

Project Description

Documenting the Cultural Geography, Biogeography, and Traditional Ecological Knowledge (TEK) of King Island, Alaska

INTRODUCTION

It has been over 40 years since King Island was occupied year round. The purpose of “Documenting the Cultural Geography, Biogeography, and Traditional Ecological Knowledge (TEK) of King Island, Alaska” is to record the place names, stories, subsistence activities, and archaeological sites associated with King Island. This project should be undertaken as soon as possible before any more knowledge is lost due to the aging of the population who lived there.¹ This project addresses current anthropological concerns of discovering the meaning of place and landscape within indigenous communities and documenting the TEK of indigenous peoples. This includes creating an inventory of flora and fauna on and around King Island. In addition, the project rectifies the past unintentional neglect of the Bureau of Indian Affairs ANCSA (Alaska Native Claims Settlement Act) Office who from 1974 to 1994 recorded over 140 hours of oral history about potential ANCSA sites in the Bering Strait ,except for people from King Island.² King Islanders were interviewed, however, in the early 1980s under the auspices of the Eskimo Heritage Program, but these were not done on King Island, but in Nome, Alaska.³ This project will be unique from the Eskimo Heritage Program in that it seeks to bring King Island elders, community members, and youth to King Island itself, a method that has proven in other research efforts to result in more complete documentation.

Elders will share their knowledge of the landscape and its flora and fauna with younger generations of King Islanders, many of whom have never been to King Island, and with members of the scientific team. Members of the scientific team, in turn, will teach various scientific and social scientific methods (interviewing, audio & visual recording, sampling, identification of plant and animal species, surveying archaeological sites, etc.) to young King Island community members. The King Islanders and scientific team will work together to create digital versatile discs (DVDs) to organize and store the information collected. Upon completion, these discs will be distributed to the King Island Native Community. This particular project originated from a request by King Island elder, Marie Saclamana, who wanted an on-site documentation of cultural knowledge present only in King Island elders before too many more elders pass away. It was also her wish to bring King Island youth to the island so that they could experience their homeland and learn traditional knowledge from the elders. When asked what they thought of this project, King Island youth and older King Islanders who have not been to the island in years enthusiastically stated that they would go to the island if given the opportunity. Thus, this project has the full support of the King Island Native Community.

INTELLECTUAL MERIT

The intellectual merit of this project is multifaceted. First, “Documenting the Cultural Geography, Biogeography, and Traditional Ecological Knowledge (TEK) of King Island, Alaska” seeks to understand the particular symbolic meanings and attachments that the King Island Native Community has to the

¹ In the last five years, of the 14 elders the Principal Investigator interviewed in 1995, 5 have died, 2 have developed Alzheimer’s disease, and 3 are in frail health. These individuals are in their 70s and were individuals who lived on King Island from childhood into young adulthood.

² To some extent, this is understandable because the King Island Native Corporation received title to all of King Island under the terms of ANCSA, plus land at Cape Woolley and it was assumed that this was the sum total of the land that KINC would claim. However, one King Island elder complained to me that no one interviewed him about other potential sites and mentioned that his father told him that their family had the right of access and use to land near Shishmaref, which could have qualified under ANCSA.

³ This is because the entire King Island population had relocated to Nome and elsewhere by the mid-1960s, due to the closing of the Bureau of Indian Affairs school on King Island in 1959.

place and landscape of King Island. This aspect of the project taps into recent anthropological investigations about the meaning of place and landscape in indigenous communities (see discussion below). The second aspect of this project reflects other recent anthropological research into what is variously termed “traditional ecological knowledge (TEK)” or “indigenous knowledge”. In particular, the senior scientific personnel involved in this project are eager to learn from the elders what they know about the behavioral patterns of fauna in and around the island, of growth patterns of flora on the island, and of gauging ice and weather conditions for hunting purposes. Such insights from knowledgeable elders are expected to complement existing scientific knowledge in ways that may be important for understanding ecosystem pattern and process on King Island. Thirdly, the elders’ observations of flora and fauna populations on and around the island may indicate changes in those populations, which may in turn reflect normal environmental fluctuations and/or larger changes due to global warming or other larger environmental events (again, see discussion below). Next, information on species composition and community structure for King Island biota (plants, birds, marine mammals) will be analyzed in comparison to individual species information worldwide. Finally, an archaeological survey will be done to supplement information on activity areas provided by King Island elders. This will hopefully uncover any activity areas unremembered or unused within the lifetime of any surviving members of the King Island community who lived on King Island year-round. It will also point out areas where the surviving material record substantiates King Island memory and give evidence as to what preserves in each activity area.

