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EDITOR’S CORNER

This issue represents a departure for the Alaska Journal of Anthropology, in presenting a thematic corpus of program reviews, the “state of the art” for the activities of a large portion of our members, cultural resource management (CRM). Its realization is the fruit of the volume editor, Diane Hanson, to whom any inquiries should be directed (her email address is afdkh@uaa.alaska.edu). It is hoped, as well, that Alaska Anthropological Association members will obtain new perspectives on the operation of CRM in Alaska. Hanson assumed this task with considerable enthusiasm—corralling the authors, conducting and coordinating the review process—and I thank her for relieving us of substantial labor for this issue. While the volume is broad in scope, undoubtedly many issues remain outside its purview, and this should occasion debate. I encourage all of you to add to the dialogue on cultural resource issues; we welcome such comments for publication in future issues.

—Owen Mason, editor

ERRATA

In AJA volume 5, no. 1, in Figure 1 on page 62, the Point Possession Village Ch’agelnikt is misspelled. It is also misspelled on page 68, as Ch’agehel-nikt. The correct spelling is Ch’aghałnikt.

The caption to Figure 2 on page 2 should say DIL-161, not DIL-16.
SPECIAL ISSUE
CULTURAL RESOURCE MANAGEMENT IN ALASKA

Edited by Diane K. Hanson
CULTURAL RESOURCE MANAGEMENT IN ALASKA

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ABSTRACT

Two aspects of working in Alaska that make the job of managing cultural resources different from the way it is practiced elsewhere are land ownership and the remoteness of sites from road access and population centers. Eighty-nine percent of the land in the state is controlled by federal or state agencies; therefore, state and federal cultural resource laws apply to most of the land in the state. These agencies also have fewer people managing the lands compared with other parts of the country. Most of these lands are not accessible by road and require boat, plane, or helicopter access, which increases management costs. The harsh environment and increasing coastal and riverine erosion accelerates the need for management decisions and mitigation of cultural resources. This combination of conditions creates a unique working environment for cultural resource managers in Alaska.

Keywords: heritage resource laws, compliance, land management

INTRODUCTION

Alaska is generally perceived as a state with extreme conditions, and these conditions present unique problems for cultural resource managers that are not likely to concern managers in other states. These challenges include the vast amount of land, and for the State of Alaska, also includes responsibility for the extensive shoreline (McMahan, this volume). Associated with this is the difficulty of reaching the cultural resources and the high cost of travel to remote locations.

Cultural resource management is usually used to mean “managing historic places of archaeological, architectural, and historic interest, and considering impacts to such places under the environmental and historic preservation laws” (King 2004:9). As managers work increasingly with the people whose culture they are affecting, cultural resource managers are becoming aware of a greater responsibility to a broader range of important places, values, or resources than just historical or archaeological sites. Cultural resource managers are expanding their views to include effects on subsistence, relationships to the place people live, to their health, to the social health of the community, and the physical and psychological health of its members. Cultural resource managers are now integrating social impact assessments, subsistence studies, traditional
cultural properties, sacred sites, landscapes, and even heritage tourism into their duties.

Many people in the field participate in cultural resource management beyond archaeology, history, and architecture, which have always had an important role, and include geography, anthropology, language, sociology, and folklore. Consultation with Alaska Natives, community members, local cultural specialists, community historians, and religious specialists is becoming standard in Alaska—a trend that began earlier in other parts of North America.

A multidisciplinary approach also means that cultural resource managers need to have better and more extensive training in ethics, the techniques needed to document and record the increasingly complex kinds of information (geographic information systems, or GIS, for example), cultural anthropology, interviewing and listening skills, history for dealing with recent properties including World War II and Cold War sites, and working with traditional cultural places that may have no human-built remains. These evolving approaches have led to greater discomfort by some practitioners. Managers no longer make decisions without consultation nor assume they have the primary interest in the site. When it is done well, cultural resource management is more complex than simply following the process.

The specialized knowledge required for federal and private cultural resource specialists includes more than a passing acquaintance with the many federal laws and executive orders. Most of these apply to federal lands or projects supported through federal funding or requiring a federal permit. In Alaska, cultural resource managers also need to be aware of the Alaska Heritage Protection Act. This act defines the responsibilities of the Department of Natural Resources as they relate to historic, prehistoric, and archaeological resources on state lands, and grave sites on all lands within the state (see Dale and McMahan, this volume).

**DEVELOPMENT OF CULTURAL RESOURCE MANAGEMENT IN ALASKA**

Most training in cultural resource management in the 1970s and 1980s was not through university classes, although the University of Alaska Fairbanks did provide a cultural resource management class as early as 1978. Most cultural resource management skills were learned on projects during the relatively dynamic 1970s and 1980s described in Howard Smith’s paper (this volume). These people moved into cultural resource management positions in the federal or state government as the agencies became aware that they needed their own experts, or they became contractors using their extensive background to develop successful businesses (Smith, this volume).

During the hectic 1970s and 1980s, application of cultural resource laws was somewhat haphazard. Field crews received little training beyond bear awareness and shotgun and first aid training. Site significance was determined based on intuition rather than criteria described in regulations, if there was any awareness that the project was established to comply with federal regulations.

It was probably not until the *Exxon Valdez* oil spill in 1989 that training and standard procedures and qualifications for professionals were established broadly in Alaska, although individual agencies may have had more rigorous expectations before that. This work required multiple agencies working with the state historic preservation officer to assess the spill’s effects on cultural resources in Prince William Sound. In the 1990s, training became more common as classes were brought up from the contiguous United States, cultural resource managers were hired by the agencies to deal with compliance with federal laws, agencies paid to train their full-time employees, and cultural resource management became more visible in national professional organizations.

A new generation is moving into the agency positions now, and they are far better trained than their predecessors were at the beginning of their careers. They have had the benefit of working with cultural resource managers already established within the agencies, or with contracting companies, have taken one or more university courses in cultural resource management or have participated in a cultural resource management certification program in one of the other states, and they normally have a better understanding of the laws and their application. They are more aware of the requirements of cultural resource management beyond recording archaeological and historic sites, and they are more skilled with the technology needed to do the job, including geographic information systems, global positioning systems, surveying, and computer applications.

**WHAT MAKES CULTURAL RESOURCE MANAGEMENT IN ALASKA DIFFERENT?**

Cultural resource management is practiced differently in Alaska from other states. Land ownership and management is different partly because of the political organization of
Alaska Native lands. Another important factor affecting cultural resource management is the remote locations of most of the sites, the sparse state population, and the resulting logistical challenges.

**LAND OWNERSHIP AND MANAGEMENT**

Land ownership affects the applicable cultural resource laws in the United States. The federal government manages 89.8 million ha (222 million acres) of land in Alaska or 60% of the state as military lands, parks, BLM-managed lands, wildlife refuges, and forests (Department of Natural Resources 2000:2). Only Nevada has a greater portion of federal lands with 81% of their state or 23 million ha (57 million acres) managed by federal agencies. The Alaska state government manages 36.4 million ha (90 million acres) or another 29% of the state.

**Federal Lands:** Federally managed lands are covered under several laws: National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, and the National Environmental Policy Act, several laws that address policies for each agency, and numerous executive orders. Therefore, 60 percent of the land in the state is covered by federal laws addressing the treatment of cultural resources. Unfortunately, the agencies responsible for complying with or enforcing these laws have few cultural resource management specialists for the amount of land they are managing. They are usually outnumbered by their colleagues in the Lower 48 states who are managing much less land.

Tongass National Forest is the largest national forest in the U.S., with 6.8 million ha (16.8 million acres) occupying three-quarters of the land in the Panhandle. They have a permanent forest archaeologist, five permanent zone archaeologists and five seasonal archaeologists who work half the year. Susan Marvin, the Alaska Regional Heritage Program leader for the USDA Forest Service, noted that the forests are divided into zones, then into ranger districts. One zone within the Tongass National Forest is larger than the largest national forest in all of the contiguous states. So essentially, each zone archaeologist is covering more territory than a whole national forest elsewhere (Susan Marvin 2005, written communication). Neighboring Chugach National Forest is the second largest national forest in the country. It has one forest archaeologist, an assistant forest archaeologist, a district archaeologist, and three full-time support people to manage their 2.3 million ha (5.6 million acres). As tourism is increasing in Prince William Sound, the number of temporary employees is increasing so sites can be monitored (Susan Marvin 2005, written communication; Linda Yarborough 2005, personal communication).

Wrangell-St. Elias National Park and Preserve is the largest park in the United States, covering 5.3 million ha (13.2 million acres), and with Kluane National Park in Yukon Territory and Tatshenshini-Alsek Park in British Columbia, Canada, these parks form the largest World Heritage Site (National Park Service 2005; Michele Jesperson 2005, personal communication). The snow-covered lands are also being administered by cultural resource managers now that more people are becoming aware of the resources in the icefields (see VanderHoek, this volume). This park has one historian, one part-time archaeologist, one part-time curator, and one anthropologist, but only one cultural resource manager to deal with compliance and the resources (Michele Jesperson 2005, personal communication).

Other national parks are not far behind. Lake Clark (5 million ha or 1.2 million acres) and Katmai (1.4 million ha or 3.5 million acres) share one cultural resource manager and one archaeologist; Denali (2.4 million ha or 6 million acres) has one cultural resource manager; Gates of the Arctic (2.9 million ha or 7.25 million acres) and Yukon-Charley River National Preserve (1 million ha or 2.5 million acres) share a cultural resource manager; and Glacier Bay (1.3 million ha or 3.2 million acres) has one cultural resource manager (Susan Bender 2005, personal communication).

Probably the greatest pressure is on the U.S. Fish and Wildlife cultural resource manager. The U.S. Fish and Wildlife Service manages 39.25 million ha (97 million acres) nationwide and 32.4 million (80 million acres) of those hectares are in the state of Alaska. They manage nearly a third of the federal land in Alaska but they have only one cultural resource manager, having elected not to fill a recently vacated position. To manage the remaining 6.9 million ha (17 million acres) of land outside Alaska they have 16 cultural resource managers. In the 1980s, this agency had about six archaeologists in Alaska (Linda Yarborough 2005, personal communication). Federal cutbacks are further reducing temporary student help designed to compensate for the loss of the second full-time position vacated in 2004.

The Bureau of Land Management manages approximately 34.4 million ha (85 million acres) in Alaska with
a staff of five full-time field archaeologists responsible for field management of the resources (Robert King 2005, written communication). Each of the field offices also has an office manager responsible for compliance, although the managers rely on the field archaeologists as the “subject matter experts” to help make many of the decisions.

The Bureau of Indian Affairs (BIA) is the federal administrator for approximately 527,000 ha (1.3 million acres) of 12,700 federally restricted Alaska Native allotments and 4,100 village townsite lots in Alaska. The lands they administer are privately owned and the Alaska Native landowners hold the legal title but the property is subject to federal statutory restrictions. When the townsites or allotments are sold and removed from federal protection, BIA must comply with Section 106 of the National Historic Preservation Act and determine if historic properties will be adversely affected by removing that protection. BIA has three permanent archaeologists and usually two seasonal archaeologists, depending on yearly funding. To help with the inventories and compliance work, BIA has developed contracts with Native tribes that requested to do their own archaeological surveys for Section 106 compliance. The Association of Village Council Presidents has one archaeologist to conduct work in the Lower Kuskokwim–Yukon Delta area, and Tanana Chiefs Conference has three archaeologists doing this work in the Interior. In southeast Alaska, the Central Council of Tlingit and Haida Indian Tribes and the Sitka Tribe hire contract archaeologists to do the work on allotments and townsites for most of their region. Usually, the contracts are underfunded for the amount of work that is required. Because BIA is responsible for the Section 106 compliance, the work is reviewed by BIA Regional Archaeology before the information is submitted to the Alaska state historic preservation officer (Ricky Hoff 2007, written communication).

Comparatively, the U.S. Army Corps of Engineers is well staffed given that they manage only 8,100 ha (20,000 acres) of land near Fairbanks; however, most of their work involves construction (building harbors, breakwaters, shore storm and erosion protection, and small dams) or cleaning up military contamination on other lands—usually local government or corporation lands. They have 130 cleanup projects, although probably only 10 to 15 are active during any one year. They administer the Native American Lands Environmental Mitigation Program that funnels federal funding to Alaska Native organizations and are therefore responsible for compliance with federal cultural resource laws. They also do work for other Department of Defense agencies, the U.S. Coast Guard, Federal Aviation Administration, National Oceanic and Atmospheric Administration, and others.

Contamination cleanup can cover a considerable area, and there are automatically cultural resource issues because the cleanup sites are military posts, radar sites, and forts from World War II and Cold War eras. Some even date from the initial arrival of the military into Alaska to maintain order during gold rushes in the late 1890s and early 1900s. These military sites often lie over much older cultural places and traditional cultural properties. Between 2000 and 2005, the Corps of Engineers environmental staff had two full-time archaeologists working in cultural resource compliance and one full-time temporary anthropologist. Between 2005 and 2007 the staff was reduced to a single archaeologist and a term anthropologist despite an increased workload. The regulatory section of the Corps of Engineers issues approximately 2,000 permits a year and has one cultural resource management specialist, although all project managers are responsible for ensuring the permits are in compliance with the federal laws. So, while the Corps of Engineers controls comparatively little land, its far-reaching projects are all subject to cultural resource laws that apply to federally funded undertakings. Any work being conducted by others but covered by permits issued by the Corps of Engineers are also subject to these laws.

Other military agencies also started hiring their own managers rather than relying on contractors or other Department of Defense employees. The U.S. Army Garrison Alaska added an architectural historian in 1999 to run its program. He quickly added archaeologists and historians to help manage their 687,965 ha (1.7 million acres) (Amanda Shearer 2005, personal communication; Smith, this volume). The 611th Airborne manages 15,135 ha (37,400 acres) of remote sites with one cultural resources manager (Karlene Leeper 2005, personal communication).

Most agency archaeologists, historians, and anthropologists do not have the time to do the bulk of the field work themselves beyond short surveys, site visits, and short-term monitoring. All of the agencies rely heavily on contractors to help with compliance, developing cultural resource management plans, and recording resources on their lands. Contractors help monitor construction or cleanup, record oral histories, record sites or buildings, and document traditional cultural places. Without cultural resource contractors, most agencies would not be able to comply with the federal laws or to manage their lands. Most of the contractors used by the agencies are
in-state contractors, although there are some large cultural resource management companies elsewhere that do work in Alaska.

**State Lands:** The State of Alaska controls 36.4 million ha (90 million acres) of the land within its boundaries. Alaska state lands also include most of the intertidal zone and submerged resources. This covers 54,700 km of tidal shoreline and the waters out 4.8 km (the 3-mile limit) from the shore. The Office of History and Archaeology (OHA) manages these lands under the Alaska Historic Preservation Act. There are three field archaeologist positions and a field historian but these individuals are project funded so their primary mission is to perform compliance work for the Department of Transportation and other state agencies. Like other agencies, any survey actually done on state land is normally funded through Section 106 projects that might coincidentally fall on state lands. Funding for surveys and other management work is minimal. The state archaeologist (one person) issues permits for work on the lands and deals with infractions on the land. A special projects archaeologist is specifically responsible for managing the Tangle Lakes Archaeological District (Richard VanderHoek 2005, personal communication).

The state historic preservation officer’s staff deals primarily with reviewing compliance documents generated by the federal agencies and assists agencies and individuals with preservation issues. The rest of the OHA staff maintain databases on cultural resources in the state and on National Register properties, evaluate National Register nominations, and respond to oil spills in the state because the intertidal and submerged cultural resources are owned by the State of Alaska (see McMahan, this volume). Considering the work for which the office is responsible, it has a relatively small staff.

The amount of federal land also affects the workload of the state historic preservation officer’s staff. There are three people responsible for review and compliance. The state historic preservation officer, state archaeologist, state historian and various in-house experts also participate in making decisions about requests for concurrence and assist with preservation issues from the federal agencies. With 60 percent of the land managed by various federal agencies, the state historic preservation officer and her compliance staff must review actions on these lands and review projects conducted by federal agencies, with federal funding, or requiring federal permits taking place on other lands. The Army Corps of Engineers had approximately 2000 permit actions in 2004. States with less federal land have a far smaller work load and yet cannot keep up (Claudia Nissley 2005, written communication). Alaska is struggling with the responsibilities required of its compliance staff. With another 29 percent of the land covered by the Alaska State Historic Preservation Act, no other state has so much area covered by cultural resource laws, yet has so few to administer those laws (Fig. 1).

![Figure 1: Comparison of the hectares of federally managed land in millions of hectares to the number of staff supporting the state historic preservation officers in western states (National Council of State Historic Preservation Officers 2004).](image-url)
**Private Lands:** Other lands are private and the laws that govern them are normally property laws. Twelve regional corporations, established under the Alaska Native Claims Settlement Act (ANCSA), retained 6.5 million ha (16 million acres). A thirteenth, landless regional corporation represents people living outside of Alaska. The 224 village corporations own or have selected 10.5 million ha (26 million acres) within Alaska. The corporations hold these properties in fee simple title and their lands are not considered tribal land (Case and Voluck 2002). Therefore, these are private lands that are not subject to federal resource management laws unless they have not yet been conveyed to the corporation. Alaska Native Claims Settlement Act lands also do not qualify as Indian Country (Case and Voluck 2002:400). The Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection Act (ARPA) do not apply to these lands if sites are discovered there, although if a federally funded project occurs on ANCSA lands (or any lands), Section 106 of the National Historic Preservation Act still applies to the federal agency involved. Alaska state laws against desecrating human graves cover burial sites on all lands within the state (see Dale and McMahan, this volume).

Generally, the village corporations retain the surface rights to the land, while regional corporations retain subsurface rights. Archaeological materials are considered surface unless they are in a gravel or sand matrix (which are material sources owned by the regional corporation), then they are considered subsurface. If sites are within a gravel or sand matrix that can be sold by the regional corporation, they are considered part of that subsurface property and are owned by the regional corporation (Case and Voluck 2002:161). Corporations have their own policies and permitting systems and can control some looting problems through property law.

The regional corporations selected some historical places and cemetery sites under Section 14(h)(1) of ANCSA, but regional corporation cultural resource management is variable since the primary purpose of the corporations is to generate a profit for their stockholders. Some have cultural resource specialists and others turn the duties over to their realty departments or land management or environmental resource specialists.

