

## **Biographical Sketches for North Slope Science Initiative, Science Technical Group**

**Arnold Brower, Sr.**, was appointed for a three year term for his expertise in traditional and ecological knowledge. Mr. Brower is a retired veteran of foreign wars and life long resident of the North Slope, who currently resides in Barrow, Alaska. As a life long subsistence hunter on the North Slope, he raised 17 children from the abundance of the land. Today, he is a revered elder, who spends much of the year at his cabin on Ikpikpuk River. During whaling season, Mr. Brower remains very active in teaching younger generations about the respect and discipline it takes to be a successful whaler.

**Alison Cooke** was appointed for a one year term for her expertise in petroleum engineering and geology. Ms. Cooke holds the title of Senior Geologist/Environmental Scientist for BP Exploration (Alaska) Inc. in Anchorage, Alaska. Ms. Cooke received her B.S. in Geology from Newcomb College in 1978. She received her M.S. in Geology with a minor in Petroleum Engineering from Tulane University in 1981.

Ms. Cooke's experience on the North Slope of Alaska includes 5 years as a petroleum geologist and 15 years as an environmental scientist for BP's North Slope facilities. This experience has provided her with a valuable knowledge of oil drilling operations, oil processing facilities, and the impact of oil field operations on the environment. She planned the drilling wells and new satellite developments at Prudhoe Bay, and provided the air quality data and waste management or disposal information for environmental permitting and assessments of new developments. While managing BP's air monitoring network, she provided monitoring results to the National Academy of Science investigation of cumulative effects of North Slope energy development.

**Dirk Derksen, Ph.D.**, was appointed for a three year term for his expertise in ornithology and terrestrial ecology. Dr. Derksen is the Supervisory Wildlife Biologist for the U.S. Geological Survey, Alaska Science Center in Anchorage, Alaska and is an Affiliate Assistant Professor of Wildlife Biology at the University of Alaska Fairbanks. Dr. Derksen received his B.A. and M.A. in Biology from Minnesota State University in 1967 and 1969, respectively. He received his Ph.D. in Animal Ecology from Iowa State University in 1974.

Dr. Derksen has substantial experience working on the North Slope of Alaska. He conducted research on migratory birds and wetland habitats on the Beaufort Sea near Prudhoe Bay and in the National Petroleum Reserve—Alaska. His research on North Slope birds and wetlands has been published in peer-reviewed journals including *Arctic*, *Biological Conservation*, *Journal of Wildlife Management*, *Journal of Field Ornithology*, *Journal of Wildlife Diseases*, and *Wildfowl*. He currently supervises a multi-disciplinary research project in the National Petroleum Reserve-Alaska that is focused on avian population response to ecological change.

**Doug Kane, Ph.D.**, was appointed for a three year term for his expertise in civil engineering, hydrology, and climatology. Dr. Kane is a Professor of Civil Engineering

and Water Resources at the University of Alaska Fairbanks in Fairbanks, Alaska. Dr. Kane received his B.S. in Civil Engineering and his M.S. in Civil Engineering, Water Resources Management from the University of Wisconsin in 1966 and 1968, respectively. He received his Ph.D. in Civil Engineering from the University of Minnesota in 1975.

Dr. Kane first initiated his research activities on the North Slope in 1971 and has actively and continuously conducted research on many sites throughout the North Slope since 1984. Most of his research has involved investigating hydrological and meteorological processes in the Arctic and Sub-arctic. He has also been involved in studies looking at the swimming performance of fish and the hydraulic characteristics of culverts. He served as founding president of the U.S. Permafrost Association and has been on many national and international professional committees dealing with permafrost and water resources.

**John J. Kelley, Ph.D.**, was appointed for a one year term for his expertise in oceanography, environmental monitoring, and science policy. Dr. Kelley holds the title of Professor of Marine Science at the Institute of Marine Science, University of Alaska Fairbanks in Fairbanks, Alaska. Dr. Kelley received his B.S. in Geophysics and Geochemistry from Pennsylvania State University in 1958. He received his Ph.D. in Water Science from the University of Nagoya, Japan in 1973.

Since 1960, much of Dr. Kelley's research has involved terrestrial, marine, and atmospheric projects of the North Slope and polar regions. He served as the Director of the Naval Arctic Research Laboratory at Barrow, where he participated in early oil and gas related environmental research projects. As a member of the BLM/NOAA Outer Continental Environmental Assessment Program (OCSEAP) Technical Advisory Group he provided project advice and oversight for Bering Sea and Arctic proposals and programs. He has served as Chair of the North Slope Borough Science Advisory Committee since 1981. He is currently conducting research projects on trace metals and organics in Alaska coastal regions associated with oil and gas development. Some of Dr. Kelley's other current research in Alaska involves exploration for offshore placer deposits of platinum and gold, sources of offshore gravel for, and monitoring of radioactivity in the atmosphere and terrestrial environment.