Place and Landscape

The interest and study of Native American placenames has long been an interest in anthropology, although through the mid-twentieth century, the study of placenames had “fallen on hard times” (Basso 1984:25). Recently, however, and especially after the publication of Keith Basso’s recent writings on the topic (Basso 1983, 1988, 1996), there has been a resurgence of interest in Native American placenames and connection to place and landscape (cf., e.g., Cruikshank 1990; Feld & Basso 1996; Thornton 1997a and 1997b). One reason for this renewed interest is the political nature of ‘place’: the land claims negotiations in Canada between First Nations peoples and the Canadian and territorial and provincial governments (Cruikshank 1998:16); the struggles to document and to maintain subsistence rights in various places in Alaska (cf., e.g., Thornton 1997b); and to the protection of sacred and burial sites in the United States (cf. Kelley and Francis 1994), sometimes associated with the Native American Graves Protection and Repatriation Act (NAGPRA).

The study of placenames are, in Thornton’s (1997a:2?) words, “a particularly interesting aspect of culture because they intersect three fundamental domains of cultural analysis: language, thought, and the environment”. In other words, placenames offer clues to how people perceive of and act upon their local environment. In addition, particular places are often essential to group identity, with kin groups naming themselves after particular places, such as the “Juniper Tree Stands Alone People” among the Cibecue Apache (Basso 1996:21) or such as clans among the Tlingit (Thornton 1997b:297). However, when a group becomes separated from its land or “deterritorialized” (Appadurai 1991:192), group loyalty and group bonds become “loosened” (ibid.:193). This often leads to traumatic stress and cultural disruption among peoples who have been relocated or displaced from their homelands (cf. Downing 1997). Cultural disruption has been keenly felt by the contemporary King Island community, many of whom have never lived on the island and are younger than 36. (Kingston 1999:182-202).

Although the King Island Inupiaq community has experienced cultural disruption, in the form of language loss, loss of knowledge of kin relations, a decrease in subsistence activities, and a subsequent loss in traditional values, the community still exhibits a sense of cohesiveness as a cultural group (loc. cit.). However, there is a general sense in the community that more and more knowledge unique to the King Islanders will be lost, and that is one of the reasons why the community is supportive of research efforts that seek to document this knowledge. Another strongly supported aspect of this research is the

opportunity it presents for elders to pass on knowledge to younger King Islanders. The reason it is so important to do this on location was brought home to the PI when in 1999 she recorded over 50 placenames in a preliminary study of five hours of interviews. Several times during the course of this preliminary study, elders mentioned that without clear pictures of the island or without being on the island, it was very hard to remember all the names of places on King Island. As they stated, almost everything, even the rocks, on King Island had a name. In contrast, in 1981 under the auspices of the Eskimo Heritage Program, using good aerial photographs of King Island, over 120 placenames were recorded. Unfortunately, the original photograph and the original notes of this research were burned in a fire in Nome and the copies of this research, retained by the Alaska Native Language Center, are not as sharp as the originals.

Past research experiences have shown that on-site research of this type has facilitated a more thorough documentation process. It is expected that pedestrian surveys will trigger more memories of placenames for the island, so that an expected several hundred names may be documented. For instance, among the Tlingit in Alaska, approximately 3,000 names have been documented and mapped, a project facilitated by actually being at those sites (Thornton 1999:1), and almost 1,000 placenames have been documented on Nunivak Island, Alaska (Amos 2003, personal communication). Thus, this project seeks to transport King Island elders, community members, and youth to King Island in order to document placenames in situ. As noted earlier, the people who lived year-round on King Island are now in their late 60s and early 70s, some of whom are in frail health, so this project should be undertaken as soon as possible.

Documenting these placenames, and any associated stories of these places, will serve several purposes: 1) younger King Island community members who participate in the project will be introduced to King Island Inupiaq linguistic terms and dialect; 2) King Island community members will learn subsistence knowledge and wisdom held by the elders (cf., e.g., Thornton 1999); 3) A sense of belonging and identity from actually being on the island will be reinforced (cf. Thornton 1997a:10); and 4) King Islanders and senior scientific staff will learn how King Islanders perceive their landscape and how they relate to that environment.

An analysis of the preliminary study of King Island placenames reveals the central role that subsistence and subsistence activities played in the everyday life of the inhabitants of King Island. Of the 50 or so placenames recorded in 1999, almost every name evokes the need to hunt and gather food resources for survival, ranging from direct references such as “aGlurait”, because the place looked like a killer whale, or “iia”, which means “kitchen”, or “pilaGvik”, “a place to butcher”, to indirect references, such as “sauyuuraq”, from the base word “drum”, the primary instrument used in Inupiaq music, the performance of which was often to ask for hunting success. In the Arctic, this finding is not necessarily unique, given the harsh environmental conditions under which its inhabitants lived. However, several stories recorded about King Island itself reveal not only the role subsistence plays, but also the King Island worldview of how those subsistence resources became available to the King Islanders. The origin story of King Island, for instance, recorded by Curtis in 1929 (Curtis 1970:105), states that the island was originally a giant fish caught by a hunter from the mainland. (King Islanders today talk about the hole in the rock on the island where the fish hook was.) A youth who returned with the hunter to the island was able survive through the winter because of the plentiful food resources. In addition, two stories about how the spirit of King Island protected its people from being seen by whalers in the late 19th and early 20th centuries and warned the people of impending bad weather were recorded in 1999. Based upon these stories, it can be argued that it is the spirit of the island who not only protects and warns King Islanders of impending harm, but also that it is the spirit of the island (the giant fish) who supplies food resources to them. If one adds to this information community references to King Island as “next door to heaven” (Tiulana 1991:5) and “paradise”, one can argue that King Islanders consider the island a sacred place. However, the question of how that might translate into behavior on the island and to the island itself needs to be answered, and it

is the Principal Investigator's belief that this behavior will only be evoked by being on King Island itself. This project will seek to answer this question as well as to document as many placenames as possible.