Unlike corporations, tribes do not have a land base with the exception of the Metlakatla Indian Community (Case and Voluck 2002:401). The lands are controlled by the corporations under ANCSA. Tribes are dependent domestic governments with federal recognition. There are 231 federally recognized tribes in the state. The federal government must consult with tribal governments about tribal rights and resources when federal actions (even those not on federal lands) have the potential to affect a tribe. Cultural resources are one of those tribal resources. Because Alaska tribes do not own the land the resources are on, they have no direct control over those resources beyond having the opportunity to comment or consult through government-to-government requirements and the various cultural resource laws. Native allotments and village townsite lots are private land but not considered fee lands because of their federally restricted status, so these lands are subject to federal resource management laws.

There is one reservation in Alaska (Metlakatla Indian Community), and federal cultural resource laws do apply to its lands. It also can develop a cultural resource program with a tribal historic preservation officer to take the place of the state historic preservation officer for activities on their reservation. Metlakatla Indian Community has been considering that option for administering cultural resources on their lands.

**Remoteness and Logistics**

Travel to most of Alaska is not by car or truck. There are few roads in Alaska other than through the center of the state and some roads that link one community to another. In the 48 contiguous states, the most remote mainland spot is in Yellowstone National Park, which is 35 km from the nearest road (Raymond D. Watts 2005, written communication). In contrast, preliminary calculations of the most remote mainland location in Alaska place it near the border with the Yukon Territory, an estimated 131 km from the nearest road (John H. McCammon 2005, written communication). The estimate includes Yukon Territory roads and proximity to small communities with local roads that are not connected to the main Alaska road system. These results do not include archipelagos or remote islands. Many areas are not accessible by road from the primary population centers of Fairbanks and Anchorage and require one to fly to the regional hubs.

Travel costs in rural Alaska are notorious. Because the ground is not visible after the snow falls and until it melts, archaeologists must travel during the peak tourist season. This increases costs and makes it more difficult to reserve plane seats, hotel rooms, and housing in smaller communities on short notice. It is also the peak forest fire fighting
season in the state, and chartering planes and helicopters can also be difficult. Planes and helicopters and their pilots are usually contracted many months earlier in anticipation of the fire season. Chartering boats is somewhat easier, provided there is no commercial fishing or the boat is not being used by tourists for charters. The competition for resources drives costs up.

Some of the primary hubs are Dutch Harbor for the eastern Aleutian Islands, Barrow for northwestern Alaska, Kotzebue and Nome for western Alaska, Bethel for southwest Alaska, and Juneau and Ketchikan for southeast Alaska. Fairbanks was not included since it is on the road system and is used as the home base for many projects. The 2007 costs for travel to each of these hubs from Anchorage are shown in Table 1.

This table assumes mid-June travel, with advance reservations for seats in coach class, traveling for approximately one week. It also assumes that the ticket is refundable and can be changed. Fuel costs will affect this fare as well. Without the luxury of being able to make advance reservations (as happens during many projects) the passenger would probably add $200 to the prices in Table 1.

The price from these Alaska hubs to outlying smaller communities may be nearly as much as the ticket purchases to get to the hub from Anchorage. For example, the flight from Nome to Shishmaref is approximately $300 round trip. Other outlying areas are similarly priced. Freight costs to bring gear in or out add to the budget. Two trips are needed when the plane can’t bring people and the gear together.

If you use alternate modes of transportation, a helicopter may cost $1,000 per hour or an estimated $10,000 a day, and plane charters are also expensive. A small skiff with a driver in Shishmaref may cost $200 per day, plus fuel, and $20 per hour for the owner’s time. It costs $700 (cash) for a small fishing boat to travel to a site half an hour away from town. It would cost considerably more to travel along the Aleutian chain. The U.S. Fish and Wildlife Service’s vessel, the Tiglax, is a $4,000-per-day charter for researchers (Debra Corbett 2006, personal communication).

In small communities off the main road system, roads are often limited to the middle of town or from the runway to town. All-terrain-vehicles (ATVs) or boats are required to get to the survey area, and that time also needs to be factored into labor and time estimates. Sometimes walking is the only option. The cost to rent an ATV varies from community to community and from individual to individual, depending on the circumstances. Some communities do have vehicle rentals through a corporation or other private company. Often an individual will rent a personal vehicle if one is available and the owner does not need it that day. Vehicle rentals can be interesting, and there are many stories of trucks that have to be stopped to shift to a higher gear, unbolted seats, no doors, or engines that have to be persuaded to start again should they accidentally be turned off. In remote communities it is difficult to get parts needed to repair vehicles.

Using the estimates for travel costs for two people working one week and hiring a boat for one week for a two-person pedestrian survey in Kaktovik, the total travel cost was $6,400 (Margan Grover 2005, written communication). Housing is $175 per day (although the total federal per diem allowance is $251 for this particular community), a plane ticket is $1,110 per person, and a boat rental is estimated at $250 per day. This estimate excludes salary.

The prices listed in Table 1 and described for Kaktovik are estimates for planned trips. A medical emergency requiring a crew member to be air-lifted by helicopter or airplane could cause the summer’s work to end because the costs could exceed the budget. As an example, a medical evacuation by jet from Dutch Harbor, Alaska, to Anchorage is $25,000 (Karen Stolting 2005, Alaska Regional Hospital, personal communication). Medical evacuations may be required for relatively simple injuries such as a broken ankle that needs to be pinned. Commercial carriers will not transport patients in pain. Even a simple injury could effectively end a project. It may be impossible to get help quickly enough for someone with serious medical problems in a remote area if the field crew is unable to communicate with someone for pick-up, if a helicopter or plane is unavailable because there is none in

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<th>Table 1: Airfare roundtrip to Alaska hubs from Anchorage using Alaska Air full flex prices for mid-June 2007 travel (refundable, changeable tickets; <a href="http://www.alaskaair.com">www.alaskaair.com</a>)</th>
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the area, or if the weather makes flying dangerous. Safety can become an obsession in field work in Alaska.

Frequently, people coming from the contiguous United States have difficulty planning for weather delays affecting travel schedules. Fog, wind, and snow (even in midsommer) combined with short runways or choppy water for float planes or boats can cause delays of a week or more. Delays of several flights will place you at the end of a long waiting list. During that time, the crew needs to be housed, and fed, and paid for their time. A project can begin and end in the airport until additional funds can be found to get the work done the following season. Short summers limit seasons to a four-month window in some parts of the state.

The cost and remote locations affect the field work as well. Sophisticated equipment is left behind at the office if it cannot endure harsh weather or dust or cannot withstand being thrown in a backpack day after day. Heavy equipment also is left behind. Surveys may be done with a compass and tape rather than sophisticated surveying equipment. Now, there are weather-resistant GPS units that fit in a coat pocket and provide more accurate site locations, and pocket computers that are essentially sophisticated computers with GPS used to map sites. Tape and video recorders are smaller and the information can be loaded directly into a laptop computer to link to GIS points. Solar power sources run laptop computers and recharge the batteries for the hand-held systems to the field. If a stationary camp can be established, it is possible to bring the more sophisticated equipment in the field. Cultural resource managers are finally able to return with data similar in quality to the data obtained by their colleagues in less remote parts of the country. The capabilities are much greater than they were 30 years ago, when establishing a location on a photocopied USGS map was sometimes no better than guesswork, particularly in low-relief, relatively featureless areas.

Freight costs are high, and artifact and sample triage needs to occur in the field. The archaeologist needs to determine if it is necessary to bring back fire-cracked rock, whale bone, soil samples, and cobble choppers. Many archaeologists do not collect samples or artifacts for a couple of reasons. One is the ethics of collecting and removing artifacts from the original context, another is the curation crisis in the museums (Odess, this volume). Some sites are in such remote areas that it is unlikely that collectors are going to take away the artifacts. Architects and historians usually record the information they need with drawings and photographs, and anthropologists bring back their notes and tapes (or memory cards), alleviating some of the problems with freight. Architectural features are also less likely to suffer damage in remote areas, except where they are used for shelter or used as firewood where wood is scarce. The most extensive damage is likely to be caused by heavy snow loads, wind, and time.

The distance and cost of travel make it difficult for cultural resource managers to regularly monitor damage to sites or structures. The harsh environment in the north causes greater structural damage. Aleutian and Kodiak Island World War II sites are rapidly being destroyed by the combination of wind, snow load, age, and “eBay harvesting.” Global warming is also affecting the 54,700 km of Alaska coastline. Shorter seasons of sea ice are causing shorelines to suffer from longer exposure to fall storms in the Arctic and accelerating the rates of erosion. Erosion can destroy sites many hundreds or thousands of years old during a few intense storms. Pictures in the news over the past few years of the erosion at Shishmaref in northwest Alaska make this apparent.

The agencies and their staff depend on project funds to support Section 106 compliance and to gain access to remote sites, whether they do it themselves or hire contractors. This limits exploration and management to project areas and not necessarily to the places that need monitoring, such as eroding shorelines or riverbanks. While neglect is considered an adverse effect and therefore is a federal action, no agency in Alaska has been considered out of compliance because they were unable to manage these endangered sites.

The remote locations can reduce the amount of looting, although Bundy and Moss (this volume) has observed that increased accessibility did not lead to increased looting near large population centers in Alaska; however, lower site visibility in those areas may have contributed to that. Sites near or within communities or camps can suffer badly from subsistence digging (Staley 1993) and development, but obscure sites are protected because people may not be aware of them (Bundy and Moss, this volume). If the modern ethical values of cultural resource managers are to preserve the resources in place, then traditional cultural places and other cultural resources may be protected because they are away from population centers and relatively unknown—even to the cultural resource managers.

It is difficult, however, to monitor construction or demolition projects in remote places. Elsewhere, compliance staff for the state historic preservation officer might
be able to drive by a project. Dennis Griffin, state archaeologist with the Oregon State Historic Preservation Office, stated that he may drop by a project when he has concerns, although he usually relies on what he calls the “ratting out method” to find out if someone is not in compliance (Dennis Griffin 2005, written communication). Former Wyoming state historic preservation officer, Claudia Nissley (2005, written communication) said they never have the time or the staff to check up on projects. She said they are completely overwhelmed by work because of the large amount of federal land in their state. Alaska state compliance staff have far too few people, too much federal and state land, and too high travel costs to allow them to monitor construction projects directly. Sometimes an agency will invite a staff member or the state historic preservation officer to accompany them on a site visit so they can become familiar with the project and make informed decisions.

CURATING MATERIALS FROM REMOTE SITES

With half the Alaska population in Anchorage, museum directors have difficulties justifying their budgets in small communities and do not have the fundraising opportunities that museums have in larger towns. Federal agencies can only use museums that meet standards in the regulations described in 36 CFR 79: Curation of Federally Owned and Administered Archaeological Collections. The state museums, the University of Alaska Museum of the North, Alutiiq Museum, and the Museum of the Aleutians are among the museums that meet these standards. Artifacts collected from Alaska Native allotments are considered private property, although the land is administered by the BIA, and the landowner can treat the items as they wish. Most communities would like to have the artifacts and other cultural items back that are part of their local history, and many people are quite vocal about this. If the items were collected from federal lands they must be curated in a museum meeting federal standards, and most communities cannot afford the facilities that meet the federal standards, nor do they have the staff to curate the collections. Some communities hold their collections in community buildings, storage, garages, or abandoned buildings until the day they can afford a local museum. While some communities have asked for cultural heritage museums and repositories as part of mitigation for federally funded projects, the days of abundant federal or state funds for these kinds of projects are likely over. Creative grant writers may be able to get the required money, but even small, established museums in moderately populated hub communities in Alaska are having problems remaining solvent. At the same time, the University of Alaska Museum of the North is increasing its repository charges because it is running out of room, and the federal agencies have few other options within the state (Odess, this volume).

HOW FAR HAVE WE COME IN 20 YEARS?

William Workman (1985) conducted a similar assessment of cultural resource management in Alaska over 20 years ago. That report was a result of a three-day meeting sponsored by the Society for American Archaeology at the University of Alaska Anchorage in 1984. The participants, including agency, contracting, and academic archaeologists, discussed the state of cultural resource management in Alaska and made recommendations about improving conditions for research, compliance, and education. Workman assembled the information, which was reviewed by the panel members, and the report was printed the next year by the Alaska Historical Commission. Many of the observations in Workman’s (1985) report are similar to those being made twenty years later.

Workman noted that the size and the logistical challenges in Alaska meant that large parts of the state were unsurveyed. In 1984, he noted that 25 of the 153 USGS map quadrants in Alaska had no surveys conducted in them. At the time only 9,300 sites were included in the Alaska Heritage Resource Survey database. Now only two quadrants remain unsurveyed: Mount Saint Elias and Atlin (R. Joan Dale 2005, written communication). By 2005, there were 22,218 completed cards in the database (the discrepancy between assigned numbers and actual site cards is because many of the site numbers have no information to go with them). Of those completed cards, 16,516 were sites while the rest were buildings, structures, objects, or districts (R. Joan Dale 2005, written communication). By 2005, there were 22,218 completed cards in the database. While the numbers have grown in the past two decades, large portions of the state are still relatively unknown and basic cultural chronologies have yet to be established for precontact occupations. This means that in some areas, nearly all intact sites have the potential to yield information important to the understanding of history or prehistory. In other parts of the United States, certain site
types or periods may be so ubiquitous and well understood that they no longer retain this significance. As Workman (1985:15) noted:

Lack of baseline data for most areas has serious impact on the sophistication of the archeological questions which can be addressed in much of Alaska at present. Most survey work to date has been of a reconnaissance nature, thus the majority of known sites have contributed little as yet to a scientific understanding of Alaska’s past.

Then as now, the state historic preservation officer’s staff was overworked. Workman (1985) reported that in 1984, 1,500 construction projects were reviewed by the staff at the Office of History and Archaeology. There was one full-time and one part-time person reviewing the projects. Stefanie Ludwig (2005, personal communication) reported that a compliance staff of three people was sent 3,164 projects to review, of which 526 were state projects with no federal involvement. While the compliance staff at the OHA has doubled, so did the number of projects being reviewed, so they have not managed to catch up to the workload in the past 20 years.

Among other things, Workman and his colleagues were concerned about the cleanup of World War II-era military sites during the mid-1980s. Their concern was warranted. Some cleanup project managers sent in compliance letters describing a small part of the work being undertaken and used the letter to justify the removal of large portions of the World War II sites without further consultation. Since then, Cold War sites have also been included in the cleanup programs, and many of the Cold War facilities have been determined eligible for the National Register of Historic Places through Criterion Consideration G for sites fewer than 50 years old. Since Workman and his colleagues met in 1984, the military agencies responsible for cleanup activities have hired archaeologists whose responsibility is to track the cleanup projects and to conduct the compliance work. Compliance has improved markedly in this area largely through the efforts of the state historic preservation officer, National Environmental Policy Act compliance staff within the agencies, and in-house cultural resource managers continuously striving to educate a rotating cadre of project managers in the military agencies. Greater attention is also being paid to underlying historic and precontact sites.

FUTURE OF CULTURAL RESOURCE MANAGEMENT IN ALASKA

TRIBAL INVOLVEMENT IN CULTURAL RESOURCE MANAGEMENT

The politics of land ownership are likely to affect Alaska Native involvement in cultural resource management differently than it has developed in the 48 contiguous states. As was discussed earlier, the village corporations own the surface rights; therefore, the archaeological sites are owned by them, unless the site matrix is part of a material source and is a subsurface property. In that instance it is the property of the regional corporation. Archaeologists or historians in most cases get permits for work on corporation lands from the village or the regional corporation office. Despite the land ownership, government-to-government consultation by the agencies is with the federally recognized tribe. Tribal rights and resources include cultural resources (Shearer, this volume). Therefore, when the federal government begins any project that may affect a tribal right or resource, they must provide the opportunity for government-to-government consultation with the tribe because of the special relationship of the tribe with the United States government as a domestic dependent nation. It may not be the corporations that become involved in cultural resource management so much as the tribes, even though the corporations have the land base and issue the permits.

The relationship of the tribe with the village and regional corporations varies from region to region. The way each region chooses to work with cultural management depends on local histories. In some areas, village corporations are heavily involved in cultural resource management and in others, their priorities lie elsewhere.

In contrast to the corporations, tribes have few resources. They have few people to do the work and considerable paperwork for various federal programs. The tribes of the Upper Tanana river region, for example, are combining resources to further their economic development through the Upper Tanana Intertribal Coalition. Similar coalitions may form elsewhere to deal with the problem of not having lands and the economic base to support the tribal government. The tribes can use their relationship with the federal government to increase their participation in cultural resources management (among other things). As there are more trained people specializing in cultural
resources within tribal organizations, tribes may develop their own cultural resource management companies under the federal 8A program for minority and small disadvantaged companies and get contracts to do oral histories, to identify traditional cultural places, to identify historic and precontact sites, and to provide stewardship services for the federal agencies on federally managed lands for their own heritage sites and places. Part of the relationship with the federal government includes government-provided training opportunities. The Army is already providing training in Section 106 regulations for tribes affected by Army activities. These cultural resource companies would not require the land base that tribes have in the contiguous United States but can take advantage of the unique and special relationship between the domestic governments of the tribes and the U.S. government.

Metlakatla Indian Community is the only tribe in Alaska with reservation lands. They will likely have the state’s only tribal historic preservation officer within the next decade. The tribal historic preservation officer is a position established through the National Historic Preservation Act, in which the tribe can take on the duties of the state historic preservation officer, and must be consulted as part of any compliance work on tribal lands. To establish a tribal historic preservation officer the tribe must have the same capabilities of a state historic preservation officer’s office. Metlakatla Indian Community has been exploring the possibility for the past five years or more and they were considering several options, including contracting the duties to an outside company.

Rural communities are beginning to work with federal agencies and academics to design their own priorities for the management of their cultural resources. This was started at Kaktovik, where Tribal Partnership Program funding through the U.S. Army Corps of Engineers was combined with logistical assistance from the U.S. Fish and Wildlife Service and the U.S. Air Force (611th Airborne) to support a survey to identify the cultural resources in their area, collect oral histories, and establish a cultural resource management plan. Additional groups are expected to be brought into the consultation to help fund the work. The community of Kaktovik stated that they were concerned about their heritage disappearing as sites and important historic places eroded away without any information being recorded about them and about the artifacts being taken and sold. They want the artifacts put into a local museum, and they want to develop a heritage program. The program was being developed by Kaktovik using their priorities through the Tribal Partnership Program, although the project has been postponed until erosion projects elsewhere are completed.