**Gary Kofinas, Ph.D.**, was appointed for a two-year term for his expertise in socio-cultural anthropology and adaptive management. Dr. Kofinas is Assistant Professor of Resource Policy and Management at the University of Alaska Fairbanks, Institute of Arctic Biology and Department of Resources Management, at Fairbanks Alaska. Dr. Kofinas received his Ph.D. in Interdisciplinary Studies in Resource Management Science from the University of British Columbia.

Dr. Kofinas is interested in how public policy, government rules and management, and community-based decision making affect the resilience and sustainability of cultures, economics, and lifestyles. His experience on the North Slope of Alaska includes work with several local communities on research projects related to regional and community sustainability, wildlife management, and integration of local knowledge in science and management. He was a co-investigator of the National Science Foundation's Sustainability of Arctic Communities project, a seven-year integrated assessment modeling social-ecological community change. He is a leader in the International Polar Year cluster project CARMA, the Circum-Arctic Rangifer

Monitoring and Assessment Network, which will involve all countries of the Arctic. He is currently Principal Investigator of National Science Foundation project, "Heterogeneity and Resilience of Human-Rangifer Systems: A Circumpolar Social-Ecological Synthesis."

**Sue Moore, Ph.D.**, was appointed for a two year term for her expertise in marine ecology, underwater acoustics, and oceanography. Dr. Moore holds the title of Principle Oceanographer, as a visiting scholar at the Applied Physics Laboratory, University of Washington. Dr. Moore is employed by the National Oceanic and Atmospheric Administration (NOAA/Alaska Fisheries Science Center,) and currently resides in Seattle, Washington. Dr. Moore received her B.A. in Biology/Mammalian Physiology from University of California-San Diego/Third College in 1976. She received her M.S. in Biology/Bioacoustics from San Diego State University in 1979 and her Ph.D. in Biological Oceanography from University of California-San Diego/Scripps Institute of Oceanography in 1997.

Dr. Moore has been involved in research on Arctic cetaceans in the Bering, Chukchi, and Beaufort Seas for over 25 years. She has extensive experience in leading national and international panels addressing complicated technical issues. Dr. Moore is a member of the U.S. delegation to the International Whaling Commission (IWC) and chairs the IWC subgroup on Arctic Concerns. She is co-investigator of a 2005-07 National Science Foundation study designed to investigate local oceanography and to assess bowhead whale prey species in the vicinity of Barrow, Alaska. Dr. Moore joined the science advisory group for the Barrow Arctic Science Consortium in 2005. She has been author and co-author on over 60 publications on bowhead whales, gray whales, beluga whales, long-term environmental change, and other topics of critical importance to the ecology of inhabitants of the North Slope.

**Alvin Ott, Ph.D.**, was appointed for a two year term for his experience in habitat biology and fisheries biology. Dr. Ott is a Biologist and Operations Manager for the State of Alaska Department of Natural Resources in Fairbanks, Alaska. He received his B.S. in Fisheries from Utah State in 1967. He received his M.S. and Ph.D. in Fisheries from Oregon State in 1970 and 1975, respectively.

Dr. Ott's experience with the North Slope began while working on the design and construction planning of the Trans Alaska Pipeline System in 1973. He later became Pipeline Coordinator for the State of Alaska and subsequently the habitat coordinator for Alaska Department of Fish and Game. Dr. Ott has conducted long-term studies on gravel mining impacts to fish and wildlife resources and on road crossings of streams impacting fish passage and anadromous fish habitat. Throughout his career, he has participated in the review of leasing, permitting, and assessment of field conditions of state and federal lands for oil and gas exploration and development across the North Slope. He has served on the North Slope Borough science advisory committee, where he helped evaluate the effects of causeways on nearshore anadromous fish habits.

**Caryn Rea** was appointed for a one year term for her expertise in wildlife biology and habitat biology. Ms. Rea is the Senior Staff Biologist for ConocoPhillips Alaska in Anchorage, Alaska. She is responsible for managing a multi-disciplinary environmental studies program on the North Slope. She received her B.S. in

Zoology from the University of Tennessee in 1979 and her M.S. in Environmental Science from the University of Alaska Fairbanks in 1986.