Traditional Ecological Knowledge (TEK)

In the past 15-20 years, natural resource managers, biologists, and social scientists, especially in the Arctic, have become more aware of what is variously known as "traditional ecological knowledge" or "indigenous knowledge" and the multiple ways this knowledge can complement Western scientific knowledge about plants, animals, and the environment. For instance, it was because of the efforts of the Alaska Eskimo Whaling Commission, who demonstrated that it was the Western scientists' methodological limitations that gave inaccurate census data of the bowhead whale, that a co-management scheme for the bowhead whale was enacted in 1981 leading to the collection of more accurate census data (Freeman 1989). Berkes describes a case study from James Bay, Canada, in which he calls for the use of indigenous knowledge in resource management systems in Canada (Berkes 1995). Recent publications (cf., e.g., Krupnik and Jolly 2002; Ford and Martinez 2000) and funding attest to its continued importance in recent social scientific, biological and physical scientific research. (For instance, if one does an "Award Search" keyword query on "traditional ecological knowledge" and "indigenous knowledge" on the National Science Foundation web page, 41 awards given in the past ten years, most of which have been funded in the past five years, are listed.) However, recent writings by Cruikshank point to the problems of treating TEK "as an object for science rather than as a system of knowledge that could inform science" (Cruikshank 1998:50). Ford and Martinez remind scientists that TEK is embedded not just in the physical environment, but also within a moral, ethical and spiritual worldview (Ford and Martinez 2000:1249). In addition, Nadasdy warns of the "politics" of TEK. He demonstrates that the existing power relationships between indigenous peoples and resource managers remain intact rather than shifting decision-making power into the hands of aboriginal people as was naively expected (Nadasdy 1999).

With these latter concerns in mind, this project seeks to understand King Island TEK as a complete system of knowledge. To that end, we hope to document not only King Islander knowledge of their physical environment, but also how the physical environment is incorporated into their belief system, values, and rules for behavior. In other words, how King Islanders perceive their environment, judge their actions, and make decisions about hunting and gathering will be recorded. For instance, in the mid-1990s, one elder made the observation that not as many birds came to King Island anymore. This observation followed a conversation about King Islanders no longer living on King Island. The implication of this statement is that because the people were no longer living on King Island, where they could perform the reciprocal actions necessary to ensure the continued return of animal spirits, the birds did not return (cf., e.g., Kingston 1999:36-48; Fienup-Riordan 1994:46-87; Wenzel 1991:134-141). It is these kinds of connections that will be explored further in this project. This information will then be communicated to King Island youth, who will be paired with elders specifically so they can learn more of the traditional knowledge of their ancestors. And, as with the placenames, it is best that the documentation of King Island TEK be recorded on King Island. For example, several King Island community members have told the Principal Investigator that her oldest maternal uncle, Edward Muktoyuk, knows how to forecast the weather from King Island. They told of several examples when he has determined, by climbing to the top of the island, when the weather would be good enough to cross the Bering Sea from King Island to the mainland. However, when the Principal Investigator asked him what he looks for when he goes to the top of the island, Muktoyuk was unable to articulate what he observes because he was not actually on-site on King Island.

In addition, this total system of knowledge will be told to the senior personnel involved in the project, such that the elders will be seen as the teachers and the senior personnel, including the Principal Investigator, will be perceived as students by younger King Islanders. Senior personnel will leave the project with an increased understanding of King Island ecosystems, the TEK among the King Island

Inupiaq community, and the complex relationships between the people and the land that until only recently supported them.

Finally, the PI feels that it is necessary to have scientific “experts” trained in the biological sciences involved in this project, especially since “science” and the scientific worldview permeates the dominant society. So, not only would the scientists learn from the elders, but all community members would learn something about Western science and scientific methods. Senior scientific personnel will bring with them their knowledge of how and why populations of different plants and animals are believed to change over time, as well as how science attempts to identify and measure such changes. This knowledge will help community members understand the contributions that science and scientific methods can make towards understanding local ecosystems within a larger regional or global context.