This is part of a trend that has seen increasingly greater integration of Alaska Native priorities into cultural resource management, whether it is architectural, landscapes, traditional cultural properties, precontact or contact period histories, or sacred sites. This is a trend already apparent in the 48 contiguous states that is gradually being felt in Alaska. There will be a greater emphasis on Alaska Native priorities through government consultation, application of the federal laws, and cooperative projects with independent researchers.

REDUCTION IN FEDERAL AND STATE FUNDING FOR LAND MANAGEMENT

Cultural resource managers are struggling. Positions are being cut and not refilled, and budgets are being slashed for the federal agencies, even given the vast amount of land they need to manage. Decreasing travel funds affect Alaska federal cultural resource specialists more than their colleagues in the contiguous states, who are more likely to be able to drive to training opportunities, conferences, and to the lands they manage. In Alaska, there are also fewer people in the profession available with whom to interact compared with other states. Electronic mail is critical in Alaska and the lack of access to this critical communication tool has been particularly hard on cultural resource managers in the Bureau of Indian Affairs. Agencies are increasingly relying on databases to report to congressional aides about how much land they have, how many sites they manage, and how many hours are spent on different tasks, just as their jobs are threatened by plans for outsourcing. Database management is beginning to overwhelm cultural resource managers as more hours are used to justify doing less. At the same time, development is increasing within this state as new roads and gas lines are proposed, new mines established, state and federal land traded, and new oil fields sought.

Lynne Sebastian (2004), the former state historic preservation officer for New Mexico, offered advice to the other state historic preservation officers about ways to deal with increasing responsibilities and smaller budgets. She essentially told them to let go of the process and the minutiae of compliance and work on the more important goal of historic preservation. New ways of doing the work need to be developed to adjust to the responsibilities of the job on the...
federal agencies’ side too. One way is for federal agencies to develop programmatic agreements with the Advisory Council on Historic Preservation and the state historic preservation officer so that routine activities no longer need to be individually reviewed. The National Park Service and the Bureau of Land Management have nationwide programmatic agreements. The Army developed the Army Alternate Procedures so that the same kinds of properties do not need to be documented every place they occur. In the case of the Army Alternate Procedures, it may be at the expense of locally significant properties (Russell Sackett 2005, written communication), but it does take care of the routine building and structural types and allows the Army to do its job.

Education is more cost-effective than policing, and there is an increasing emphasis on educational programs (Saleeby, this volume). This includes participation, establishing stewardship programs with local communities, and heritage tourism (Corbett, this volume; Steffian and Saltonstall, this volume). Educational programs reach more people, can affect people for a longer time, and extend through multiple generations as one teaches the next (usually younger to older, to begin with). Programs such as Project Archaeology, to train teachers to use archaeologically based lesson plans, should receive greater support in agencies. Educational programs have already been shown to reduce looting and vandalism elsewhere (Saleeby, this volume).

To deal with some of the common financial and personnel support problems, agencies continue to combine resources and establish cooperative projects to work with management issues on neighboring lands or contiguous resources. A case in point was the Kaktovik project, bringing together the U.S. Fish and Wildlife Service, Air Force, and the Army Corps of Engineers. Department of Defense cultural resource managers had a working group that met twice a year to deal with military properties and informal lunches once or twice a month to discuss common problems. The education interest group of the Alaska Anthropological Association includes several agencies, including the National Park Service, USDA Forest Service, Bureau of Land Management, Alaska Office of History and Archaeology, the U.S. Fish and Wildlife Service, Matanuska-Susitna Borough, Air Force, Army, and other entities to pool their resources to support Archaeology Month, a lecture series, and other education programs that could not be supported by one agency alone. Fortunately, given the small community in Alaska and the level of cooperation among professionals in the state, these endeavors are likely to become more common.

Stewardship programs are partly educational and partly cooperative programs with rural communities. With relatively little cost given the area being managed, agencies are able to monitor many of the sites most likely to be affected, looted, or eroded (Corbett, this volume). By combining the resources of the federal government with local interests, more is being done to manage the resources than could be done by the cultural resource manager alone (Steffian and Saltonstall, this volume).

TRAINING AND EMPLOYMENT

Workman (1985:61) noted that by the mid-1980s the University of Alaska Fairbanks offered a master’s degree in anthropology and it was possible to receive a doctorate in interdisciplinary studies in archaeology, while the community colleges around the state offered anthropology courses. The University of Alaska Anchorage offered an undergraduate degree in anthropology. By that time, the University of Alaska Fairbanks had offered at least one cultural resource management course.

Now cultural resource management courses are a regular feature at both the University of Alaska Anchorage and the University of Alaska Fairbanks, and the University of Alaska Fairbanks now offers a doctorate in anthropology. University of Alaska Anchorage has taken a different track by emphasizing an applied approach in their graduate program. Archaeology students in Anchorage can receive a master’s degree in anthropology with an emphasis in cultural resource management. While there is not yet a certificate of cultural resource management in the University of Alaska system, as elsewhere in the United States and Canada, it is probably only a matter of time before the university begins producing technically capable field people to support cultural resource programs in the state. Workman (1985:113) and the cultural resource management specialists who gathered in 1984 recommended that all archaeologists should have some training in “business, legal and ethical aspects of CRM archaeology,” and that occasional workshops be offered at professional meetings. While many archaeologists, anthropologists, historians, historic architects, and other potential cultural resource managers slip through their academic programs without this background, the number of workshops has increased to fill those gaps. The Office of History and Archaeology regularly offers workshops the day before the annual meet-
ings of the Alaska Anthropological Association, and the federal agencies frequently hire instructors to train their employees on the cultural resource management laws and practices. These classes are open to the public, so any interested cultural resource manager can attend if there are enough seats available. There are fewer grounds to excuse a cultural resource manager for ignorance of relevant cultural resource management laws and ethics because of a lack of training. However, it is more expensive to bring classes to Alaska and the number of classes available or accessible is considerably smaller than one would see in the other states. New college graduates are likely to have a better understanding of cultural resource management laws and the ethics than did their predecessors 20 or even 10 years ago.

Some of the large projects described by Smith (this volume) were the training grounds for cultural resource practitioners in the 1970s, '80s, and '90s. Potential opportunities for the next generation to learn this specialty are the Knik River Bridge, the Trans-Alaska gas line, Arctic National Wildlife Refuge oil exploration, and coastal erosion projects associated with global warming and storm damage. The development of large mines may also provide many jobs.

The number of Alaska cultural resource companies will likely increase if federal jobs are outsourced, with increased development in the state, and the greater number of trained specialists. Established companies from the 48 contiguous states and Canada will probably begin to compete with Northern Land Use Research, Inc., for the larger projects in Alaska as competition increases elsewhere. Fortunately, Alaska has seen little of the cutthroat and exclusionary tactics seen in the more competitive spheres. Increasing numbers of graduating students who specialized in cultural resource management at the outset will establish their own companies as the “boomer” generation gradually loses mobility after many hard years of pedestrian surveys and retires.

Register of Professional Archaeologists (RPA) certification may become more important. In other states it is slowly becoming a requirement, although no federal law requires such membership to do cultural resource work. Generally, word-of-mouth has been used in Alaska to determine a company’s reputation and capabilities before this; but more development companies are bringing familiar cultural resource businesses with them to work in Alaska, and those businesses usually have RPA-certified archaeologists. The other cultural resource professions do not appear to have developed a similar requirement for work in this field.

Development leads to greater pressures on environmental laws as the need for rapid construction of pipelines, bridges, or roads is portrayed as being more important than compliance with the required cultural and natural resource laws. Recent changes in Section 106 occurred as a result of disputes with mining companies and the Federal Communications Commission at a national level because they felt the Section 106 process was punitive and held back development. Although the people of the United States pressured Congress to write these environmental laws because they had seen the results of unfettered development in the 1950s and 1960s, the tide is turning, and Congress is being increasingly pressured by development interests to remove the restrictions. Given the development focus in this state, similar pressures are occurring in Alaska.

Academic archaeology is also changing in response to cultural resource management. As more students are trained in the field and new positions come open in university and college departments, academically focused researchers will become more aware that the federal and state laws apply to them as well. Until now, these laws have largely been ignored. Examples include the application of Section 106 of the National Historic Preservation Act to federally funded research. Workman (1985:65) documented this 20 years ago:

Others may root in ignorance and confusion about the proper interpretation of laws and regulations, or even about the existence of pertinent laws and regulations. Many of us have not kept up as well as we should have with precedent-setting CRM decisions made outside Alaska. In the future we should participate more actively in CRM forums outside Alaska than we have in the past.

This brings us back to the importance of training and workshops for both new archaeologists and established cultural resource managers in Alaska.

**SUMMARY**

This paper concentrated on the aspects of cultural resource management that make practicing this field in Alaska different from other states. As elsewhere, cultural resource management is personality-driven, but there are political and geographical features that make managing cultural resources and complying with the many cultural resource
laws in Alaska a specialty. Land ownership, remoteness, and logistics affect the management of cultural resources within the state.

These characteristics are related. The small numbers of managers, the vast lands being managed, and the difficulty of getting to the resources create an almost impossible situation for cultural resource management. It is so great a problem that neglect is often the only reasonable solution given the extent of the responsibilities. The Alaska state historic preservation officer’s compliance staff responsible for reviewing federal compliance with the laws is in a similar situation given the number of federal projects that take place in the state and the extent of federal and state land holdings.

The Alaska Native land base controlled by corporations instead of the tribal government is very different from the reservation system common in the 48 contiguous states and creates a problem when tribes do not have direct control of lands and their associated sites and places. Fortunately, executive orders requiring government-to-government consultation provide the mechanism to cover federal actions on other lands. Federal laws do not, however, cover activities by corporations, businesses, or private landowners on their own land. Alaska Native allotments are not considered tribal lands although BIA administers the lands after they have been conveyed to the Native landowner. There are no tribal land managers in Alaska simply because there are no tribal lands with the exception of Metlakatla Indian Community. Village corporations manage cultural resources as the surface land owner, and regional corporations manage the historical and cemetery sites selected under Section 14(h)(1) of the Alaska Native Claims Settlement Act and sites in subsurface materials sources.

Technological developments have made the job somewhat easier, allowing managers to accurately map or locate sites using handheld equipment. We are now using satellite photographs to predict site locations; digitally photographing sites and features while simultaneously recording the time, latitude, and longitude on the photograph; recording conversations and storing data on solar-powered computers, and linking all this information through GIS software to the physical location on a map. This technology makes information gathered in the field in Alaska comparable to the information coming from more accessible areas in the 48 contiguous states. This a far cry from carrying only a compass and a tape to reduce the pack weight only a decade ago.

Workman (1985) and his colleagues discussed similar issues 22 years ago. Some things have improved in the past two decades and other issues are still with us. The papers in this volume readdress many of the continuing concerns by cultural resource managers and new responsibilities brought on by changes in the laws or new laws and executive orders. These issues are relevant to academic, contracting, and agency cultural resource managers.

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A BRIEF HISTORY OF CULTURAL RESOURCE MANAGEMENT IN ALASKA

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ABSTRACT

One of the most significant influences on the practice of archaeology within the past four decades has been the birth of cultural resource management in response to federal historic preservation laws. An examination of the growth and development of cultural resource management (CRM) in Alaska reveals that CRM has become the overwhelming source of data and information concerning archaeological sites and resources, as well as the primary employment sector for archaeologists working in the state. This paper consists of a brief history of the growth of CRM archaeology in Alaska, including descriptions of major CRM projects and trends, and the sequence of initial hiring of archaeologists by federal agencies. Finally, three major contributions of CRM to archaeology are discussed, including significant additions to the statewide database of sites, an increased emphasis on historical archaeology, and examples of original research.

KEYWORDS: public archaeology, federal agencies, Alaska Office of History and Archaeology

INTRODUCTION

The passage of the National Historic Preservation Act of 1966 (NHPA) had a profound influence on the discipline of archaeology. This single piece of federal legislation, with its procedural requirements for the consideration of impacts to historic and prehistoric sites, has created a legion of jobs for archaeologists, provided significant new sources of funding for archaeological research, and drastically changed how and what we do.

A primary result of the NHPA was to greatly increase the amount of archaeology being done, primarily for purposes associated with management of the resource base. This type of archaeology is generally referred to as cultural resource management (CRM). Some, such as King (2004:12–13), would define the term very broadly, to include such nonmaterial phenomena as beliefs, perceptions, and practices that would normally fall outside of the subject matter of archaeology. Given that the primary focus of this paper is to assess the development of CRM as it affects the practice of archaeology, such a broad definition is not appropriate. Here, the term is used in a more traditional manner to refer to the management of the physical remains of past human activity on public and private lands, including material that has been collected and stored in public repositories.

There have been several reviews of cultural resource management over the years since passage of the NHPA. The Airlie House Report (McGimsey and Hester 1977) was an early attempt to do so on a national basis, and it remains a classic. An extensive review of CRM archaeology in Alaska was completed in 1985, under the sponsorship of the Society of American Archaeology (Workman 1985). It resulted from one of a series of 10 regional conferences...
intended to update the Airlie House Report and involved the active participation of a wide range of archaeologists working in Alaska. This paper examines how cultural resource management has grown and developed in Alaska since passage of the NHPA, with emphasis on significant CRM projects, noteworthy trends, and a history of employment in both the public and private sectors. The paper concludes with a brief discussion of the contributions of CRM to Alaska archaeology over the past four decades.

**A SELECTIVE REVIEW OF CRM PROJECTS IN ALASKA**

Although passage of the NHPA in 1966 represents a watershed in the growth of CRM archaeology as we know it today, there were projects in Alaska before this date that are properly considered to be done in a CRM context. The first of these was the survey conducted by Frederick Hadleigh West in 1959 and 1960 in the Cape Thompson area in northwest Alaska (Wilimovsky and Wolfe 1966). This work was conducted as part of a massive project to analyze potential impacts of Project Chariot, a plan to excavate a deep-water port using nuclear explosives. West completed another CRM survey in 1963 and 1964 in the impact area of a proposed dam in the Rampart area of the Yukon River (West 1965).

In 1969 or 1970, Frederick Hadleigh West of Alaska Methodist University and Bob Lund, a recreation specialist at the Anchorage office of the Bureau of Land Management, began a cooperative effort to compile information on known prehistoric and historic sites throughout the state. Originally named the Alaska Archaeological Index and consisting primarily of information gleaned from existing literature, these data were turned over to the state in 1970 and became the precursor to today’s Alaska Heritage Resources Survey (Alaska Division of Parks 1974:3; William S. Hanable 2006, written communication).

An important development in 1973 was the founding of the Cooperative Park Studies Unit (CPSU) at the University of Alaska in Fairbanks. The Anthropology and Historic Preservation section, under Zorro Bradley, was funded by the National Park Service but filled positions through the university. The CPSU accomplished several significant cultural resource management projects. The Alaska Native Claims Settlement Act of 1971 allowed Native regional corporations to acquire cemetery and historic sites based on criteria that are very similar to those for eligibility to the National Register of Historic Places. CPSU staff completed extensive research in Alaska Native communities to identify cemetery and historic sites and also conducted archaeological field examination and verification of eligible selected sites, thereby playing a significant role in determining ownership of a large number of historic sites throughout the state (Bruce Ream, written communication).

Over the 10-year life of the CPSU, it established a record for publication that could serve as an example for all of us. A quick scan of the holdings at the Rasmusen Library results in a list of approximately 35 publications on the subjects of history, archaeology, subsistence, and traditional land use. An exhaustive listing of these publications is beyond this article, but in terms of utility for cultural resource management the various regional compilations of traditional land use sites based on interviews with informants deserve mention. Andrews (1977) and Koutsy (1981–1982) are good examples of such reports, covering the Doyon and Bering Straits regions, respectively.

Several large archaeological projects followed passage of the National Historic Preservation Act. The largest of these was done in support of construction of the Trans-Alaska Pipeline System (TAPS). Archaeological work on the northern portion of the line, where almost all of the archaeological sites were located, was directed by John Cook of the University of Alaska Fairbanks, while the southern portion of the work was directed by William Workman, then at Alaska Methodist University. The TAPS project began in 1969 and lasted until 1976, and in terms of the number of sites involved, the number of people employed, and the geographical extent of the project, a similar project is unlikely to occur again. Unfortunately, portions of the project remain unreported to this day, and the reports that were completed were distributed on a limited basis (Cook 1971, 1977; Workman 1976). Also, the technology available at the time for determining and recording location was limited, so some confusion still exists about exact site locations. Despite these shortcomings, the TAPS reports include information about some of the initial excavations done in the area covered, as well as descriptions of sites identified along the pipeline corridor. Anyone who reads these reports will encounter many archaeologists who are still active in the state today.

About the same time, between 1968 and 1971, as a result of the planned testing of nuclear devices on Amchitka Island in the western Aleutian Islands, an extensive program of survey and excavation resulted in the identification of 77 sites, followed by extensive excavations and
collecting from about a third of these (Cook, Dixon, and Holmes 1972; Desautels et al. 1971). It remains the largest such project from the Aleutians Islands (Deborah Corbett 2006, written communication).

The University of Alaska Museum undertook a large-scale cultural resources project between 1979 and 1985 as part of feasibility studies for proposed hydroelectric development on the Susitna River. Under the direction of E. James Dixon and George Smith, archaeological crews surveyed 182 locales in the project area and recorded 248 sites along the remote Middle Susitna River. Besides greatly increasing cultural resources documentation in a little-known region of the state, the project also succeeded in constructing a regional stratigraphic chronology based on tephra. The chronology included the American Paleoarctic tradition, Northern Archaic, Late Denali complex, and Athapaskan tradition, as well as historic Euro-American sites (Dixon et al. 1985; Becky Saleeby 2007, written communication).

The Exxon Valdez oil spill in 1989 was another major event affecting cultural resource management in Alaska. Over 2,090 km of coastline from Prince William Sound to the central Alaska Peninsula were contaminated with crude oil. Emergency response and cleanup activities resulted in the identification of over 350 new sites, providing new information on the prehistory of the area. In addition this activity resulted in the implementation of new techniques for outreach and training that could be useful as mitigation measures to protect archaeological sites should similar incidents occur in the future. One important result of the oil spill was that a grant from the oil spill trustees was instrumental in establishing the Alutiiq Museum in Kodiak (Alutiiq Museum 2006; see Steffian and Saltonstall, this volume).