Ms. Rea has worked on the North Slope in various capacities since 1992. She managed a site investigation/remediation program for ARCO Alaska, assisting with the development of pilot bioremediation technologies for North Slope sites. Since 2000, she has managed monitoring activities associated with hydrology studies, fisheries surveys, mammal surveys, avian surveys, geomorphology and land surveys, archaeology and cultural resources, water withdrawal from lakes, and tundra restoration projects. She serves as a member of the Bureau of Land Management Research and Monitoring Team and Head of Wildlife Task Group under the Environmental Committee of the Alaska Oil and Gas Association. Ms. Rea is also a member of a multiple stakeholder group, involving U.S. Fish and Wildlife Biologists with the Arctic National Wildlife Refuge, Wildlife Conservation Society, BP, and Monomet Sciences, which is coordinating a predator/prey study on tundra nesting birds within and outside North Slope oilfields.

**Dan Reed** was appointed for a one year term for his expertise in Biometrics. He is employed in Fairbanks as a biometrician for the Alaska Department of Fish & Game (ADF&G) – Sport Fish Division, and his participation in the NSSI Science Technical Group is as a private individual. Mr. Reed received his B.S. in Mathematics from the University of Portland in 1976 and his M.S. in Statistics from Oregon State University in 1978. He has completed additional coursework in statistics at Oregon State University and the University of Alaska.

Mr. Reed has 25 years of direct experience with research and management issues on the North Slope as a biometrician, research supervisor, and regional supervisor. He began working with ADF&G's fishery enhancement and hatchery programs as a biometrician and worked in wildlife research and management in various capacities throughout the years. Mr. Reed's has applied a variety of field techniques and statistical methods to estimate the population dynamics parameters of moose, caribou, muskoxen, sheep, bears, and wolves. His experience in fisheries research includes stock assessments of both anadromous and freshwater fish stocks in Alaska at different life stages. He has been actively involved in the investigation of new research technologies. Current projects involve the use of remotely sensed data and spatial analysis techniques to predict the presence or absence of fish species and habitat, in order to evaluate the effects of human caused disturbance. In addition to his professional responsibilities, Mr. Reed has used the North Slope (primarily central and eastern) for recreational activities including moose and caribou hunting, fishing, and providing visitors with tourist and wildlife viewing opportunities.

**Robert Shuchman, Ph.D.**, was appointed to a three-year term for his expertise in remote sensing and GIS. Dr. Shuchman holds the title of Senior Vice President and Technical Director of the Environmental Group within the Environmental and Emerging Technologies Division at the Altarum Institute (formerly the Environmental Research Institute of Michigan (ERIM)) in Ann Arbor, Michigan. He is also an Adjunct Professor in the College of Engineering at the University of Michigan. Dr. Shuchman received his B.S. in Geological Oceanography and a B.S.E. in Environmental Science Engineering from the University of Michigan in 1974. He received his M.S. in Remote Sensing and his Ph.D. in Oceanic Science/Natural Resources from the University of Michigan in 1976 and 1982, respectively.

Dr. Shuchman has spent the last thirty years utilizing remote sensing data to address a variety of earth applications, including oceanography; polar ice cap and glacier mapping; disaster assessments, remediation, and mitigation; and ecological risk assessment. He has extensive experience relating to polar ocean issues dating back to the early eighties. In the early nineties, Dr. Shuchman was a member of the Environmental Task Force (ETF)/MEDEA, initiated by then Senator Albert Gore and CIA Director Robert Gates. This group of scientists addressed the question of how National Technical Means (NTM) data could be used by U.S. civil agencies to address climate and environmental change issues. Since 2000, Dr. Shuchman has addressed North Slope issues pertaining to hydrology, land cover, and generation of Digital Elevation Models (DEMs) for the Bureau of Land Management. Part of the work entailed performing a Gap Analysis, creation and maintenance of the NSSI web portal, and generation of a Geographic Information System (GIS) and Internet Map Server (IMS) for the North Slope.

**Bill Streever, Ph.D.**, was appointed for a one year term for his expertise in restoration ecology. Dr. Streever is the Environmental Studies Leader and Global Marine Mammal Issues Manager for BP Exploration (Alaska) Inc. in Anchorage, Alaska. Dr. Streever received his BS in Zoology and his Ph.D. in Applied Ecology from the University of Florida in 1991 and 1995, respectively.