Both semi-directed interviews (Huntington 1998) and workshops (Huntington 2002) have been evaluated for their potential utility for substantive dialogue on scientific issues of mutual interest. Our setting provides a third possibility, one that may have expanded opportunity for success, as dialogues about the land may be best carried out on the land. Collaborative fieldwork involving both elders and scientists is thought to be a potentially highly productive setting for documenting TEK (Huntington 2000), but often lacks the addition of a trained anthropologist whose primary task is precisely that of on-site documentation. In this case, the PI is an anthropologist, and will document elders’ observations of Traditional Knowledge as well recent environmental change on King Island. Emphasis will be on the occurrence, condition, phenology, and distribution of species as well as species interactions on and around King Island. Weather and ocean conditions will also be topics for discussion, although the time on King Island may be too short an observational period to allow meaningful discussion of “change”.

The differences in Western scientific and traditional ecological knowledge will be studied by the PI by interviewing both scientific personnel and King Island community members before and after the fieldwork is completed, and if time permits, during the fieldwork on King Island. In this way, it is hoped that the differences in the underlying worldviews might be uncovered. An additional benefit of this structure is that it also permits observations on interactions between and among scientists and bearers of TEK. This constitutes a secondary line of research for this project.

Elders’ knowledge as it pertains to recent environmental changes

Much has changed in the Arctic system over the past several decades (e.g., Chapin et al. 1992), and several past and current NSF awards have been directed towards documenting Traditional Knowledge of changing Arctic environments. As the recent edition of *Witness the Arctic: Chronicles of the NSF Arctic Sciences Program* demonstrates (ARCUS 2002:1-3; 4; 13; 22), climatic and environmental change is very much a current topic of concern in Arctic research (cf., Krupnik and Jolly 2002). Early results from studies of Traditional Knowledge of climate change in the Canadian and Alaskan Arctic (e.g., Krupnik 2000, Noongwook 2000, Riedlinger 1999, Pungowiyi 2000) suggest that TEK can be an important complement to standard scientific studies, a possibility that stimulated the U.S. Marine Mammal Commission to convene a workshop in 2000 to bring scientists and bearers of TEK together to discuss recent changes in sea ice and other environmental parameters (Huntington et al. 2000).

Biogeography of King Island

Supplementing the informed observations of the King Island elders will be the data collected by biologists, ecologists, and the Native teams trained by them. Data on species richness, composition, and structure will be documented in several locations to be jointly determined by the project team. (This is the fourth purpose of this project.) This information will contribute to the general knowledge about

species occurrences on Arctic islands. Data on species occurrences will be considered in the context of the CAFF (Conservation of Arctic Flora and Fauna) project of the Arctic Council.

Archaeological survey

An archaeological survey has never been done for King Island, which necessitates the inclusion of professional archaeologists in this project. This surface survey will be a first and will consist of three basic steps: aerial photography, pedestrian surveying, and ethno-archaeology. This information will not only add to what is currently known about King Island and its former resident population, but will add to archaeology's knowledge of what survives in arctic activity areas. Additionally, an archaeological survey of a cultural activity area pointed out by King Island elders will help archaeologists refine the archaeological knowledge of particular activity areas in the Arctic.

Aerial surveying is a proven method for discovering larger patterns on the surface of the earth caused by past human activities such as compacting of the soil due to regular use of a pathway, patterned placement of materials below the surface in the construction of foundations for buildings, the existence of large ditches, etc. This will be done first upon arrival on the island by the research team and will be used when deciding what areas will be pedestrian surveyed first and most intensely. The aerial photos will also point out naturally occurring topography that is conducive to certain activities and this, too, will be considered when planning the pedestrian survey.

Information gathered from the pedestrian survey will be used in two ways: to discover what material culture is present on King Island and to look at what material culture is present (and perhaps diagnostic of the activity associated with it) in activity areas pointed out by elders. Even though this will be only a surface survey, there is a lot of information that can be gathered. King Island has not been occupied full time for forty years and an analysis of what remains on the surface of the island will add to archaeology's knowledge about what preserves in an arctic atmosphere and about how long it takes for items to become buried under the conditions that are present on King Island. Discovery of few items may mean that little material preserves or that material is quickly buried. However, the discovery of items that can be dated to before the present generation's lifetime will point to a high rate of preservation (at least for some materials) and a slow rate of deposition.

An ethno-archaeological aspect of the pedestrian survey will be the emphasis placed on those areas pointed out by elders as places of cultural activity. All of these areas will be surveyed (as opposed to other parts of the island which will be surveyed in random quadrants). Additionally, the material record from these areas will be analyzed in such a way as to point out artifacts, or artifact collections, that are unique to these activity areas. If such collections do become obvious then they can be used to analyze future arctic excavations in an attempt to find evidence for similar activities in other regions/cultures/times.

Any of the above topics may also be made available to a scholarly audience through the preparation of reports and articles of the project, which will be developed with the participation of the King Island Native Community. This does not mean that the dissemination of scholarly information will be impeded, but it is rather in recognition of the King Island Native Community's cultural and intellectual property rights (King Island Native Community, n.d.).