**ALASKA’S STATE HISTORIC PRESERVATION OFFICERS**

The first thing most states did after passage of the NHPA in 1966 was to appoint a state historic preservation officer (SHPO), to satisfy one of the provisions of the act. Alaska was no different, although in the early years the designated SHPO was not a preservation specialist and was not called the state historic preservation officer. The first person to serve in this capacity was Theodore G. Smith, who was appointed to the position of state liaison officer for historic preservation (SLOHP) by Governor Hickel in 1967. At that time Smith was chief of the Parks and Recreation Section in the Division of Lands. The first historic preservation staff was added to the section in 1970 when William S. Hanable was hired as historian. That year saw the first nominations to the National Register from Alaska, including the Eagle Historic District, Chief Shakes House, Fort Abercrombie State Park, and Totem Bight State Park (William S. Hanable 2006, written communication).

Sometime between 1971 and 1973, the title of state liaison officer for historic preservation changed to the current state historic preservation officer (SHPO) with Theodore Smith continuing to hold the position (William S. Hanable 2006, written communication). Late in 1973 a new Office of Statewide Cultural Programs was established within the Division of Parks, and Hanable was appointed chief of the office and deputy SHPO.

In 1974, Smith resigned and was replaced as SHPO by William Sacheck, the state forester, who briefly headed a combined Division of Parks and Forests (Bacon 1975:2; William S. Hanable 2006, written communication). This new division lasted for only about a year, and when Parks and Forestry were again separated, Russell W. Cahill was appointed head of the Division of Parks and SHPO. In 1976 when Cahill resigned, William Hanable, then head of the Alaska Office of History and Archaeology (OHA), was appointed as SHPO. This marks the first time an individual with training in one of the historic preservation disciplines served as SHPO, and it set the pattern for all subsequent appointees being head of the Office of History and Archaeology (William S. Hanable 2006, written communication).

In 1980, Hanable left the Office of History and Archaeology and was succeeded as SHPO by Robert Shaw, who served in that capacity for about one and one-half years. Shaw was followed by Ty Dilliplane, who was appointed to the position in early 1982 by Governor Jay Hammond. Dilliplane filled the position until April 1984 and was replaced by Judith Bittner, the current SHPO (Ty Dilliplane 2005, personal communication).

**GROWTH OF CRM POSITIONS**

The most significant effect the NHPA has had on archaeology in Alaska is in the number of new full-time jobs created for archaeologists. Quantifying the increase in jobs is not as straightforward as it might appear. Some interpretation is required in determining what is full-time, what is a CRM position, and even what might qualify as positions for archaeologists. Agency archaeologists often have re-
sponsibilities outside of traditional CRM, and some are employed in positions with titles such as “cultural resource manager” or “natural resource specialist.” These problems increase when trying to estimate full-time positions in the private sector.

Table 1 shows the number of CRM positions for archaeologists in Alaska at three different times during the period between 1973 and 2003. The year 1973 represents a logical starting point because that is the year in which the first archaeologist was hired by any state or federal agency. The numbers for 1984 are derived from Workman (1985:48–56). Those for 2003 are simply the result of this author polling individuals in the various agencies in an informal fashion. There seems little doubt about the general import of the table: during a period when the number of positions in traditional academic settings has remained in single digits, the number of CRM positions has grown to include at least several dozen.

A cautionary note seems justified at this point. Although growth is clearly evident in the number of full-time positions in the state, this is only part of the picture. Without an intensive survey of all agencies in Alaska, it is not possible to determine exactly how programs have grown, but changes in the Bureau of Land Management (BLM) since the mid-1980s may be instructive. In 1984 the agency had the same number of full-time positions as it did in 1973, but these positions were described in part as follows:

In the Fairbanks District Office 13 working months a year are funded for all cultural activities. This time must be divided among four archaeologists, with the rest of their time taken up with unrelated activities such as realty cases, input to general planning documents, navigability studies and the like. (Workman 1985:49)

In 2003 there were still four archaeologists, but the number of working months funded from the cultural resource program had grown by nearly 50 percent, despite significant inflation in the level of salaries. Funding for operations for cultural resource work had also grown, leading to an increased capability in excess of what might be expected from just comparing the number of full-time positions. BLM and other agencies also make extensive use of temporary positions to provide personnel for work on a short-term basis, and that capability is not represented in a count of full-time positions. Taking BLM as representative, there appears to have been significant growth in funding levels for cultural programs for federal agencies in Alaska over the past two decades.

**TIMELINE OF CRM POSITIONS**

It is beyond the scope of this paper to try to describe in detail the history of the growth of CRM positions throughout Alaska. However, a sequence of when each state or federal agency began employing full-time archaeologists can be reconstructed, and from this a sketchy picture of the development of CRM archaeology in Alaska over four decades emerges.

The first permanent position for an archaeologist in a state or federal agency with responsibilities for cultural resource management was filled in 1972 when the Division of Parks hired Karen Workman. The position was supposed to be designated as the state archaeologist, but Workman, growing impatient with state government’s unwillingness to confer the title, simply took it upon herself and went about her job – thereby demonstrating a firm grasp of the principle that it is often easier to obtain forgiveness than it is to get permission (Karen Workman 2003, personal communication).

In 1974, federal agencies hired their first archaeologists when Douglas Reger went to work as the regional archaeologist for the Forest Service and the Bureau of Land Management hired Gary Matlock as the first state office

**Table 1. Estimated growth of full-time CRM positions, 1973–2003.**

<table>
<thead>
<tr>
<th></th>
<th>1973</th>
<th>1984</th>
<th>2003</th>
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</thead>
<tbody>
<tr>
<td>Air Force</td>
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<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Army</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Bureau of Indian Affairs</td>
<td>0</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Bureau of Land Management</td>
<td>0</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Corps of Engineers</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fish and Wildlife Service</td>
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<td>2</td>
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<td>National Forest Service</td>
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<td>7</td>
</tr>
<tr>
<td>Alaska DOT:PF</td>
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<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total government positions:</strong></td>
<td><strong>1</strong></td>
<td><strong>27</strong></td>
<td><strong>52</strong></td>
</tr>
<tr>
<td>Private consultants</td>
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<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Native corporations</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total private sector:</strong></td>
<td><strong>0</strong></td>
<td><strong>5</strong></td>
<td><strong>11</strong></td>
</tr>
<tr>
<td><strong>Total CRM Positions:</strong></td>
<td><strong>1</strong></td>
<td><strong>32</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>
archaeologist. Reger worked for the Forest Service from February 1974 to May 1975, then left to take the state archaeologist job that had been vacated by Karen Workman. Gerald Clark replaced him as the Forest Service regional archaeologist after about a year. Matlock worked for BLM for not more than two years, then transferred to Colorado shortly after his wife died in an airplane accident late in 1975 (Herrick Hanks 2003, written communication; Ray Leicht 2003, written communication; Curtis Wilson 2003, written communication). Ray Leicht replaced Matlock in May of 1976. Sometime in 1975, the BLM began filling positions at the district level.

In 1976, the Fish and Wildlife Service hired their first archaeologist in Alaska when Curtis Wilson filled the regional archaeologist position in Anchorage. Shortly thereafter, the service hired Michael Yarborough to work for Wilson and for a brief period also employed Robert Shaw as an archaeologist on what was then called the Clarence Rhodes Refuge, now the Yukon Delta Refuge. The National Park Service hired their first permanent full-time archaeologist in 1978, when Dick Hsu took the position overseeing the surveys mandated by Section 105(c) of the National Petroleum Reserves Production Act of 1976. Hsu hired the foursome of Craig Davis, Dana Linck, Kenneth Schoenberg, and Harvey Shields. Following completion of the NPR-A project, Hsu left Alaska for other employment and was replaced by Davis (Kenneth Schoenberg 2003, written communication).

In 1979 or 1980, the Corps of Engineers hired its first full-time archaeologist, Julia Steele, and in 1980 the last of the Department of the Interior agencies hired its first archaeologist when the Bureau of Indian Affairs hired Robert Waldman.

In 1999, the first archaeologist was employed by one of the service branches other than the Corps of Engineers when the U.S. Air Force hired Karlene Leeper. The Army in Alaska followed suit in 2001, when Russell Sackett moved from the Office of History and Archaeology to become the first cultural resource manager for Alaska’s large military bases.

In summary, the state was the first to hire an archaeologist, and then the major land-managing agencies hired their first archaeologists in the mid- to late-1970s, followed by the Bureau of Indian Affairs and the U.S. Army Corps of Engineers in the early 1980s and the military branches in the late 1990s. This sequence of initial hires reflects, in general, the order in which various agencies developed CRM programs.

Two sets of historical circumstances may help explain this progression. First, Section 106 of the NHPA requires that federal agencies consult with the SHPO before any undertakings that may affect significant cultural resources, including historic and prehistoric remains. This imposed an early burden on the state and on major multiple-use agencies to develop cultural resource expertise in order to conduct routine daily business. Agencies with narrower mandates were slower to hire archaeologists. Second, the sequence of first hires may simply be the result of the history of public land management in Alaska. Before passage of the Alaska National Interest Lands Conservation Act (ANILCA) in 1980, almost all public lands in Alaska were managed by the state, the U.S. Forest Service, and the Bureau of Land Management, which were the first agencies to hire archaeologists.

TRENDS IN THE DEVELOPMENT OF CRM IN ALASKA

A few trends are apparent in the growth of CRM in Alaska since 1966. Two that seem particularly important are changes in the personnel conducting CRM projects and changes in attitudes toward CRM, from both within and outside the discipline. During the first part of the period, from 1966 to about 1979, university-based researchers played the central role in CRM, perhaps because they were essentially the only source of the necessary expertise. Federal agencies only began to hire CRM staff in the mid-1970s, and there were few private consultants active in Alaska until about this same time. The two-volume report produced by the Iroquois Research Institute under contract to the Federal Power Commission (Humphrey et al. 1975) is an example of work done during the early years by a consultant based outside of the state. Early work done by in-state private consultants includes that done by Linda Yarborough in 1975 (2007, personal communication) and the work of Alaskarctic (Bacon 1978; Bacon and Holmes 1980).

More typical of archaeological work done during this period are projects completed by individuals or groups associated with institutions of higher learning, such as the TAPS project, intensive survey of the area around Fort Egbert done by Shinkwin et al. (1978), survey along the

A second period of CRM work in Alaska (roughly 1980 to 1993) can be characterized as being done primarily by agency personnel and part-time contractors. Many of the uncertainties about land status that had been typical of earlier times were resolved through passage of ANILCA in 1980, and the major land-managing agencies had by this time hired enough archaeologists to deal with routine work related to Section 106 of the NHPA. Agencies began acquiring baseline inventory data as required by Section 110 of the act. The National Park Service in particular completed several major inventory projects (Griffin and Chesmore 1988; McClennahan and Gibson 1990; Kunz 1991; Schaaf 1988). Other agencies completed smaller-scale projects (Smith 1983; Will 1986). A few intensive excavation projects were also completed by federal land managing agencies during this period. Probably the most sustained effort was by the National Park Service in southeast Alaska (Blee 1988; Blee et al. 1986; Rhodes 1988; Spude et al. 1993), but other significant projects were also completed during this period (Davis 1989; Schoenberg 1985; Wilson 1991).

During the middle period, universities all but ceased operating as CRM contractors in Alaska, perhaps in part because of issues relating to public institutions competing with private consultants. In the private sector a few contractors were beginning to find steady if not full-time work. Ed Hall and Jack Lobdell are examples of academicians who incorporated private consulting firms and worked extensively as CRM consultants during this period (Hall 1977; 1978, 1980, 1982, 1983, 1988; Lobdell 1979, 1980, 1981).

The final period—roughly 1994 to the present—involved continued activity by agency personnel, growing opportunities for private consulting by individuals, and development of Alaska’s first full-time cultural resource management firms. Agency budgets had generally grown from the levels in the earlier periods and Section 106 compliance had become more routine, allowing agencies to expand their efforts into other kinds of work. Inventory projects continued to be completed by agencies (Crowell and Mann 1998; Saleeby 2000; Smith and Vreeman 1995; VanderHoek and Myron 2004) and several more intensive investigations were also completed (Cooper 2001; DePuydt et al. 1997; Kardatzke 2002; Kunz 2003; Späth et al. 2000).

Several individuals continue to work as private consultants. Notable examples include Michael Yarbrough, Robert Shaw, Douglas Reger, Charles Mobley, and Chris Wooley. Northern Land Use Research of Fairbanks was established in 1991 and has continued since then with a small full-time staff, providing another source of employment and an indication of the growth of CRM consulting as an industry in Alaska.

One significant development in recent years has been the reemergence of universities as active participants in CRM archaeology in Alaska. For the past several years the Center for Environmental Management of Military Lands at Colorado State University, under contract to the Army, has conducted extensive inventory work on bases in Alaska, resulting in a significant increase in the number of known sites (Hedman et al. 2003; Raymond-Yakoubian 2006; Raymond-Yakoubian and Robertson 2005; Robertson et al. 2004).

Attitudes toward CRM have changed over the past 40 years. While much depends on individual managers and specific agencies, there has been a general trend from outright hostility to benign neglect to a time when many agency managers support and encourage the goals of CRM. During the initial years after passage of the NHPA, agency CRM personnel had to concentrate almost exclusively on Section 106 compliance, and agency managers often saw the requirements of the law as unnecessarily restrictive. Determinations of eligibility, because they required consultation outside of the agency, were often a source of conflict between CRM staff and managers. While such disagreements have not entirely disappeared, compliance with Section 106 has, by and large, become far more routine. As a consequence, many agencies have moved beyond Section 106 to more proactive management of cultural resources.

Attitudes have changed within the discipline as well. While it is difficult to measure attitudes without some form of broad survey, one indication of changing attitudes about CRM can be seen in the inclusion of CRM courses in the standard curriculum of the University of Alaska. For many years the university displayed a marked reluctance to teach CRM. There were scattered and sporadic attempts to present courses on the subject beginning in the early 1970s, but only since the late 1990s have such courses been incorporated as a standard part of the curriculum of anthropology departments. The University of Alaska Fairbanks began offering a CRM course in 1999, and the University of Alaska Anchorage now offers a master’s degree with a concentration in CRM.
CONTRIBUTIONS OF CRM

Granted that most archaeologists in Alaska are employed in positions that are CRM-related and that CRM has become an accepted part of the discipline, it is fair and even essential to ask if the work accomplished in CRM contexts has resulted in a significant contribution to the advancement of knowledge about Alaska’s history and prehistory. There are at least three areas in which this has been the case.

First, work done primarily for CRM purposes has added significantly to the database of known sites. In 1975, when federal agencies had just begun to hire archaeologists in any numbers in Alaska, the Alaska Heritage Resources Survey (AHRS) database contained slightly more than 4,000 entries (Bacon 1975:8). Thirty years later, the total number of entries in the database had grown to well over 30,000. While it is not possible to precisely divide this growth into CRM and non-CRM sources, almost all of the work producing this information was generated directly or indirectly for CRM purposes. This growth in the number of known sites is hardly surprising, given that one of the major charges for federal agencies is to inventory their lands to determine what cultural resources are present. Over the past three decades, baseline inventories of federal lands have become common, in addition to the work done to comply with Section 106 of the NHPA. Sometimes these inventories are large, multiyear projects such as the work done in the National Petroleum Reserve in the late 1970s (Davis et al. 1981), the numerous surveys completed for different units of the national park system (Crowell and Mann 1998; Kunz 1991; Schaaf 1988), or the recent inventories of army lands (Hedman et al. 2003; Raymond-Yakoubian 2006; Raymond-Yakoubian and Robertson 2005; Robertson et al. 2004). More modest efforts have also contributed (Smith 1983; Smith and Vreman 1995; Will 1986), and there is also a constant trickle of new sites being added to the database from unpublished inventory efforts done to comply with Section 106 of the NHPA.

While additions to the AHRS database represent a significant contribution to Alaskan archaeology, there are two characteristics of the data that seriously detract from its utility for research purposes. The first of these seems to be prevalent in CRM work in general and results from the frequently poor level of publication. Many CRM reports are published in very limited numbers or not at all. Work done for compliance with Section 106 of the NHPA in particular may be documented only by memoranda in agency files or as part of annual reports submitted to the SHPO. Identifying and accessing such material can be difficult or impossible for a researcher trying to obtain more information than is available in the basic AHRS records. The last comprehensive attempt to organize Alaska’s CRM gray literature was the West and Stern bibliography (1987), now twenty years out of date. Current plans for upgrading the AHRS include development of a citations database that should help with this problem (David McMahan 2007, written communication).

A second limiting characteristic of site data from CRM work in Alaska is the lack of a consistent and comprehensive method for capturing negative information. The AHRS contains information on site locations, but without reliable data on areas where inventory has been completed but no sites have been located, the utility of the AHRS for statistical analyses of site distribution is severely diminished. Historically Alaska has presented problems in gathering accurate locations, including a near total lack of survey monuments and other cultural features, holes in the coverage of large-scale maps, and terrain that is nearly featureless or covered with dense forest. The availability of inexpensive hand-held global positioning system receivers shows considerable promise for collecting accurate site locations in Alaska. This technology has also been used to gather data describing survey areas or transects, but we currently lack any statewide repository for such information. Other states have incorporated negative information into their statewide databases, and perhaps what has been done elsewhere can serve as a model for long-term expansion of the AHRS.

A second major contribution of CRM relates to the increase in work in historical archaeology in the past two decades. Despite the commendable efforts of the National Park Service in southeast Alaska, one of the problems of CRM archaeology identified by Workman (1985:85) was that “deficiencies are noted in the amount of effort expended on historical archaeology in Alaska.” This situation has improved since then, often because federal agencies in several parts of the state have had to deal with a resource base that includes a high proportion of historic materials and because circumstances since the mid-1980s have forced agencies to deal more thoroughly with the impacts of placer mining, which often has potential to impact historic resources (Bowers 1998; Saleeby 2000; Smith 1996).

Finally, there is the question of the extent to which CRM archaeology has produced significant new research that adds to an understanding of regional history and
prehistory. A frequent charge made about CRM work is that it fails to achieve its full research potential. This is true more often than might be desirable. Intensive research *per se* is not one of the primary tasks with which federal land-managing agencies are charged, and in the constant press of compliance work and baseline inventory it can often be difficult to sustain the kind of long-term support necessary to complete significant research. Nevertheless, agencies have managed to complete projects that have made significant contributions. Sometimes this occurred when an individual had a vested interest in completing a major report and the opportunity to do so in an extra-agency context, such as when agency-sponsored work has been used as the basis for a doctoral dissertation (Schoenberg 1985; Wilson 1991). In other cases significant research has simply been completed in a CRM context (Davis 1989; Kunz 2003; Kunz and Reanier 1994).

