31, 2002
INFOE EMAIL - NMORGAN@ANHB.ORG

NORTH PACIFIC RESEARCH BOARD
PLACE ANCHORAGE, AK
DATE OCTOBER 29 – 31, 2002

AMERICAN PUBLIC HEALTH ASSOCIATION
PLACE PHILADELPHIA, PA
DATE NOVEMBER 10 – 14, 2002

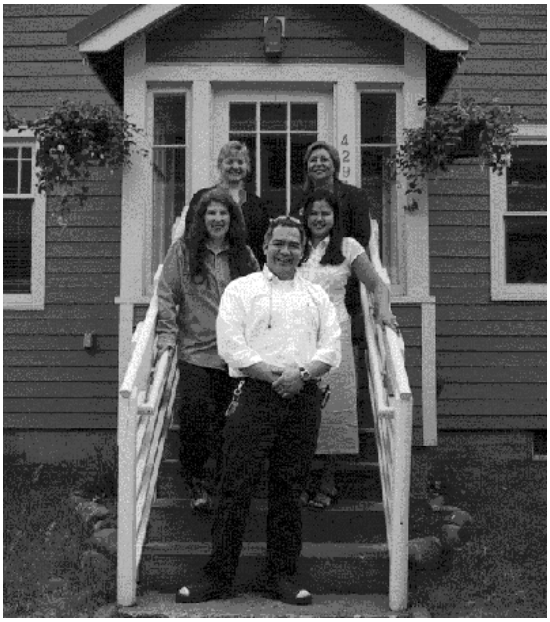
ALASKA HEALTH SUMMIT
PLACE ANCHORAGE, AK
DATE DECEMBER 3 – 5, 2002

11TH ANNUAL CONVENTION OF THE ALASKA INTER-TRIBAL COUNCIL
PLACE ANCHORAGE, AK
DATE DECEMBER 10 – 12, 2002
INFOE WWW.AITC.ORG

ALASKA FORUM ON THE ENVIRONMENT
PLACE EGAN CENTER (ANCH., AK)
DATE FEBRUARY 10 – 14, 2002

Fourth Year of Project:

- Finish the environmental sampling program;
- Continue the environmental justice and health training program;
- Establish project design and methods as a model that may be used in other locations;
- Evaluate the project and identify successes.



We invite you to come by and visit us at our new office location in downtown Anchorage at 429 L Street, directly across the street from Simon & Seaforts restaurant.

Alaska Native Science Commission
429 L Street
Anchorage, Alaska 99501
www.nativescience.org

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