BROADER IMPACTS

In 1980, according to a study reported by the Alaska Federation of Natives in 1989, the high school drop-out rate for Alaska Natives was 27 percent, compared to 12 percent for non-Natives in Alaska (Alaskool n.d.:3). Generally, these drop-out rates among Alaska Native and American Indians are attributed in part to what is termed "cultural discontinuity" (St. Germaine n.d.), in which the school system does not reflect

the cultural values of the home environment. Due to the so-called Molly Hootch high schools, in which the state of Alaska built village high schools instead of sending rural Alaska Natives to boarding schools elsewhere, recent statistics for Alaska Natives indicate that the drop-out rate has declined dramatically. However, the bad news is that Alaska Native high school graduates perform at well below the level of the average for the rest of the state (Ongtooguk 2002). Some studies and anecdotal evidence suggest that the strength of a student's identity with their home culture and a positive self-esteem have a positive relationship with school achievement (Demmert 2001:36-37; cf. Bordewich 1996:270-301). Perhaps recognizing this research, Paul Ongtooguk, Alaskool Project Co-Director and veteran Alaska Native educator, recently called for building Alaska Native history and culture into the curriculum, stressing that without understanding the history and issues associated with education, Alaska Native students would not understand the importance of learning the academic skills that are needed in the larger, dominant society (Ongtooguk 2002).

Other research indicates that the following factors contribute to success in school: "early identification with a goal or profession; actively participating in student activities in school . . . ; [and] having the basic skills to do well academically" (Demmert 2001:35). This kind of finding is probably what led the National Science Foundation to encourage projects that "broaden the participation of underrepresented groups" (National Science Foundation 2002:25). With these factors in mind, this project will expose King Island youth to two parallel systems of knowledge: the traditional ecological knowledge retained by elders in the community and the Western scientific knowledge retained by the senior personnel. By participating in this research, it is hoped that King Island youth will gain respect and admiration for the traditional King Island way of life, and thus, become proud of themselves and their heritage. In addition, they will be given an introduction to Western science and scientific and social scientific techniques, which may foster an increased interest in education and possibly greater success in contemporary society.

This project will introduce and train King Island youth to Western social, archaeological, and biological science techniques and methods of inquiry. In addition to the Principal Investigator (a cultural anthropologist and folklorist), the project's senior personnel include a geoarchaeologist, an archaeologist/cultural anthropologist, a linguist, a general ecologist, a biologist with expertise in sea birds, and a visual anthropologist.⁴ Although senior personnel will be the students of King Islander TEK (as described above), they will also be researchers as well as teachers responsible for training King Island community members in the techniques of social scientific and scientific research. To this end, the Principal Investigator and senior personnel will spend one week in Nome, prior to going to King Island, introducing King Island youth and other community members to both analog and digital audio- and video-recording techniques, surveying and mapping methods, archaeological survey techniques, and the equipment and methods used in the identification and inventory of various plant and animal species on and around the island. King Island youth and community members will then actively use this knowledge during the two weeks on the island by working in teams composed of senior project personnel, older community research assistants, student interns, and elders. Thus, a reciprocal sharing of knowledge will occur between the elders, King Island community members, and the senior scientific personnel involved in the project.

⁴ Although a smaller scientific team could be used for an initial pilot project on King Island, the Principal Investigator feels that this project needs the larger team discussed above because of the aging and health of King Island elders and because of the logistical details and expense needed to bring approximately 50 community members and scientific crew to the island. In other words, the PI feels that if biologists, archaeologists, linguists, videographers, or other experts were not included, significant information and/or documentation would be lost because these are not her fields of expertise. And, if these experts came in later years, these experts would miss working with knowledgeable elders who may pass away in the intervening time. In addition, the PI feels that it is unlikely that two or more trips to King Island can be made because of the logistics and expense involved in transporting and supporting community and scientific crew members while on King Island. Thus, only one field season on King Island with a full scientific complement is proposed.

In addition to introducing and training King Island youth to scientific and social scientific research techniques, the project team will create several interactive digital versatile discs (DVDs) that will enable those community members who could not come to King Island and future King Islanders to learn about the placenames, stories, subsistence activities, archaeological sites, flora and fauna, and weather patterns on and around the island.

Time Line and Methodology

Year 1 will consist of fieldwork on King Island. Year 2 will be used to elicit community input on the editing and organizing of the data collected for inclusion on the DVDs. Year 3 will be spent finalizing the booklets and DVDs to be given to the community, and preparing publications for the peer-reviewed literature on the flora and fauna of King Island, as well as the TEK/scientific partnership. The activities for each year are detailed below.