**CONCLUSIONS**

In the 40 years since the passage of the National Historic Preservation Act, the growth of cultural resource management has had a profound impact on the field of archaeology in Alaska. Archaeology has grown from a few academic researchers at a handful of universities to a discipline overwhelmingly represented by individuals working for various state and federal agencies and as private consultants. As a result of this transformation, the nature of archaeological projects has changed from almost exclusively research-oriented to address a range of management concerns. State and federal agencies now routinely include prehistoric and historic resources as part of their mandates, often funding archaeological research and publication. Our knowledge of the resource base has grown accordingly, both in terms of the sheer numbers of known sites and in the nature of sites being investigated. Without the development of CRM, much of the archaeological work completed in Alaska in the last 40 years would not have occurred.

**ACKNOWLEDGEMENTS**

As trite as it may be to say, it is nevertheless quite true that this article would not have been possible without the assistance of many individuals. William Hanable and Ty Dilliplane provided useful information about the history of Alaska’s state historic preservation officers. Becky Saleeby contributed information on the Susitna Hydroelectric Project and on activities of the National Park Service. Debbie Corbett supplied information on projects in the southern part of the state and also many useful review comments. To these individuals and the numerous other friends and colleagues who were willing to discuss our recent past: Thank you.

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MANAGING ALASKA’S NATIONAL HISTORIC LANDMARKS

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ABSTRACT

The National Park Service, Alaska Regional Office, provides historic preservation technical assistance to National Historic Landmark (NHL) stewards. Preserving Alaska’s 49 landmarks offers many challenges as well as opportunities for success through effective working relationships. A closer look at these management challenges and successes are detailed in the NHL case studies of Ladd Field and the Sitka Naval Operating Base and U.S. Army Coastal Defenses.

KEYWORDS: cultural resources management, historic preservation assistance, federal partnerships

INTRODUCTION

Alaska’s national historic landmarks (NHLs) represent some of America’s most significant places. The stories associated with these NHLs include information about ancient hunting camps and villages, Russian exploration and settlements, Alaska Native education and civil rights organizations, fur seal harvesting, mining and fish canning industries, and the World War II Aleutian battlegrounds. The 2005 designation of Amalik Bay Archeological District NHL (Fig. 1) within Katmai National Park and Preserve brings the total number of NHLs in Alaska to 49 (a list of Alaska NHLs is at http://www.nps.gov/akso/CR/AKRCultural/NHL.htm).

However, the landmark designation does not ensure preservation of these cultural treasures. Preserving Alaska’s NHLs is often a challenging process, and success is largely dependent on responsible stewards and good working relationships.

Figure 1. View of Amalik Bay Archeological District, Alaska’s most recently designated NHL. Photo courtesy of Jeanne Schaaf, Katmai National Park and Preserve.
ABOUT OUR LANDMARKS

A national historic landmark is a place considered to have exceptional value in commemorating or illustrating our nation’s heritage. The secretary of the interior designates NHLs, which currently number about 2,500 across the United States. NHLs comprise only 3 percent of the properties listed in the National Register of Historic Places (NHL program at http://www.cr.nps.gov/nhl/).

Alaska’s 15 prehistoric sites and 34 historic landmarks tell the story of roughly 11,000 years of Alaska history. These landmarks span the state from the Kake salmon cannery in southeast Alaska to the prehistoric village of Barrow on the North Slope, and from Fort Egbert in Eagle on the Canadian border to the World War II battleground of Attu at the end of the Aleutian Chain (Fig. 2).

Alaska’s NHLs are owned by private individuals, organizations, and Native groups as well as local, state, and federal entities. Five NHLs are managed within the National Park Service (NPS) system: Kennecott Mines in Wrangell-St. Elias National Park and Preserve (Fig. 3), Cape Krusenstern Archeological District within the Western Arctic National Parklands, Brooks River Archeological District within Katmai National Park and Preserve, Kijik Archeological District within Lake Clark National Park and Preserve, and the Russian Bishop’s House in Sitka National Historical Park. The Klondike Gold Rush National Historical Park provides management oversight for two Skagway-based NHLs: the Chilkoot Trail and Dyea and portions of the Skagway Historic District and White Pass.

NATIONAL PARK SERVICE PARTNERSHIP ROLE

The National Park Service administers the National Historic Landmarks Program on behalf of the U.S. secretary of the interior. This authority is found in the Historic Sites Act of 1935 (45 Stat. 666; 16 U.S.C. 461–467), in which Congress determined that “it is a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States.”

At the National Park Service Alaska Regional Office, the NHL/National Register of Historic Places team, which consists of a small group of archaeologists, a historical architect, and historians (the two authors of this

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Figure 2. Map showing the geographic dispersal of Alaska’s National Historic Landmarks.

Figure 3. Kennecott Mines NHL within Wrangell-St. Elias National Park. Management of this NHL is based on the NPS Cultural Resource Management Guidelines (NPS-28), with activities including the preparation of HABS/HAER drawings and preservation planning documents. Photo courtesy of Karen Battle.
article), manages the NHL Program and provides historic preservation technical assistance. The team provides technical guidance, including preservation education, to NHL owners to encourage them to serve as good stewards of the nationally significant properties under their care and ownership. The most effective NHL preservation, however, is achieved when there is a strong interest and dedication by local community members and organizations. As NHL preservation partners, our team assistance includes compliance review and consultations, preservation planning, grant application reviews, architectural design review and condition assessments, and educational projects.

The National Park Service Alaska team also collects NHL condition information to try to keep up with the changes and needs of NHLs. This information from all regions of the U.S. is then compiled and a biannual report is produced as authorized in Section 8 of the amended National Park System General Authorities Act of 1970 (90 Stat. 1940, 16 U.S.C. 1–5), to provide Congress with information that identifies all endangered national historic landmarks.

Developing working relationships with owners and interested parties is often the key to the preservation of a landmark. Working with private owners of the Portland House, built in 1897 and located within the Skagway Historic District and White Pass NHL, NPS has provided a condition assessment and grant documentation with ongoing guidance as the owners rehabilitate their building. Another successful relationship came with the congressionally created Aleutian World War II National Historic Area that brought the Ounalashka Corporation, the landowner, into a partnership with the NPS. The NPS Affiliated Areas Program superintendent provides ongoing technical assistance to this private owner, which helps to preserve part of the Dutch Harbor Naval Operating Base and Fort Mears NHL.

OTHER ASSISTANCE AVAILABLE TO NHL OWNERS

Preservation assistance is available to local communities and private owners of NHLs through a variety of grant programs. For instance, the Save America’s Treasures program has awarded funds that benefited the Eagle Historic District (Fort Egbert) NHL and more recently provided funds to the Sitka Maritime Heritage Society for the boat repair facility within the Sitka Naval Operating Base and Coastal Defenses NHL. The Getty Foundation Campus Heritage Grant provided the Sheldon Jackson School NHL in Sitka with a preservation planning grant. Other grant programs that have benefited Alaska NHLs, as well as other historic properties, include the Historic Preservation Fund, administered through the Alaska Office of History and Archaeology (which houses the Alaska State Office of History and Archaeology) and the NPS Historic Preservation Fund grants to Indian tribes, Alaska Natives, and Native Hawaiian organizations. The Organized Village of Kake, for example, was awarded an NPS Historic Preservation Fund grant for emergency repairs to stabilize the pilings and boardwalk at the Kake Cannery NHL. More recently, the team has participated in the cannery reuse planning process to help ensure integrity of the historic district. Some NHL owners have successfully worked with their congressional delegation for line item appropriations or add-ons, as in the cases of the rehabilitation of Holy Assumption Orthodox Church in Kenai and of the Allen Auditorium, part of the Sheldon Jackson School NHL.

Another tool for assisting NHL owners is the Historic American Buildings Survey and Historic American Engineering Record programs (http://www.cr.nps.gov/habshaer/). The preparation of detailed drawings provides the basis from which architects and engineers can rehabilitate buildings and structures. During summer 2004, the team’s historical architect oversaw a documentation project as several students from the University of Oregon’s School of Architecture recorded six of the Sheldon Jackson School NHL buildings. These drawings will be instrumental in restoring the core 1910 campus buildings.

LANDMARKS UNDER THREAT

NHLs are under threat from a variety of factors, including natural processes such as erosion or human actions and inactions such as neglect, ignorance, lack of funds, and vandalism. In some cases, the secretary of the interior has removed the NHL designation when integrity has been lost. Two examples of this are the Sourdough Lodge NHL near Gakona, which burned down in 1994, and the archaeological Gambell Sites NHL on St. Lawrence Island, which lost its landmark status because of site vandalism.
PROTECTION OF LANDMARKS
BY FEDERAL LAWS

Federal laws provide a degree of protection for our landmarks. Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, provides a review process for federally funded or licensed projects that requires consideration of the effect of the undertaking on historic properties. This process includes seeking comment from the Advisory Council on Historic Preservation under Section 110(f) of the NHPA (http://www.achp.gov/nhpa.html).

Federal agencies that own NHLs are mandated under Section 110 of the NHPA to provide responsible stewardship. This responsibility was reiterated with the 2003 Presidential Executive Order 13287, titled the Preserve America policy statement, which says:

It is the policy of the Federal Government to provide leadership in preserving America’s heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the Federal Government, and by promoting intergovernmental cooperation and partnerships for the preservation and use of historic properties. (http://www.whitehouse.gov/news/releases/2003/03/20030304-9.html)

In the case of NPS-owned historic properties, park superintendents are guided by Director’s Order #28, “Cultural Resources Management,” which sets forth the procedures for carrying out NPS’ responsibilities with regards to NHLs under the NHPA and its implementing regulations (36 Code of Federal Regulations 800.10).

Some federal agencies have done well in their NHL stewardship efforts. Stewardship efforts are most effective when the agency hires professional cultural resource specialists or historic preservation professionals who understand and know how to implement the federal agency’s Section 106 and 110 responsibilities. In several cases, having professionals in key positions has created positive working relationships between the agency and the Alaska state historic preservation officer as well as the NHL. Examples of these agencies include the U.S. Army Corps of Engineers, the Alaska Native Tribal Health Consortium (for the Indian Health Service), U.S. Coast Guard, U.S. Fish and Wildlife Service, and the U.S. Army Garrison Alaska.

Another federal law that can offer a measure of NHL protection is the Federal Highway Administration Act. When the Alaska Department of Transportation and Public Facilities (AKDOT) undertook its environmental assessment/environmental impact statement process for the proposed Juneau-to-Skagway road, the team provided information about the Skagway Historic District and White Pass NHL. Our role was to confirm for AKDOT that a highway crossing the NHL would adversely impact significant features of the NHL. AKDOT was responsible for implementing the Federal Highway Administration regulations, the 4(f) provision, allowing road construction within NHLs, parks, and other significant conservation areas only if there are no prudent and feasible alternatives to using that land. Since AKDOT had alternatives that avoided the NHL, it chose one of them as its preferred alternative.

NHL PRESERVATION CHALLENGES

While certain federal laws are in place that encourage preservation of NHLs, the reality of managing some NHLs can be difficult. This is especially true for several of the World War II NHLs in the Aleutian Islands. These NHLs are large landscape districts located on mostly remote and isolated islands, including the Attu Battlefield and Bases NHL on Attu Island and the Japanese Occupation Site NHL on Kiska Island. Management of these sites is hampered by lack of staff and by site vandalism.

U.S. military ownership offers inconsistent NHL management. In the case of the Adak Army and Naval Operating Base NHL, the U.S. Navy gave little consideration for trying to avoid potential adverse impacts to historic properties when it undertook environmental restoration activities as it transferred the former “Navy town” to private ownership.

Ladd Field NHL, another military-managed property, is part of Fort Wainwright in Fairbanks. While the U.S. Army has made great strides in establishing and implementing a cultural resources management program for the base, it also has shown an inconsistent understanding and implementation of the Section 106 consultation process for some undertakings within the landmark. This has placed the NPS in a vigilant role, in concert with the state historic preservation officer, to provide close oversight of the Section 106 process for this NHL, in concert with the state historic preservation officer.

Other preservation challenges include the accumulation of changes to NHLs over time that cause landmarks to lose their integrity. This takes place when historic fabric
is replaced with unsympathetic modern materials. While these materials can be less expensive and easier to maintain, there are often better alternatives that are in keeping with historic appearance. Other factors that contribute to loss of integrity for NHLs include construction of modern buildings that are not compatible with surrounding NHL properties and additions to NHL properties that are unsympathetic with the building’s historic design. The latter is a growing issue at the Seal Islands Historic District in the Pribilof Islands, the Fort William H. Seward NHL in Haines, and Ladd Field NHL in Fairbanks.

Since the National Historic Preservation Act Section 106 process only provides for a review and consideration of potential impacts to historic properties, NHLs are sometimes adversely altered or demolished despite efforts to prevent such actions. Sometimes a private property owner decides to make changes to an NHL property. If federal funds are not being used, the Section 106 review process does not apply and the NPS may not even know about the action until after the fact. One of the best ways to avoid this and encourage positive outcomes for Section 106 consultation is to actively maintain good working relationships with NHL property owners, based on mutual and regular communication.

To better illustrate some of these NHL preservation challenges and successes, what follows is a closer look at two landmarks: Ladd Field NHL and Sitka Naval Operating Base and U.S. Army Coastal Defenses NHL.

A PRESERVATION CHALLENGE:
LADD FIELD NHL

The Ladd Field NHL is an integral part of Fort Wainwright, an active army post in Fairbanks. The secretary of the interior designated Ladd Field as a landmark in 1984 for its role in the World War II Lend-Lease program. From 1942 to 1945, Ladd Field was the site where the U.S. transferred 9,000 aircraft to Russian pilots to assist in fighting Germany on the eastern battle front. Today, management of the NHL frequently comes under pressure from the demands of various missions of the U.S. Army. These pressures come from many directions. Some are the result of army-wide realignments and changing views of the Army’s overall mission in Alaska. Other pressures are more local. Generally, actions coming from outside Alaska are more likely to have a greater impact on the NHL than those initiated by the U.S. Army Garrison Alaska.

Frequent changes in command and differing views of historic preservation at various levels of the command cause an uncertain management environment for cultural resources. On average the command changes every 18 to 24 months. The disposition of commanders towards historic properties and historic preservation ranges from hostile to indifferent to favorable. Each of these elements is present at various levels of the command structure. Views of the commander can determine who gets heard and what kind of working relationship there will be between the Army and the NPS regarding the landmark.

Since 2000, U.S. Army Garrison Alaska has been working hard to develop a cultural resources management program by hiring qualified personnel, implementing an Integrated Cultural Resources Management Plan, and developing alternate procedures for the National Historic Preservation Act Section 106 compliance. Since that time U.S. Army Garrison Alaska has also developed an interpretive program for the NHL that includes interpretive signs and pamphlets and has published several histories of the post, ranging from early homesteads to the early Cold War period.

In a 2005 meeting, U.S. Army environmental personnel observed that being stationed in Alaska was once viewed by many in the Army as a recreational assignment. Alaska meant hunting, fishing, skiing, and other outdoor activities. Today this is not the case. As during the Cold War, Alaska is once again considered a front-line assignment. Troops train for deployment anywhere in the world on a moment’s notice.

Construction associated with this new army mission in Alaska has the potential to severely impact the Ladd Field NHL. The transformation of the 172nd Infantry Brigade at Fort Wainwright into a Stryker Brigade has resulted in the construction of a number of new buildings inside and adjacent to the landmark boundaries. During the planning of these new buildings, U.S. Army cultural resources staff worked with planners to ensure that the buildings were placed away from major landmark properties, such as the Birchwood Hangars, and this reduced the impact to the landmark.

The Army’s newest plans for Fort Wainwright call for stationing an Aviation Combat Brigade there. The massive scale and location of the major construction inside the southwest corner of the landmark boundary and adjacent to two World War II Birchwood hangars will severely impact the landmark (Fig. 4). Whether the
Army will accept recommendations to rehabilitate the Birchwood Hangars and integrate them into their plans for the Aviation Combat Brigade remains an unanswered question. Demolition is a possibility, and the viability of Ladd Field as a landmark will be questioned. The loss of its NHL status is a possibility. Prescoping meetings with U.S. Army environmental and cultural resources staff have ruled out relocation of the construction. It is hoped that CRM staff at the U.S. Army Environmental Center in Maryland, acting on the recommendations and concerns from CRM staff at U.S. Army Garrison Alaska commissioned a condition assessment and rehabilitation plan for the hangars. The Army will adopt the plan for the hangars, which could be completed at considerable savings.

Consultation, which was once inconsistent and contentious, is now ongoing and friendly. Regular, informal consultation has been a part of the working relationship between U.S. Army Garrison Alaska and NPS since 2003. Disagreement about where the NEPA process ends and Section 106 consultation begins has been resolved. Timing was the primary issue: under Section 106 an undertaking begins with the expenditure of federal funds, which includes planning. Under the National Environmental Policy Act, however, the undertaking did not begin until after the Army had gone through the process of defining alternatives and selected a preferred alternative. As a result, the alternatives did not always consider historic properties. Thus, the preferred alternative was not necessarily the best alternative for the NHL, which required additional work to mitigate the effects of the undertaking.

The solution to these problems was to initiate Section 106 consultation earlier, involving the NPS and other interested parties in defining alternatives. The Army’s response has been to develop alternative procedures that essentially integrate the Section 106 process into the National Environmental Policy Act process. The process of developing the alternative procedures began in 2003 and involved the NPS, the SHPO, Bureau of Land Management and various Alaska Native groups and interested parties. While the Army Alternate Procedures have yet to be finalized, U.S. Army Garrison Alaska has begun using them as guidance for consultation until they are instituted. For NPS and others, the benefit is involvement in an undertaking from its earliest stages. For USAGAK it is ensuring that the landmark is taken into consideration throughout the planning process instead of near the end.

Today USAGAK has one of the best CRM programs in Alaska. CRM staff respond quickly and openly to NPS inquiries and requests. Inviting NPS to participate in prescoping development of environmental assessments when the project or action has potential to impact the landmark has removed many potential conflicts between NHPA and NEPA and made the review process more efficient. Since USAGAK implemented a professional CRM program, almost all undertakings resulting in an adverse effect to the landmark have occurred as a result of decisions made outside Alaska, beyond the control of the USAGAK commander and CRM staff.
A real preservation success story is happening at the Sitka Naval Operating Base and U.S. Army Coastal Defenses NHL. During the first months of World War II, this base was one of the few installations prepared to protect the North Pacific against enemy incursion. Today this NHL on Japonski Island in Sitka includes a multitude of owners and interested parties, making it one of our more complex landmarks. The NHL consists of over 60 contributing buildings and structures with multiple owners and local interest groups. These stakeholders include the Alaska Department of Education, the Alaska Department of Transportation, the Alaska Department of Natural Resources, the University of Alaska, the Public Health Service, the U.S. Coast Guard, the City of Sitka, the Alaska Native Tribal Health Consortium, Sitka Trail Works, and the Sitka Maritime Heritage Society. Cooperation and partnership among these entities and the NPS has resulted in a phenomenal turnaround for a landmark that some in Alaska’s preservation community once viewed as ripe for losing its NHL status.