Dr. Streever's professional training and experience have gained him a well respected reputation in understanding the North Slope ecosystems and restoration requirements. He has managed BP's environmental studies program for 5 years, reviewing study designs and reports for projects involving hydrology, plants, birds, fish, bears, caribou, and marine mammals and has developed a restoration database revising BP's approach to North Slope restoration. He previously was affiliated with the Corps of Engineers Waterways Experiment Station and the University of Newcastle in Australia. Dr. Streever edited the journal *Wetlands Ecology and Management* for 5 years. He authored the book *Saving Louisiana?* and edited *An International Perspective on Wetland Rehabilitation*. From 2002-2005 he served as a member of the Louisiana Coastal Area's National Technical Review Committee. His most recent book, *Green Seduction: Money, Business, and the Environment*, will be published in 2006.

**Matthew Sturm, Ph.D.**, was appointed for a three year term for his expertise in landscape ecology, hydrology, and climatology. Dr. Sturm is a Geophysicist for the U.S. Army Cold Regions Research and Engineering Laboratory (CRREL)-Alaska in Ft. Wainwright, Alaska. Dr. Sturm received his B.S. in Geology from New Mexico Tech in 1980. He received his M.S. and Ph.D. in Geophysics from the University of Alaska in 1983 and 1989, respectively.

Dr. Sturm's work on the interaction of snow, vegetation, climate, and shrub expansion in northern Alaska and pan-Arctic has taken him from the Antarctic to the Arctic. He has 21 years of research experience on the North Slope and has been the leader of more than 30 expeditions in winter in pursuit of his science. These trips have included two 1,000-mile snowmobile trips between Nome and Barrow, during which he visited and worked with students in seven villages. Dr. Sturm is currently responsible for conducting wide-ranging geophysical studies on snow in high latitudes. He serves as Director of a National Science Foundation-sponsored project

investigating the interactions of snow, shrubs, and weather in the Arctic. He is Principle Investigator on a NASA-sponsored project examining snow and sea ice and Project Leader in a study investigating snow, sea ice leads, and mercury. Dr. Sturm's research has been featured in *BioScience*, *Scientific American*, PBS videos, and the popular TV show *Frontiers of Science*, as well as numerous public lectures.

**Robert Suydam**, was appointed for a two year term for his expertise in wildlife biology, ornithology, and marine ecology. Mr. Suydam holds the title of Wildlife Biologist for the North Slope Borough Department of Wildlife Management in Barrow, Alaska. He received his B.A. in Environmental Biology from California State University Fresno in 1986. He received his M.S. in Biology from the University of Alaska Fairbanks in 1995. He expects to complete his Ph.D. in Fisheries in 2006 from the University of Washington.

Mr. Suydam has lived and worked on the North Slope since 1990, which has provided him with unique opportunities to interact with local residents, resource managers, and visiting scientists on issues related to North Slope oil and gas exploration and development. As a wildlife biologist, Mr. Suydam designs and conducts studies applicable to the management of subsistence use species. His projects have included population census of bowhead whales, investigation of life history traits of beluga whales, and migration counts of king and common eiders. Some of the local, national, and international committees Mr. Suydam serves on include the Barrow Arctic Science Consortium Science Advisory Group, Audubon Alaska Important Bird Areas Technical Committee, U.S. Fish and Wildlife Service Spectacled and Steller's Eider Recovery Team, Bureau of Land Management Research and Monitoring Team, and several committees of the Alaska Migratory bird Co-Management Council.

**Kimberly Titus, Ph.D.**, was appointed for a two year term for his expertise in wildlife biology and ornithology. Dr. Titus is the Deputy Director for the Alaska Department of Fish & Game in Juneau, Alaska. Dr. Titus received his B.S. in Environmental Conservation from the University of New Hampshire in 1976 and his M.S. in Wildlife Management from Frostburg State University in 1980. He completed his Ph.D. in Wildlife Science, Marine Estuarine & Environmental Science in the Interdisciplinary Ecology Program from the University of Maryland in 1984. His Ph.D. work involved the application of habitat models to bird of prey nesting habitat patterns and demography.

For the past 16 years, he has worked extensively on the research projects involving raptors, brown bears and other wildlife throughout Alaska and the North Slope. His field experience on the North Slope arctic Alaska has largely been associated with peregrine falcon surveys in Northwest Alaska and the Colville River. His knowledge of North Slope wildlife arises from participation and review of research and management projects, including studies on caribou and grizzly bear management. He has served as Chair of the Bureau of Land Management's Research and Monitoring Team, where he has become well versed in fish, wildlife, and subsistence programs across the North Slope. Dr. Titus is a 25 year member of The Wildlife Society and past president of Alaska Chapter. He has held various other positions in ornithological organizations, and has led numerous collaborative efforts on resource issues with federal and state resource agencies and the University of Alaska.