YEAR ONE

Elders and community members who are participating in the project, but who do not live in Nome, will fly to Nome for the week-long training. Then, the U.S. Coast Guard Healy or other research vessel (a request will be filed with UNOLS) will transport King Island community members and scientific crew to King Island. Logistical support (foods, tents, communication, electricity, etc.) will be provided by VECO Polar Resources. After approximately two weeks on King Island, one week will be spent in Nome in order to assess, copy, and organize the data collected. As a multidisciplinary research endeavor there is a varied group of participants and activities for the first year's work. They are as follows:

- Annotated bibliography
- Training of the participating Native King Island community in various scientific collection and storage techniques
- Written, audio, and video recording of Native King Islanders, their stories, memories, and knowledge of King Island
- Surveys: Floral, faunal, archaeological, and geoarchaeological
- Copying, organization, and transcription of audio- and video-recordings

Annotated Bibliography

The PI Deanna Kingston has done a thorough search of the literature that pertains to King Island (cf. Kingston 1999). She will develop an annotated bibliography that will be distributed to each of the scientific team members as well as to each Native King Island family unit. These will be distributed at least one month before the King Island surveys begin.

Training of the participating Native King Island community in various data collection and storage techniques

One week before assembling at King Island everyone who will participate in the research effort will rendezvous in Nome. The first week of the project will be spent in some basic training of King Island community members in the appropriate methods of collection and storage for samples/data that will be gathered during this endeavor. For instance, one day will be spent on audio recording, another on video recording, a day on biological techniques, and another on archaeological techniques. A final day will be spent deciding upon the organization of team members (see discussion below).

Written, audio, and video recording of Native King Islanders, their stories, memories, and knowledge of King Island

All members of the research team will be involved in this activity. In every phase of the research on King Island, seven or eight research teams, each consisting of an elder, scientific “expert”, an adult community research assistant, and 2 or 3 student interns, will conduct ground-based surveys on King Island. Each team will operate autonomously, with an elder and an “expert” deciding upon where to go and what topic or area to concentrate on for the day. The PI intends to work collaboratively with the community and the scientific team members; her role is to facilitate the interactions, not to dictate the research itself. Community members will be assembled in teams based on kinship ties. Thus, an elder may be teamed with his or her children and grandchildren. Scientific team members will rotate through these kin-based teams to ensure that all community members have exposure to the various different scientific and social scientific disciplines and research techniques. At least one survey for each team will occur per day; depending upon the endurance of the elders, additional surveys may also occur. The survey patterns and analysis will incorporate the King Island Natives’ memories and cultural knowledge of significant places on King Island. During these surveys, conversations of the team will be audio and/or video-recorded; in particular, Native King Island students will be recording elders as they talk about the island, themselves, and what it is to be a King Island Native (living on or off of King Island). Each day, after surveys have been completed, all research team members will convene to decide upon the next day’s goals and activities. If possible, some preliminary organizing, copying, and initial transcription of the data will occur while in camp.

Dr. Kingston will train community research assistants and student interns in audio-recording techniques and in creating written transcripts of the recordings. David Bogan, owner of Green Mountain Documentary, will expand upon this by doing digital video and audio recordings of the King Island Community, and of King Island. These documentation processes will include Native King Islanders telling about areas of the island, folktales, subsistence activities, village and burial sites, etc.

Dr. Kaplan, as a linguist specializing in the King Island Inupiaq language, will be an invaluable addition to the research team. He will work as a liaison and interpreter between scientific team members and the Native population where both groups have a limited bilingual vocabulary. In addition, Dr. Kaplan will assist in the translations of placenames, stories, and other narratives told in the King Island dialect.

Surveys

Terrestrial and marine bird and mammal surveys:

These efforts will be led by Kim Nelson. The first step will be to do point count, transect and stationary binocular surveys during which location, species, and census data will be collected. Supplementally, some of these surveyors will be equipped with cameras to provide a second form of documentation for the purpose of later identification or confirmation of species. The position of the stationary units (blinds) and the course of the transects and point counts will be determined along a grid pattern that extends throughout King Island and the near sea area. All sightings will be plotted by GPS, noted as to time of day or night, and incorporated into a distribution analysis and sightings database. Stakes will be used for delineating habitat areas or noting past sighting areas. When a sighting takes place for a moving animal, a GPS location will be logged at the point the animal was first seen and a notation will be made as to the direction the animal was traveling.

At-sea surveys for seabirds and marine mammals will be conducted using the U.S.C.G. Healy or other research vessel around the perimeter of the island to count colony nesting seabirds and mammals. Estimates of nocturnal burrowing nesting seabird numbers will be made from transects on land. Nocturnal observations will be conducted to verify which species are present. Every effort will be made to minimize disturbance to the seabird colonies. One or more cameras will be permanently established within the seabird colonies so their activities can be monitored from the natural history museum in Nome (or other locale; camera set-up provided by VECO Polar Resources). In addition, surveys for marine mammals will be conducted during our circumnavigation of the island to survey seabirds. We will note

the location, species, and number of individuals. We will also record any haul-out areas along the perimeter of the island. Observations of marine mammals from land will also be recorded on an opportunistic basis. We will involve a graduate student specializing in marine mammals for conducting these surveys.

A set of measurements will then be taken along the site's perimeter in order to obtain a description of the size and shape of the gathering areas. These will be melded with available detailed information about the species' life histories and habitat preferences thereby linking data specific to King Island to the universal knowledge for each of the species sighted.