In early 2001, the Sitka Maritime Heritage Society contacted the NPS to request assistance in rehabilitating the boathouse for use as an interpretive center and working boathouse. The boathouse was constructed as part of Sitka Naval Operating Base in 1941. The structure was used to maintain and repair various wooden naval vessels, including those used to transport people between Japonski Island and Sitka before construction of the O’Connell Bridge connecting the two in 1972. The boathouse is a contributing property of the Sitka Naval Operating Base and U.S. Army Coastal Defenses NHL. Since 2001, the society has applied for and received several grants, including

Figure 5. The Sitka Naval Operating Base boathouse gets a new coat of paint, summer 2005. Photo courtesy of Rebecca Poulson, Sitka Maritime Heritage Society.
a 2005 Save America’s Treasures grant in the amount of $325,000. The grants have been used for site planning, condition assessments, cleanup, and stabilization (Fig. 5). The Save America’s Treasures grant will be used to address structural problems in the boathouse.

In fall 2001, NPS and the Alaska Native Tribal Health Consortium joined forces to conduct a survey of buildings and structures associated with the Sitka Naval Operating Base portion of the NHL. Because the 1984 NHL nomination was completed without building descriptions, this survey added much to our knowledge of the NHL. During the course of this survey, the Alaska Department of Education (ADOE) contacted the NPS about a large collection of blueprints of buildings in the World War II landmark that it had in storage. The blueprints, numbering over 500 and dating from the 1910s through the 1950s, were in a deteriorated state caused by water and high humidity and were in danger of being discarded. With assistance from the NPS, the ADOE donated the blueprints to the National Archives Pacific Alaska Region in Anchorage.

In January 2004, the ADOE again contacted NPS, this time regarding the rehabilitation of two barracks, the mess hall, and a warehouse in the landmark. Since the ADOE was using state funds for this project, the consultation and its outcome were not the result of a Section 106 undertaking but rather a voluntary initiative. The buildings, as part of the Mount Edgecumbe campus, are used for dorms, a cafeteria, and for storage.

The ADOE needed to upgrade the energy efficiency of the buildings by adding more insulation and by replacing doors, windows, and siding. The ADOE also planned to remodel the interior of one of the buildings to make more space for dorm rooms. As a result of ADOE and NPS consultation, rehabilitation was accomplished without adversely impacting the NHL and significantly increased the useful life of the buildings. The ADOE’s desire to minimize impact to the NHL and the positive working relationship that developed with NPS during the 2001 survey have gone far in helping to maintain the historic appearance of this WWII landmark.

Construction within a landmark’s boundaries has the potential to be very harmful if done without concern for the historic integrity of the landmark. The NPS was initially apprehensive following contact by the U.S. Coast Guard in January 2004 about the planned construction of a cutter support team building adjacent to the boathouse. The Sitka Maritime Heritage Society had worked hard since 2001 to secure funding, devise plans, clean up, and stabilize the boathouse. Introduction of a modern building with an unsympathetic design in the area would have adversely affected the boathouse and the landmark.

To the relief of the NPS and the Sitka Maritime Heritage Society, the U.S. Coast Guard was quite open to recommended design changes to make the support team building compatible with adjacent buildings and the landmark. The NPS recommended that the building mimic the World War II building (i.e., to be similar in design and setting, but not replicate the historic building) that once stood on the planned construction site, in keeping with the secretary of the interior’s Standards for the Treatment of Historic Properties (http://www.cr.nps.

Figure 6. Artist’s rendering of the new U.S. Coast Guard building design that is sympathetic to the Sitka Naval Operating Base and U.S. Army Coastal Defenses NHL on Japonski Island, Sitka.
After discussions with U.S. Coast Guard personnel in Juneau and Alameda, California, throughout the spring of 2004, the parties agreed upon a design. Design changes included a gable roof instead of a shed roof, the addition of horizontal siding that resembles the wood siding on the boathouse and the building that once stood on the site, an estate-type fence instead of a chain-link fence, and muntin windows. The completed building will look remarkably like the World War II building that once stood on the site (Fig. 6).

Until 2004, the U.S. Army Coastal Defenses portion of the landmark had been neglected for years. This area of the NHL consists of a series of small islands connected by a causeway and a series of bunkers and gun emplacements separated from the rest of the landmark by the airport, which made it inaccessible to the public from land. In fall 2004, Sitka Trail Works received a federal grant to develop a hiking trail along the causeway and thereby made the area accessible by boat from Sitka Harbor. The project is in its infancy, but Sitka Trail Works continues to work toward this goal. The group recently requested that the state designate the area as a state park, which would improve the management status of this area.

In four short years the Sitka Naval Operating Base and U.S. Army Coastal Defenses NHL has undergone a remarkable turnaround—one achieved despite the diverse views of a variety of owners and interest groups. For this and other preservation activities the City of Sitka, with eight NHLs, was named a Preserve America Community in 2005.

**CONCLUSION**

Good stewardship is critical to the preservation of Alaska’s NHLs. While threats to NHLs remain constant, preservation successes can be built on the momentum of a concerned community or organizational member and helped along with technical support and other assistance from the NPS. These successes serve as encouragement for all of us involved in this challenging profession.

**REFERENCES**


National Park Service Organic Act, Section 8 (Public Law 91-458, 16 U.S.C. 1a–5).

MANAGING HISTORIC MILITARY BUILDINGS

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ABSTRACT

Military installations established to secure the nation’s interior were temporary in nature, constantly changing with the changing frontier. The development of a national rail system brought about the consolidation of installations and use of generic building stock designed by the Quartermaster Corps. During periods of conflict, installations relied on temporary facilities to meet their immediate needs. The temporary nature of installations reached its peak during World War II. The military recognized the long-term nature of the Cold War and the need to change installation designs, so it turned to generic architectural designs for buildings constructed of more permanent materials, dominated by concrete. Changes made to installations in Alaska during the Cold War virtually erased the World War II landscapes on active bases and posts. Now that the Cold War is over and the military is transforming to meet new global politics, it is once again transforming its landscape. To streamline the Section 106 process, the U.S. Army is developing aggressive policies to evaluate Cold-War era properties and remove them from further actions under the National Historic Preservation Act. This paper looks at these policies in light of the built environment.

KEYWORDS: cold war architecture, historic resource evaluations

MILITARY FACILITIES DEVELOPMENT

Initially there were two types of facilities that formed military installations: coastal fortifications and early frontier posts. The purpose of the coastal fortifications was to secure the nation’s coastal borders. The frontier post’s mission was to secure the nation’s interior and land borders. Throughout the history of the U.S. Army, noncoastal facilities have tended to be temporary in nature. Coastal fortifications were permanent, although ever-changing to reflect technological changes in weaponry. As our nation expanded west, forts sprang up along the frontier. As the frontier was pushed further west, forts were abandoned and new ones established on the new frontier, to thrive until it was time to move on to the next frontier (Cannan et al. 1995; White 1994). There were exceptions to the temporariness when there was a need for the army to have a permanent garrison stationed or a manufacturing need. Facilities of this type tended to be associated with arms and munitions manufacturing, educational facilities, and forts that served as command and supply points for outlying forts. As the frontier moved west and forts were abandoned, buildings either saw adaptive reuse in the local community or became a source of building materials (Hoagland 1994). The fort often remained only in the name of the community, if the community survived the loss of the fort. As the fron-
tier was settled, the Indian wars ended, and technology changed (beginning with the development of the railroad system), the army began to consolidate facilities. The original frontier forts were designed to house small units in areas where needed to secure the interior. With the end of the Indian wars and the establishment of railroads linking all parts of the nation, the army began to consolidate into larger regional installations near the railroads. The recent and ongoing Base Realignment and Closure (BRAC) actions are a continuation of this consolidation movement, reflecting ever-changing technologies that no longer require dispersal of installations (Cannan et al. 1995).

Construction of the installations drew from standardized building designs developed by the Quartermaster Corps (Grashof 1986). Some modifications were made to match construction materials readily available, the skills of available workers, and the site’s natural features. These standardized designs reflected the period’s architectural styles. Often the military introduced the styles to the frontier communities. Local vernacular treatments also influenced the final interpretation of these designs (Hoagland 1994). Standardization of installation construction has been a recurring theme throughout the military’s history.

In times of conflict and the need for rapid build-up, temporary facilities satisfied the installation’s needs. World War II is a prime example. During this period, a great build-up of personnel and material took place over a short period. New installations sprang up overnight. Existing installations grew in size by using temporary facilities. As soon as the conflict ended, military budgets plummeted and the standing army returned to preconflict levels. Forts no longer needed were closed and temporary facilities on retained installations were removed.

Alaska’s military history is no exception to this ever-changing military landscape. At the height of the Gold Rush, a string of army forts followed the transportation routes. After World War I, the need for an army presence decreased. Alaska forts were abandoned as the military presence declined until only Fort Seward in Haines remained at the outbreak of World War II. Although Alaska communities did not assume the names of the abandoned forts, they did benefit by adaptively reusing buildings and by deconstructing them for a source of building materials.

The military began returning to Alaska towards the end of the 1930s with our nation’s looming involvement in World War II. The United States had seen the potential for conflict with Japan since the end of World War I. In the 1930s, considering the possibility of war even stronger, the War Department developed Plan Orange. This plan recognized Alaska, Hawaii, and Panama as a strategic triangle in defense of the United States. In 1937, the navy established a facility in Sitka and in 1939, Congress appropriated funds to construct naval air stations at Sitka, Kodiak, and Dutch Harbor (Johnson and Cook 1992; Sackett and Clemens 1999; Thompson 1984). The army began developing Ladd Field in Fairbanks as a cold-weather test facility in 1939 (Buzzell 1991). Construction of Fort Richardson near Anchorage also began in that same year (Cook and Bretz 1999). Since these were viewed as permanent facilities, the military approached designs slowly and cautiously.

For both Fort Richardson and Ladd Field, the army selected standardized quartermaster designs for both buildings and fort layouts. The installations achieved a very strong, cohesive site layout and building design, providing a strong sense of place and time. Of interest is the application of a Beaux Arts site plan for Ladd Field. Beaux Arts was one of the most important planning philosophies to emerge in the 1890s. This design included symmetry of plan, strong visual axes, and classically inspired monumental architecture. It made its way into the design of military installations shortly after its introduction in the United States in 1893 but had waned by the 1920s. Ladd Field’s site layout is focused on the parade ground, which was a traditional practice until the 1920s. In the 1920s the army began to replace World War I temporary buildings and instituted the City Beautiful and Garden City movements in installation designs. These movements, as applied on military installations, focused on creating healthful conditions to promote the scientific training of troops and to promote social interaction. Parade grounds were no longer used as focal points. Georgian Colonial Revival, Spanish Colonial Revival, French Provincial, and English Tudor Revival were the prominent architectural styles (Cannan et al. 1995). The parade ground was broken into small open areas throughout the installation’s core to create open green spaces and outdoor activity areas.

Although Ladd Field’s site plan reflects a design philosophy more reflective of military installations at the turn of the 20th century, its architecture (Colonial Revival) reflects the City Beautiful and Garden City movements that were popular at the time of the installation’s construction. Fort Richardson’s site plan and architecture (French Provincial) reflects the City Beautiful and Garden City movements as applied by the military in the 1930s.

With Japan’s attack on Pearl Harbor and the subsequent taking of the Aleutian Islands of Attu and Kiska,
the characteristics of these military posts changed rapidly. Other military posts sprang up virtually overnight throughout Alaska as the nation’s attention turned to winning the war. The armed forces outgrew facilities to house, train, and supply the rapidly increasing number of personnel brought into service. The military turned to temporary buildings to meet its needs.

Temporary facilities have always played a role in meeting military crises. Through the Spanish American War in 1898, tents were the primary means of temporary housing, with simple frame buildings constructed for warehouse, mess hall, and other administrative functions. Because these camps were not meant to last beyond the immediate need, the building stock was quickly erected and substandard. Typhoid fever broke out in all the camps. Once the Spanish-American War ended, these camps were removed.

The army learned from its experience in providing temporary facilities during the Spanish-American War, and the Quartermaster Corps turned to temporary wood designs with the U.S. entry into World War I. World War I was the largest military undertaking in the nation’s history, and temporary facilities sprang up across the country to meet the demand. These installations relied on the 600 Series temporary buildings. The 600 Series buildings were developed by the Quartermaster Corps in 1914. These were modular buildings of wooden-plank construction sheathed in board-and-batten siding. By 1917, these were revised to be stud construction sheathed in horizontal siding (Cannan et al. 1995). With the end of World War I, temporary installations were abandoned and temporary buildings on permanent installations were removed.

In the 1930s, the Civilian Conservation Corps (CCC) designed and used prefabricated buildings. The 600 Series buildings no longer met army needs, and the Quartermaster Corps considered adapting the CCC prefabricated designs. The ease of construction and the relatively cheap square footage cost per occupant was the main attraction of the CCC prefabs. However, the designs did not lend themselves to housing large numbers of men. The Quartermaster Corps discarded consideration of the CCC prefabs and focused on updating the World War I 600 Series buildings (Cannan et al. 1995; Wasch et al. n.d.).

The 700 Series and shortly later 800 Series buildings evolved out of the 600 Series buildings (Wasch et al. n.d.). Other temporary buildings and structures followed, such as Quonset huts, Stout huts, Jamesways, Pacific huts, etc. Although the 700 and 800 Series buildings were designed as temporary buildings, the manner of construction developed had a great impact on post-war home construction (Albrecht 1995).

The intent of these designs was to provide temporary facilities with no life expectancy once the war was over. The 700 and 800 Series buildings were based on standardized modular designs that could be added onto in increments for various functions, from personnel housing to warehousing to recreational facilities. These were designed as packages that required little skill or time to erect. As with the 1917 revised 600 Series buildings, the 700 and 800 Series were wood stud construction with horizontal siding and gable roofs. The primary differences between the 700 and 800 buildings are (1) 800 building ceiling heights are slightly higher than in the 700 series, (2) center of studs, joists, and rafters of the 800 buildings increased to 24 inches from the 16 inches found in the 700s, and (3) architectural detailing in the 800 Series was simplified. The revisions were aimed at conserving material and simplifying construction. The focus of the designs of temporary buildings was on winning the war and not on post-war needs (Wasch et al. n.d.).

The Alaska Territory’s military presence swelled rapidly, using these temporary structures to meet immediate World War II needs. Planned site designs that prevailed before the war were discarded and an organic approach was taken, often dictated by availability and suitability of landforms for development. Functional clusters scattered in organic layouts dominated temporary facilities. At first view of the site plans, it is often difficult to make out a pattern or logic to it. The resulting organic layout was in part for defensive reasons: It was believed that the organic design did not provide a logical map for aerial targeting purposes, unlike the standardized site plans before the war. Thousands of the temporary buildings and structures dotted the landscape. Ladd Field grew in a short three years from 50 buildings to more than 600 buildings of various temporary designs (Sackett 2002). Even greater growth took place at Fort Richardson and newly established bases in the Aleutian Chain.

As in past conflicts, the military experienced budget and personnel cuts following WWII. Personnel levels greatly decreased, along with need for the military installations that had been required to support the war effort. In Alaska, these cuts led to the abandonment of military facilities across the state with only Fort Richardson (Army Air Corps), Ladd Field (Army Air Corps) and Adak Naval Base (originally Adak Army and Naval Operating Base)
retained as major active military facilities. Many of the World War II bases would be designated National Historic Landmarks in the 1980s.\(^1\)

Although it had its roots in WWII, Winston Churchill’s Iron Curtain speech in 1946 marks the beginning of what was to become the Cold War era that continued to 1991 with the collapse of the Union of Soviet Socialist Republics. Unlike previous conflicts, the Cold War saw no direct warfare between the two opposing forces, although both sides’ military planners prepared for that contingency (Price 2001). Military planners also came to realize that this was not a short-term conflict and that a different, long-term approach to addressing military needs was required.

With the realization that winning the Cold War was a long-term effort and that technology and changing characteristics of military personnel were becoming dominant factors in the effort, the military realized that addressing building needs using the traditional temporary approach was no longer adequate. The increasing level of technology put into service required greater expenditures to train personnel. Once trained, it became harder to retain personnel who could take what they learned into the private sector and make a better living for their families. Existing military bases designed for men living in large open spaces were not conducive to attract or retain skilled personnel with families (Kuranda et al. 2003a).

Through legislation introduced first by Senator Kenneth Wherry of Nebraska in 1949 and later modified by Senator Homer Capehart of Indiana in 1955, the military embarked on developing suitable base family housing. The Wherry Act and later Capehart Act provided incentives for developers to plan and construct these housing units, and the period between 1949 and 1962 witnessed an explosion of housing projects. Named after the two senators, the Capehart Wherry housing did not represent any single architectural style (Kuranda et al. 2003a). The Corps of Engineers developed standards that the housing needed to meet and turned to private-sector architectural firms to develop the designs. For the first time, the military provided family housing for married nonofficers.

Besides residential building construction, the military turned to the use of concrete as its primary construction material for the utilitarian buildings. The choice of this material was, in part, because of its durability and commonality. It was also believed that the hardened qualities of concrete could withstand nuclear attacks. Unlike the Capehart Wherry housing, the military developed generic styles for barracks (unaccompanied personnel housing), administration buildings, hangars, ammo storage, warehouses, etc. (Kuranda et al. 2003b; Pedrotty et al. 1999). These generic styles are found nationally and do not reflect regional variations. The use of these generic designs is prevalent on Alaska military installations. Barracks used on Eielson Air Force Base (AFB) are identical to that used on Fort Wainwright, Fort Richardson, and Elmendorf AFB. Capehart Wherry housing on Fort Greely is identical to those found on Fort Richardson, Fort Wainwright, Elmendorf AFB, and what used to be on Eielson AFB. By the end of the Cold War, Alaska installations had been transformed to reflect Cold War architecture. By the early 1960s, over 90 percent of the WWII building stock on Ladd AFB, later to become Fort Wainwright, was replaced, leaving only the buildings relating to the pre-WWII cold-weather testing facility and the hangars and a few ancillary buildings along the runways (Sackett 2002) representing WWII construction. Even the organic nature of Ladd Field’s World War II-era had been erased. By the end of the Cold War era, Fort Greely had replaced the same amount of WWII-era buildings with Cold War buildings. Elmendorf AFB, of all the active military installations in Alaska, retains the largest number of WWII buildings.