Tundra vegetation, freshwater and lagoon surveys:

These studies will be led by Jesse Ford. Transects will be established that extend across different plant communities, and initial point-intercept analysis performed at an appropriate scale. Relevés will be performed at locations deemed representative of individual communities (as well as can be determined by Viereck et al. 1992 coupled with professional judgement), supported by analysis of nested 5.0 x 5.0 m and 0.5 m x 0.5 m plots (species occurrence and estimated cover). Taxonomy will follow Hultén (1968) for vascular plants, Thomson (1984) for lichens, and Crum and Anderson (1981) supplemented by Vitt et al. (1988) for mosses and liverworts. GPS coordinates and photodocumentation will be taken for all survey locations. Notes will be made concerning apparent (visually estimated) health of the dominant species in each plot, as well as aspect, elevation, soil descriptions, depth to permafrost, and air and soil temperature. Phenological observations (seasonal stage) will be made on dominant species. In aquatic environments, plant macrophytes will be identified and water depth, temperature, salinity, conductivity, and oxygen will be determined using a YSI 85 multimeter.

A reference collection of all plant species encountered will be made for taxonomic verification as well as for the future use of King Islanders. Difficult taxa will be identified by comparison to collections held at the herbaria of the National Park Service (Western Arctic offices in Nome and Kotzebue) and of the University of Alaska Fairbanks and/or confirmed by specialists as required.

Information gathered in these surveys will be compared to available data on species life histories and habitat preferences to create a database that places King Island vegetation in context with general knowledge of Arctic flora (e.g., Walker 1994).

Aerial and pedestrian archaeological surveys:

Matt Ganley will oversee all archaeological efforts on King Island. A series of aerial photographs will be the first step to identifying anomalies that may point to areas of archaeological significance. Other aspects of the research effort will also benefit from the photos, which will show changes in flora and geography. Oblique aerial photography of King Island, Alaska, will provide a full set of photos of view sheds circumnavigating King Island. Low and mid-level aerial photos will also be taken to get a more detailed look at King Island. High altitude aerial photos of King Island are already in existence and can be accessed via the internet. All aerial photographs will be provided by MapAlaska.⁵

MapAlaska will provide a review, compile, and copy existing vertical photography. Then, oblique photography will be completed with a handheld and stabilized camera using 150mm and 300mm lenses utilizing 70mm film. A helicopter will be utilized for creating these images. Overlap photography will be achieved where and if necessary provided elevation and other factors. Upon completion of film

⁵ The PI and the research team feel that the almost \$16,000 expense for the aerial photography is necessary because it is unlikely that community members and the full scientific team return to King Island in later years. These images can be used to follow-up on topics introduced in the first year, or can be used in interviewing community members who were not able to come to King Island.

processing, MapAlaska will provide both vertical and oblique photographs to the project. The oblique photos will be reviewed and culled by the client for their applicability to the project and usefulness for inclusion in the human and environmental mapping components of the project. A single final set of 75 photos will be the basis for estimating costs associated with the creation of these images.

The second phase of the archaeological survey will consist of a pedestrian survey. Working along the grid system that will extend throughout King Island surveyors will look for any cultural material that is visible on the surface. Once such an item is found a GPS location will be plotted and a photograph of the item will be taken. Any features, which will include any areas of cultural activity pointed out by Native King Islanders as well as areas of obvious human modification and/or use, will also be recorded in this manner. Where possible the activity associated with the artifact/feature will be noted and added to the database. All artifacts will be left in-situ.

Once the surveys are complete all artifact/feature locations will be placed in a data base for further analysis.

Geoarchaeological

A geoarchaeological approach will provide an ancillary to the archaeological survey. Settlement choice likely reflected locales with good anchorage for watercraft, and adequate space for construction and activity areas. While stilt post construction mitigated the need for level ground, the antiquity of stilt construction is unknown. Older occupations may have selected level open areas and/or rockshelters or caves. Aerial photographs will be examined to distinguish joint patterns in the bedrock of King Island; this will assist in anticipating sealed caves or rockshelters. Slope movements may often provide proxy climactic records, as at Cape Mountain near Wales where gully formation followed lengthy human settlements. Stratigraphy will be examined from natural exposures and by shovel tests and small test excavations (50 cm²); any archaeological discoveries will be documented by standard methods (three point provenience), any artifacts encountered will be left in-situ.

Settlement on King Island will be conditioned by the position of former storm and sea levels. Survey for storm beds and driftwood will provide data on the timing, magnitude, and elevations of past storms; driftwood can be dated by tree ring chronologies and radiocarbon ages. The south-facing village of King Island may also be subject to Aleutian-generated tsunami and sand and gravel beds may be encountered. Elevated wave cut notches on bedrock may provide evidence of higher relative sea levels, if the island has undergone any amount of seismotectonic uplift during the last 10,000 years, unlike the Kotzebue Sound region.