With the end of the Cold War and changing global politics, military installations are once again redefining themselves architecturally and spatially. Just as changing military needs at the beginning of the Cold War required replacement of outdated WWII buildings, changing military needs today are requiring replacement of outdated Cold War-era buildings. The army in Alaska has transformed into a Stryker Brigade Combat Team, a first step towards a further transformation that is still being defined by the Department of the Army. This transformation requires an infrastructure to support the eight-wheeled Stryker vehicle and high-tech weaponry along with rapid deployment from the airfield or by rail. Training relies more on computer simulations, which places new requirements on buildings that house it. Live-fire exercises require

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\(^1\) Properties designated National Historic Landmarks under the theme of the war in the Pacific include Cape Field at Fort Glenn; Adak Army Base and Adak Naval Operating Base; Dutch Harbor Naval Operating Base and Fort Mears, U.S. Army; Sitka Naval Operating Base and U.S. Army Coastal Defenses; Attu Battlefield and U.S. Army and Navy Airfields on Attu; Japanese Occupation Site, Kiska Island; Kodiak Naval Operating Base and Forts Greely and Abercrombie; and Ladd Field. Only Ladd Field (Fort Wainwright) remains under military management.
more sophisticated ranges with larger designated danger zones to accommodate advances in weaponry. Installation design philosophies are following the now-popular New Urbanism movement. This constant change poses the greatest challenge to cultural resource managers.

EVALUATING SIGNIFICANCE

Only properties that are eligible for listing in or that are listed in the National Register of Historic Places, either individually or as part of a historic district, require management under the National Historic Preservation Act (NHPA) of 1966, as amended. To be eligible for listing a property must meet one or more of the following criteria:

A. Associated with events that have made a significant contribution to the broad patterns of our history;
B. Associated with the lives of persons significant in our past;
C. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
D. has yielded, or is likely to yield, information important in prehistory or history.

There are also criteria considerations that may apply. The one that is most common for military properties is criteria consideration G, for properties less than 50 years old that have achieved exceptional importance. Evaluation of Cold War-era properties often fall under criteria consideration G as well as one or more of criteria A–D. In addition to the criteria, a property must maintain historic integrity, which is made up of seven aspects: location, design, setting, materials, workmanship, feeling, and association (U.S. Department of the Interior n.d.).

Section 110 of the NHPA requires federal agencies to identify historic properties under its management and to manage them appropriately. Section 106 of the NHPA requires federal agencies to consider the effect their undertakings may have on historic properties, with 36 CFR Part 800 providing the process federal agencies should follow in meeting Section 106 obligations. The goal of the process is to lead the agency to select an action that would lead to the preservation of the historic property.

By its nature, Section 106 of the National Historic Preservation Act of 1966 (as amended) does not present adequate time to implement its procedures. Section 106 does not apply until an undertaking occurs. An installation such as Fort Wainwright may generate over 20,000 projects in a year. Cultural resource staff may see these early in the planning process and be able to make recommendations on how to avoid adversely affecting a historic property, but these do not become undertakings until the project is funded. Until that time, the project may disappear or change or no longer reflect what was initially proposed. Once funded, project scheduling does not always allow adequate time to evaluate properties appropriately. The result is that some properties that would be determined not eligible for listing in the National Register of Historic Places are determined eligible just to keep the process going and the proposed undertaking on track.

Section 110 of the act requires, among other things, federal agencies to identify and manage historic properties under their control. The NHPA does not provide a deadline for this identification of historic properties. This is understandable since history is not static; however, because there is no deadline set by the act, the Department of the Army does not see Section 110 activities as a must-fund mandate. This leaves identification and evaluation of historic properties to be addressed under specific undertakings through Section 106 on a case-by-case basis.

The Army Environmental Center is developing historic contexts for evaluating properties on army installations nationwide, in part to help in the evaluation of installations under Section 110 as well as to begin streamlining historic property management requirements. Historic contexts exist for WWII and some of the Cold War-era property types (Grandine et al. 2002; Kuranda et al. 2003a, 2003b; 2004).

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2 Although it is named the National Historic Preservation Act, this is a procedural act and not a preservation act.
3 Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval (36 CFR Part 800.16(y)).
4 The Department of the Army has a rating system based on categories of 0, 1, 2, and 3. Must-fund categories are based on legal requirements. These are categories 0 (primarily personnel salaries) and 1 (required by law). Categories 2 and 3 tend to be actions that need to be performed but there is no legal mandate and will be done as funding is available (after categories 0 and 1 are met). The majority of funding required for historic properties management is category 2 because there are no time limits required in meeting the laws and there are no penalties if not met.
Murphey et al. 2000; U.S. Army Environmental Center 1996, 1997). These studies base historic significance of military bases and buildings on the national level and not on the state or local level. To understand the base’s history and potential significance, its place in the national defense system must be understood. Military bases are neither independent properties that exist only for their own purpose, nor developed to benefit the communities, nor the state they are located in. Military bases reflect national defense strategies and planning. Any impact the military may have on local communities or on the state are ancillary byproducts of its mission and do not reflect the installation’s reasons for existing (Enscore et al. 2005). Proper evaluation of military properties is beyond the abilities of the installations until the appropriate historic and architectural contexts on the national level are in place. An exception may be the armories scattered throughout the state as part of the Army National Guard. Unlike the army and air force, the Army National Guard is a quasi-state/federal entity fulfilling interests of both.

There is no question that the military has had and continues to have a significant impact on Alaska. However, military installations are manifestations of the military’s mission and not its impacts on the communities or states. Properties that reflect the military’s influence on the community are found in the community.

There are two prevailing biases when it comes to looking at military properties in Alaska: (1) the general belief that properties that meet the 50-year criteria and that are associated with the military are eligible for inclusion in the National Register of Historic Places, and (2) it is the history and not the integrity that makes a property eligible. An example of the first is the World War II ammunition storage facilities (vaulted concrete bunkers commonly referred to as igloos) on Fort Richardson. The igloos were constructed during World War II as part of Fort Richardson in support of Elmendorf Field. When Elmendorf Field became Elmendorf AFB and the army moved to the present Fort Richardson in 1950, the igloo complex was split between the two installations. Under a contract with Elmendorf AFB, the National Park Service surveyed and evaluated World War II buildings and structures on the airbase (Cook et al. 1997). The project’s evaluation centers on a local history of the base and falls into the trap of determining some properties eligible for inclusion in the National Register of Historic Places under Criterion A solely because they date from World War II. The army did not concur with this finding for the igloos and submitted it to the keeper of the federal register for a formal determination of eligibility. The keeper concurred with the army’s finding that the World War II ammunition igloos were not eligible for inclusion in the National Register of Historic Places (Shull 2001). The keeper stated:

justification for National Register eligibility needs to document exactly how particular resource types can represent and convey significant aspects of the historic (military/military construction) themes identified. With regard to the ammo Bunker B Igloos, the fact that the resource has survived past the 50-year mark, served as infrastructure for an installation’s operations, and retains integrity is not sufficient to justify eligibility. The individual property or properties must convey the significance of the installation in an important way. (Shull 2001)

Ammo storage complexes may be contributing elements to a larger historic district when they are adjacent and visually linked to that district. With the exception of munitions manufacturing facilities, ammo storage facilities on installations are constructed away from cantonments and geographically isolated from mission-critical facilities. Not all military properties are significant. Many are ancillary to the military’s significant mission and do not convey that significance.

In addition to the assumption that the igloos are eligible because of their association with World War II, the study’s evaluation of Elmendorf AFB World War II properties ignores the national context of the base and focuses on the base in isolation. It provides an inventory of buildings and structures but fails to address the architectural styles or types and how it reflects military architectural movements or how the site plan reflects what the national trend was for military construction. How can a building inventory/survey be conducted and fail to address architecture? When evaluating buildings for eligibility to the National Register of Historic Places, how can Criteria C be ignored? Unfortunately, this approach of evaluating military properties without looking beyond Alaska is a common practice.

The second bias is in the belief that it is the history of the site that makes it eligible for listing in the National Register of Historic Places and that integrity is secondary. Having now had the opportunity to address eligibility of military properties in three different states, Alaska’s state historic preservation officer differs from New Mexico and Texas state historic preservation officers. The Alaska state historic preservation officer approaches the National
Register of Historic Places program in evaluating military properties more as a National Register of History, placing little importance on the level of integrity a property must have. An example of this approach is the evaluation of the Gerstle River Test Site.

Gerstle River Test Site was where the army conducted cold-weather testing of chemical and biological weapons in the late 1950s to early 1960s. During the period of significance, individual test sites were carved from or placed in the forest in distinct patterns to test effectiveness of the weapon in forested and open areas. After the facility ceased to be used, portions of the test areas were erased by a forest fire and other areas hydroaxed, erasing the individual test sites. The army found that the site met the “exceptional importance” criteria necessary for properties less then 50 years old, but that the later clearing activities destroyed the integrity of the site. The state historic preservation officer did not concur with the loss of integrity, and the army submitted its finding to the keeper for a formal determination. The keeper concurred with the army’s finding that the site had lost integrity, stating that the site “fails to retain sufficient integrity of the key physical resources associated with the operation of the facility as a Cold War-era weapons testing site” (Shull 2004). The Alaska state historic preservation officer’s emphasis on history with a casual consideration of integrity has been a consistent theme in the evaluation of army facilities.

The keeper’s concurrence with the army’s finding that the site had lost integrity was not a surprise. What was a surprise was that the keeper questioned whether the property even met the exceptional importance criteria (Criterion G) for eligibility. As a recent Cold War facility, much of what took place at Gerstle River Test Site is classified top secret. Meeting the exceptional importance criterion for the eligibility of the property was in part based on the role the facility played as the army’s only cold-weather test facility for its weapons development and testing program, and in part in assuming that because activities conducted on the site are still classified that this suggests significance.

The keeper stated “while the facility appears to be a fairly unique ‘cold weather’ facility, its rarity does not necessarily equate with an exceptional significance.” The keeper also asked “what were the specific important contributions made by the GRTS field-testing site relative to the broader accomplishments carried out at sites like the Dugway Proving Ground, or even the nearby Fort Greely installation?” The keeper ends by stating that the “documentation presented on the actual testing and the classified nature of the GRTS records results in fairly large gaps in information regarding the resource’s relative importance or contributions to the themes identified.” Classification of information concerning some Cold War properties is an issue when the property requires evaluation for eligibility to the National Register of Historic Places. How can one adequately evaluate a Cold War facility when information on its history and activities is not accessible because it is classified? The more technical the site, the less information will be available for evaluating its significance.

The keeper reinforced the concept that military Cold War-era properties’ significance rests on the national level. For a Cold War property to be eligible, it must have contributed something significant that helped shape the Cold War. The keeper’s finding on the Gerstle River Test Site begs the question of whether any army Cold War-era property in Alaska meets the “exceptionally important” criteria for eligibility for inclusion in the National Register of Historic Places. Testing of material and weapons was the most significant Alaska activity that the army was associated with during the Cold War.

The military in Alaska has completed evaluating their installations under the World War II context. Cold War evaluations are an ongoing process as facilities become 50 years old and do not require exceptional importance consideration. The military branches developed interim guidance to address properties associated with the Cold War in the mid-1990s. These were prepared in recognition that properties associated with the Cold War era may have exceptional importance and be eligible for inclusion in the National Register of Historic Places. The army’s guidance states that properties evaluated under the Cold War contexts are those that directly relate to the Cold War Military-Industrial context (U.S. Army Environmental Center 1997). Properties such as barracks, housing, administration buildings, and recreational facilities are not directly related to the context and therefore do not meet the exceptional importance necessary for eligibility for inclusion in the National Register of Historic Places. For the most part, the interim guidance should be used with caution. As an example, the U.S. Air Force’s interim guidance identifies Strategic Air Command bases as meeting the exceptional importance necessary for eligibility to the National Register of Historic Places. Enough time has now gone by to understand that not all Strategic Air Command bases are significant. The Strategic Air Command was formed at the end of World War II when the U.S. Army Air Corps was reorganized into three com-
mmands. When the air force became a separate branch of the Department of Defense, it retained the three commands and inherited the Army Air Corps’ assets. As long as the air force maintained a healthy budget, all bases were kept open. However, when the military budget was slashed under the Eisenhower administration, the Strategic Air Command quickly closed bases that were not necessary to meet its mission (Enscore et al. 2006; Sackett 2006). One of the bases that was closed is located on Fort Bliss, Texas (Biggs Air Force Base). Although it maintains integrity as a Strategic Air Command base, it does not meet any of the four criteria for eligibility. It did not have a significant role in the history of Strategic Air Command. The Texas state historic preservation officer concurred with finding the property not eligible.

The Army Environmental Center has begun to prepare historic contexts on the national level for specific building types that are associated with both World War II and the Cold War. Some of the contexts address building types that the army Cold War era interim guidance had identified as not directly tied to the Cold War, i.e., housing. Unlike evaluations done to date on military installations in Alaska, the Army Environmental Center’s contexts highlight the architecture of the era as well as the historic events the properties are associated with. Once these historic contexts are completed, the Army Environmental Center finds the building types eligible for inclusion in the National Register of Historic Places under Criterion A and Criterion C and defines the level of integrity that the building type needs for eligibility. In this respect, the determinations of eligibility for army buildings and installations are removed from the installation level and placed on the national level. Installations only need to evaluate individual properties under the historic context prepared by the Army Environmental Center for the proper level of integrity. This approach to evaluating properties will continue to address all Department of Defense installations and not just Department of Army facilities.

**MANAGEMENT APPROACHES**

Military posts that are extant throughout the country are mid-twentieth century products and ever subject to change (Milnick 1994). Often these changes are unforeseeable, tied directly to changing world politics, threats, and availability of funding. Over the last half of the 20th century and into this century, there have been three major periods of change that have transformed the military landscape: World War II, the Cold War, and the present 21st century transformation to meet a world where well-defined battlefields and enemies no longer exist. The majority of buildings and structures on military bases represent efforts taken to win the Cold War. Present transformation is poised to change these facility landscapes to post-Cold War designs. These changes are challenging the approaches the military is taking to manage historic buildings and structures. Although the military has a long history in Alaska, present installations did not exist before World War II. Military properties that predate World War II, and most of the World War II military properties in Alaska, are no longer under military management.

Over 300,000 buildings are under Department of Defense management. Thirty-three percent of these are in the Department of Army. Presently 45 percent of army buildings are over 50 years old and subject to the National Historic Preservation Act. Over the next ten years, this number will increase to 67 percent of the building stock (Sullivan 2005). Military budgeting places emphasis on replacing buildings once they turn 50 years old. Money for rehabilitation is difficult to acquire. In addition, Congress has mandated the Department of Army to reduce its costs associated with the management of historic buildings.

The present army emphasis on managing historic properties as required by the National Historic Preservation Act is to streamline the process as much as possible and to eliminate building types from being subject to Section 106. There are a number of program alternatives that 36 CFR Part 800.14 provide for use by federal agencies to streamline management of historic properties under Section 106. These include alternate procedures, programmatic agreements, exempted categories, standard treatments, and program comments. Of these tools, the army has used programmatic agreements the most on individual installations but has recently developed the Army Alternative Procedures to 36 CFR Part 800 and has begun placing emphasis on program comments to address individual building types. The Army Environmental Center presently discourages installations from developing programmatic agreements, preferring instead for the installation to go under the Army Alternate Procedures. The Army Environmental Center is also placing an emphasis on addressing building types nationwide through development of program comments. In addition to these legal documents, the army also requires installations to have an integrated cultural resource management plan in place.
In the mid-1980s, the Department of Defense recognized that the World War II temporary buildings would turn 50 years old over the next decade and would have an increasing management cost. The Department of Defense, through consultation with the Advisory Council on Historic Preservation and other interested parties, developed a nationwide programmatic agreement to mitigate adverse effects for the proposed removal of World War II temporary buildings (Programmatic Memorandum of Agreement 1986, as amended in 1990). What is significant with this programmatic agreement is that it sets a precedent that the significance of military properties is on the national level, and mitigation for addressing adverse effects is on the national level and not on the local or state levels. It also sets a precedent that military property types are removable nationwide from further Section 106 review through a single documentation process. Although there is strong opposition to this agreement by state historic preservation officers and other preservation organizations, there has been no request to terminate it.

The Military Construction Subcommittee of the House Appropriations Committee raised concerns in 2001 about the large number of military housing units that would soon turn 50 years old and potentially be eligible for listing in the National Register of Historic Places (Advisory Council on Historic Preservation n.d.a). In response, the Department of Army developed a program comment to address housing constructed between 1948 and 1961, commonly referred to as Capehart Wherry housing. The final program comment was completed in 2002 (Federal Register 2002). Like the nationwide programmatic agreement addressing World War II temporary buildings, the Capehart Wherry program comment again established that the significance of military properties is on the national level with mitigation measures documenting this level of significance (Kuranda et al. 2003a). The Capehart Wherry program comment also reinforced the earlier approach of removing an entire property type from further Section 106 review. It eliminated approximately 20,000 army housing units from further Section 106 review (Federal Register 2002). “It has provided a one-time Army wide National Historic Preservation Act compliance for this entire category of housing and serves to significantly check future growth in National Historic Preservation Act requirements” (Department of the Army 2003).

Unlike the World War II programmatic agreement, the Capehart Wherry program comment only addressed housing in the army inventory; it did not address housing under the management of the air force and the navy. As a result, the latter two Department of Defense branches have entered into consultation to develop program comments to address Capehart Wherry housing under their management. It is now the Department of Defense’s policy that individual branches will not develop program comments unless the program comment applies throughout the Department of Defense.

Following the success of the Capehart Wherry program comment, the Army Environmental Center undertook to develop program comments to address both World War II and Cold War-era unaccompanied personnel housing (barracks), World War II and Cold War era army ammunition production facilities and plants, and World War II and Cold War era armunitions storage facilities. The Advisory Council on Historic Preservation published its notice of intent to issue these three program comments in the Federal Register (2006a,b,c) on April 12, 2006, and signed the program comments on August 18, 2006. In combination with the Capehart Wherry program comment, these program comments remove a major part of the military’s building stock from further Section 106 consideration. It is reasonable to expect further program comments in the future that will address all generic building types under military management.