Copying, organization and transcription of audio- and video-recordings

Upon return to Nome, the community members and scientific team will begin the copying, organization and transcription of audio- and video-recordings. This will be done to expose King Island youth and research assistants to how the data collected are then processed for further study. However, it is highly unlikely that all recordings be transcribed; this will be completed by a research assistant at the PI's institution, as that person will be employed for a full year for this purpose.

YEAR TWO

Once the transcripts are completed, they will be distributed to community and scientific team members. Once received, the scientific team members will organize the information according to their scientific fields and develop two or three plans for how this information will be presented in booklet and DVD form. Once these plans are developed, the scientific team members will travel to Nome to go over the plans with the King Island Native Community. For this purpose, community members (including elders, adult research assistants, and student interns) who do not live in Nome will be flown to Nome. At least 5 days will be spent conferring with the community about the organization of these products. Once the

community decides upon the appropriate formats, the scientific team members will return home to begin final preparations.

Recent advances in digital video editing and digital versatile disk (DVD) technology now provides cultural and visual anthropology researchers with excellent data organization tools, especially when an emic ethnographic methodology is employed. Subsequently produced DVDs can be effectively used as a means for continued education and information gathering purposes. Once visual (and aural) data in the form of digital video footage has been collected, it can be selected using digital editing software, then stored on a computer hard drive as discrete files for real time playback and review. Footage can be evaluated collaboratively by researcher “experts” and community members to determine which portions of selected clips are appropriate to include as primary data sets. These data sets (or selected video/audio clip files) can be categorized for further review and final selection into multiple sub-categories. Edited files can then be transferred into the DVD production software domain for authoring, i.e., the creation of virtual navigation pathways that define and form connections and relationships with other discrete data sets. Such secondary data sets can be comprised of photographs, drawings, other relevant video footage and audio recordings, which can be associated with primary data sets for playback and viewing. Again, the process of DVD authoring is a significant enhancement for collaboration between anthropological researchers and community members.

YEAR THREE

In year three, scientific team members will present the final drafts of the products (booklets and DVDs) and will travel to Nome for final community approval. (Again, community members who do not reside in Nome will be flown in for this purpose.) Once received, scientific team members will create and prepare final versions of books and DVDs which will be disseminated to King Island Native Community members. The completed DVD is the same type of disk as a standard “movie rental” DVD except with extensive chapter divisions and sub-divisions of content that can be located and selected for playback using a remote control device and television set, or a mouse using a DVD compatible computer and monitor. Thus, a viewer/user is provided with instant and interactive access to a pre-determined array of content choices and selections, all designed to combine and present relevant data from multiple forms of resource material.

For example, a viewer might select a video interview clip of a bi-lingual King Island elder who speaks in general terms about wildlife and hunting practices and occasionally uses descriptive Inupiaq language terms. The elder mentions three species of animals, a geologic feature on King Island as well as types of tools used during the hunt. The viewer can then choose to read the verbatim text of the elder where specific words are highlighted (as access “buttons”) in order to view the prey animals, the rocky shoreline, etc. Sub-category buttons can be selected for additional information, which in turn can lead to other selections, say pertaining to the Inupiaq language, or a documentary video clip showing the use of an animal fur-skinning tool.

Compared to a CD-Rom, the DVD format is more reliable and robust when considering the need for compression, storage and retrieval (viewing) of large video files. Compared to standard VHS video playback, DVD’s can display the same or better quality images (full screen at 30 frames per second) while providing an interactive experience — user-selectable multi-source imagery – for viewers not possible with a linear video format.

Deliverables

DVDs will be created for King Island community members. These will cover three general areas researched in this project: folklore and language, biology, and archaeology. In addition, three written reports/booklets for each area will also be created and disseminated to King Island community members.

In addition, each scientific team member will use the data to write research articles for dissemination to the scholarly community, including papers on the nature of scientific/TEK inquiry. All such papers will be developed with full participation of King Islanders and copies of reports and reprints will be deposited with the community.

RESULTS FROM PRIOR NSF SUPPORT

NSF Award #0096985-OPP – \$110,242, 07/15/01 to 08/31/04. Collaborative Research: Change and Its Impact on Culture, Economy and Identity in Three North Bering Strait Alaskan Inupiat Societies: Little Diomedede Island, King Island, Wales. Summary of Results of Completed Work: Currently, we are in the midst of Year Two research. To date, approximately 20 hours of interviews with King Islanders have been recorded and transcribed. Several hours of interviews are in the course of being translated. It is expected that approximately 15 more hours of interviews will be conducted before Year Two ends. In Year One, 50-page booklets were created with the help of community research assistants and were distributed to the King Island Native Community. As a collaborative project, the Co-PIs (Kingston, Carol Zane Jolles, and Herbert Anungazuk) will meet later this year (2003) as a team to compare interview data and to begin an analysis of research completed to date. Jolles and Anungazuk have conducted interviews on Little Diomedede Island and in Wales. However, no publications have yet been completed since the research analysis is still in a preliminary stage.