It will be interesting to see if once the buildings are removed from the Section 106 process, will the military begin approaching archaeological sites in the same manner? Installations with large inventories of archaeological sites are presently under pressure to define archaeological site types and limit mitigation to a few of each type as well as to ignore other specific site types from further consideration (i.e., if fire-cracked rock is observed on the ground, walk on

5 Signatories to this agreement were the Advisory Council on Historic Preservation, National Conference of State Historic Preservation Officers, Historic American Buildings Survey/Historic American Engineering Record (NPS), Department of Defense, Department of Army, Department of Navy, U.S. Marine Corps, and Department of Air Force.
by, do not conduct any subsurface testing). This suggests that the same view taken to address building types lends itself to viewing archaeological site types as well. The treatment of buildings under the program comments reflects the “archaeobias” found in the field of cultural resource management (King 2006). This approach only looks at the building types and its original use. It fails to recognize that buildings are reused for other purposes and may have achieved significance under that use. It is not uncommon for unaccompanied personnel housing to be converted into training facilities and administrative offices for various commands and still retain the integrity necessary that defines it architecturally as a hammerhead or rolling pin or other barrack type for purposes of the program comment. The argument that each archaeological site within an archaeological site type may offer unique information and therefore a program comment approach to dealing with an archaeological site type is inappropriate can be made for each building within a building type; each may offer unique information in the history and significance of the installation.

INTEGRATED CULTURAL RESOURCES MANAGEMENT PLANS

Army Regulation 200-4 (Department of the Army 1998) requires installations to have an integrated cultural resource management plan (the air force and navy have comparable versions). This is a five-year plan that addresses all aspects of cultural resource management, as required not only by the National Historic Preservation Act but all preservation-related acts and regulations. The integrated cultural resources management plan also contains an implementation section that sets out projects and costs associated with proposed projects to be carried out over the life of the plan. The Department of the Army views integrated cultural resource management plans as an internal document and only that portion of the plan that addresses how the installation will meet its Section 106 obligations is subject to consultation with the state historic preservation officer or other interested parties in its preparation.

Consultation with federally recognized tribes that may have an interest in lands managed by the installation is required throughout the preparation of the document. An environmental assessment is required before implementation of the plan. It is through the environmental assessment public comment period that the public can comment on how an installation will manage its historic properties. However, these plans do not have legal drivers, and installations may or may not follow them once the integrated cultural resource management plan is completed. Without legal drivers, proposed management activities identified in the integrated cultural resource management plan are not must-fund actions and are subject to availability of funds. Installations are audited to ensure an integrated cultural resource management plan is in place and up to date.

ARMY ALTERNATE PROCEDURES TO 36 CFR PART 800

The Department of the Army has developed and implemented the Army Alternate Procedures to 36 CFR Part 800. The army is the only federal agency that has developed alternative procedures. The goals of the Army Alternate Procedures are to:

1. provide for more efficient, consistent, and comprehensive army compliance with the goals and mandates of Section 106;
2. encourage more thoughtful consideration and planning for historic properties;
3. support the army’s ability to accomplish the critical mission of training soldiers for defense of the nation; and
4. establish a proactive approach to historic preservation and compliance using planning and management to stand in place of the formal case-by-case review process prescribed in 36 CFR Part 800(B) (Advisory Council on Historic Preservation n.d.b).

At present, Army Alternate Procedures are voluntary. Installations that elect to go under the Army Alternate Procedures develop a historic properties component in the integrated cultural resource management plan. The historic properties component defines how the installation...
ties component is certified by the Advisory Council on Historic Preservation, and resource managers, as well as between the installations and preservationists. Although 36 CFR Part 800.8 encourages federal agencies to coordinate compliance with Section 106 and the National Environmental Policy Act process, how this is accomplished is not agreed upon. Until the Advisory Council on Historic Preservation provides guidance, this places a greater need on the part of state historic preservation officers and other interested parties to understand the National Environmental Policy Act process. Although 36 CFR Part 800.8 encourages federal agencies to coordinate compliance with Section 106 and the National Environmental Policy Act process, how this is accomplished is not agreed upon. Until the Advisory Council on Historic Preservation provides guidance, this will be a subject of disagreement between those who manage the National Environmental Policy Act and cultural resource managers, as well as between the installations and preservationists.

The Army Alternate Procedures has received mixed reviews both externally and internally. The Alaska and Texas state historic preservation officers have adamantly been opposed to the process. Their opposition is to the limited consultation that occurs once the historic properties component is certified by the Advisory Council on Historic Preservation, that it removes the ability of the state historic preservation officers to terminate the historic properties component, and that it places a greater emphasis on consultation with the tribes. Internally the army’s Installation Management Agency has voiced opposition to Army Alternate Procedures based on budgeting. Because Army Alternate Procedures is a legal driver, historic properties component activities are category 1 in the funding process. The installation management agencies see Army Alternate Procedures as increasing funding requirements for historic properties management, taking funding away from meeting the army’s mission—to train soldiers. Over the past decade, installation management agencies successfully removed historic properties from must-fund status. Army Alternate Procedures reverses this trend. Even though it is a category 1, however, funding remains based on availability. The installation management agencies have agreed to allow the pilot projects to continue, be certified by the Advisory Council on Historic Preservation, and operate for a number of years to ensure that it does what the Army Environmental Center has intended it to do without requiring additional funding. If successful, Army Alternate Procedures implementation may change from being voluntary to being mandatory for all large installations.

A major drawback to the Army Alternate Procedures in regards to the installations is the length of time it takes to develop a historic properties component as well as the associated costs. The pilot projects, with the exception of Fort Sam Houston, are entering the fourth year in the process. Some are close to having a document ready for submittal to the Advisory Council on Historic Preservation for certification and others are not very far along. Because of the length and costs involved, Fort Bliss, Texas, opted to develop an equivalent historic properties component to its integrated cultural resources management plan as a programmatic agreement among the Advisory Council on Historic Preservation and the New Mexico and Texas state historic preservation officers. This programmatic agreement has achieved the same outcome as the Army Alternate Procedures in a short seven months. Only consultation that occurs with the state historic preservation officers is in the findings of eligibilities. The state historic preservation officers get to review findings of effect in an annual report upon request. If adverse effects cannot be avoided, the programmatic agreement defines what mitigation measures will be used for the various types of historic properties.
properties and effects, and the state historic preservation officers are provided the opportunity to comment on the mitigation measures in the National Environmental Policy Act public comment process. If adverse effects cannot be mitigated by standard mitigation measures identified in the programmatic agreement, consultation with the appropriate state historic preservation officer may occur. Fort Bliss will take into consideration suggested mitigation measures in selecting final treatment. Since the success of Fort Bliss in developing this programmatic agreement, other installations have expressed an interest in pursuing the same approach. Fort Hood is exploring the possibility of abandoning the Army Alternate Procedures in favor of the programmatic agreement approach.

Alternate procedures, programmatic agreements, exempted categories, standard treatments, and program comments are tools available for federal agencies to streamline Section 106 procedures. Which tool is selected depends on what the circumstances are. For Fort Bliss, the programmatic agreement was the best tool for meeting its management needs. For Fort Sam Houston, the Army Alternate Procedures was the best tool, and I suspect it is also the best tool for U.S. Army Garrison Alaska. However, I believe that the programmatic agreement will be the preferred tool for the majority of army installations unless the Army Alternate Procedures become mandatory.

NATIONAL HISTORIC LANDMARKS

A major historic property management issue for the army in Alaska is the management of Ladd Field National Historic Landmark on Fort Wainwright. Section 110(f) of the National Historic Preservation Act requires “that the agency official, to the maximum extent possible, undertake such planning and actions as may be necessary to minimize harm to any National Historic Landmark that may be directly and adversely affected by an undertaking.” Undertakings that affect a National Historic Landmark require participation of both the Advisory Council on Historic Preservation and the National Park Service in the consultation process.

Ladd Field National Historic Landmark’s national significance is based on its role in the war in the Pacific theme as a cold-weather test facility, an air depot in support of the campaign in the Aleutian Islands, and as the terminus of the Lend Lease Program with the Soviet Union. The National Park Service designated Ladd Field as a National Historic Landmark in 1985 (Thompson 1985). Ladd Field was established shortly before World War II as a cold-weather test facility. The buildings associated with this period are permanent garrison buildings. The air depot and Lend Lease Program are World War II-specific events, and buildings that were constructed to house these programs were World War II temporary buildings or theater of operations buildings. Permanent buildings constructed before the war were also used by the World War II programs: for example, Hangar 1 was divided in half with the Lend Lease and cold-weather testing programs each having half of the facility.

Under facilities reduction programs of the 1990s, all of the World War II-era buildings on Fort Wainwright were identified for demolition or replacement. Under a memorandum of agreement, the World War II community center and the World War II post office on the north side of the runways and a few World War II Butler buildings associated with the flightline on the south side of the runway were demolished. The memorandum of agreement required architectural documentation of three of the buildings to the Historic American Buildings Survey Level I standards. A later memorandum of agreement provided for the demolition of ammunition igloos on the south side of the runways. This agreement required the retention of one to be restored and interpreted. This igloo is to be incorporated in the new housing area’s site plan. Management of the landmark through the 1990s was by mitigation and stalling demolition of all buildings identified through holding Fort Wainwright to the 36 CFR Part 800 process.

As the present transformation takes place, the World War II buildings on the south side of the runways (including the two remaining Birchwood hangars) are once again under pressure to be removed to make room for new buildings or replaced by larger buildings to accommodate change in mission requirements. All proposed actions remove those buildings directly associated with the World War II air depot. The removal of the Birchwood hangars will visually impact the World War II feel of Fort Wainwright. Management of the resource by the cultural resources staff was through attempting to raise Fort Wainwright’s consciousness of the national significance of Ladd Field.

8 Theater of operations buildings are temporary buildings designed to meet World War II needs with no life expectancy once the war was over. The Birchwood hangars on Fort Wainwright are an example of a theater of operations building type.
The Tanana-Yukon Historical Society, under contract, prepared a public pamphlet addressing Ladd Field’s World War II significance (Tanana-Yukon Historical Society n.d.). The primary target of this pamphlet is military personnel as orientation material as they begin their tour on Fort Wainwright. Under the same contract, interpretive panels were developed and placed near the parade ground and next to World War II era buildings. The message of these panels focuses on the World War II significance of Ladd Field. A report was prepared documenting the history and significance of Ladd Field during World War II by Fort Wainwright cultural resource staff (Price 2004). This report was intended to document all aspects of Ladd Field for command use. Until this report, the only compiled information on Ladd Field was in its National Register of Historic Places nomination (Thompson 1985) prepared for its designation as a National Historic Landmark and a later boundary review of the property (Buzzell 1991). Neither provided a clear interpretation of the history of Ladd Field. In addition to these studies, an architectural firm was contracted to prepare historic structures reports on the three Birchwood hangars. The intent of these was to document the condition of the hangars and whether the hangars can be economically rehabilitated under the guidance of The Secretary of the Interior’s Standards for the Treatment of Historic Properties. With the exception of the structure reports, the documents and interpretive panels were positively received by the army. Although these increased attention to the significance of Ladd Field, they have not had any influence on the decision makers’ desire to pursue demolition. The structures reports were not well received. These suggested that it may be more economical to rehabilitate the Birchwood hangars for continued use as hangars along with building a newer, smaller hangar to accommodate additional hangar space requirements rather than replacing them with two larger hangars. New structures reports are now in preparation to look at the condition of the two remaining Birchwood hangars, asking the same question as the earlier study.9

Management of Ladd Field National Historic Landmark has been and continues to be an exercise in crisis management. There is no appreciation for the significance of Ladd Field in decision-making positions within the Directorate of Public Works. Until there is a change in personnel or there is a command directive from above the Directorate of Public Works to preserve the Ladd Field National Historic Landmark within mission constraints, the World War II era elements of the landmark will continue to be threatened and eventually lost.

**SUMMARY**

Before the 1880s, the mission of army forts was to secure the nation’s interior as well as the coast. As frontiers changed, forts were abandoned and new ones constructed at the new frontier. With the end of the Indian Wars and development of a national railroad system, the army began consolidating their assets along the railroads. Standardization of installation site plans and architecture became a common theme. During periods of conflict, temporary facilities and buildings were developed and used to meet rapid expansion of military personnel and training needs. Once the conflicts ended, the temporary installations were abandoned and the temporary buildings on permanent installations were removed. This approach of relying on temporary facilities reached its peak in World War II.

The Cold War changed this approach. Recognizing that this conflict was not a short-term one, the military began looking at more permanent architecture to meet changing technological and personnel requirements. Today, the military installations are late 20th century products. The military is once again transforming itself to meet 21st century requirements that will change the military landscape once again. Past and present military posts in Alaska follow these national trends. The constant changing of the military landscape presents a challenge for management of historic properties.

The army is taking an aggressive approach to managing the increasing number of buildings that reach the age for potential eligibility to list on the National Register of Historic Places. Approaches are centered on development of program comments to remove building types nationally from further consideration under the National Historic Preservation Act and to have installations go under the Army Alternative Procedures to 36 CFR Part 800 to streamline the Section 106 process and manage historic properties as a program rather than project by project. It is conceivable that all buildings under military management will be removed from further National Historic

9 The contract was let in the fall of 2006 to an East Coast architectural firm to reevaluate the Birchwood hangars and prepare new historic structures reports addressing potential for rehabilitation. The studies were not completed at the time of this printing.
Preservation Act consideration through the use of program comments, leaving only archaeological sites and properties of traditional, cultural, and religious importance to manage. How the buildings are addressed—as a class of generic buildings that have no individual importance—may lead to using the same approach later on archaeological site types. The buildings are addressed now because of the direct costs that are associated with managing them and the desire to upgrade facilities on installations to meet the 21st century. However, on lands managed by the army, training is affected more by archaeological sites on the ranges than by buildings in the cantonments. This is true throughout the country as training needs change and land becomes more critical for training activities. Has accepting the present approach to how buildings are addressed set the foundation for how archaeological resources may be addressed in the future? Is “seen one hammerhead barracks, seen them all” equivalent to “seen one archaeological site type, seen them all”? The treatment of the buildings reflects the archeobias prevalent in cultural resources management. Army installations are now beginning to feel pressure to treat archaeological sites in a similar manner. Whether it progresses to the point that management of buildings has reached is doubtful. It is one thing to allow buildings to be managed in this manner, but I suspect the archeobiased field of cultural resources management will squash any attempt to treat archaeology at the same level. It is ironic, using Fort Bliss and U.S. Army Garrison Alaska as examples, that the army spends over five times more on managing archaeological sites than it does on managing buildings, yet it is the buildings that are identified as being too costly.

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MANAGEMENT OF ALASKA’S SUBMERGED CULTURAL RESOURCES: 
A CURRENT ASSESSMENT

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ABSTRACT

Although half of our nation’s coastline is within the political boundaries of Alaska, our state lags behind other coastal states in developing a dedicated program for managing the more than 3,000 shipwrecks and countless other cultural sites on our submerged lands. New and inexpensive remote sensing, navigation, and diving technologies have removed many of the obstacles that previously prevented site discovery and exploration. This has resulted in a drastic increase in incidents involving the disturbance of protected submerged cultural resources. The complex legal foundation for addressing submerged resources is grounded both in traditional admiralty law and more recent legislation aimed at resource protection. In practice, the protection of submerged cultural resource sites in Alaska is achieved largely through implementation of several sections of the Alaska Historic Preservation Act (AS 41.35), which gives the state title and management responsibilities for most nonmilitary historic resources within both coastal and interior riverine waters. The act provides for both the issuance of permits and enforcement. In recent years, the Alaska Office of History and Archaeology has begun to build partnerships with federal agencies and academic institutions to generate the baseline data needed to identify, manage, and interpret its rich maritime heritage.

KEYWORDS: maritime archaeology, underwater shipwrecks

INTRODUCTION

According to recent GIS data, Alaska is bordered by 71,000 km of coastline (ACMP 2004) which stretches along three seas and comprises almost half the total U.S. maritime coast.1 For sake of comparison, Florida has 1,926 km of coastline and Texas has 590 km of coastline. The majority of Alaska’s coastal waters out to 4.8 km from shore are the management responsibility of the State of Alaska, along with those sections of the intertidal zone below mean high tide and the channels of navigable streams.2 The numbers of both identified and potential submerged cultural resources in these areas are immense. Submerged cultural resources encompass a wide range of sites, structures, or objects with historical, cultural, archaeological, or paleontological significance that are over 50 years old. Examples might include prehistoric or historic settlements engulfed by rising waters, submerged fossils, historic aircraft, and shipwrecks. The latter might include remnants of the vessel’s structure as well as cargo and personal belongings of the crew and passengers. The U.S. Department of the Interior Minerals Management Service (MMS), which maintains

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1 Until recently, Alaska was reported to have 53,100 km of coastline, but this figure has been increased to 71,000 km due to advances in GIS technology. The figure used for the total U.S. coastline is 14,264 km, based on 1940s information compiled by NOAA.

2 Notable exceptions include intertidal and submerged lands that are (1) under the jurisdiction of federal agencies, (2) transferred to municipalities by the state, or (3) were patented for private ownership prior to statehood, as is the case with certain historic cannery sites.
the primary database of Alaska shipwrecks, estimates the presence of more than 3,000 shipwrecks in Alaska waters (Michael Burwell 2005, personal communication).

Shipwrecks have often been termed “time capsules” due to their ability to encapsulate a very specific period of history. Contents often include a wide array of structural and personal items that would not normally be preserved on terrestrial sites, particularly if vessels sank rapidly and were not salvaged. Some have speculated that the preservation of submerged resources in Alaska may be enhanced by colder water temperatures and remote locations, although this has not been substantiated. Preservation in a saltwater environment is affected by a complex mixture of temperature, turbidity, benthic variety and biomass, sedimentation, and other variables.

In addition to marine vessels, Alaska waters contain numerous historic aircraft, many of which were associated with World War II military activities. The locations of most shipwrecks and aircraft have not been physically verified through field investigation or remote sensing. Instead, mapped positions are often based on the last reported coordinates or relationship to visible geographic landmarks at the time of sinking. Of those wrecks whose exact locations are known, few have been subjected to field examinations by cultural resource professionals. Even fewer have been assessed for eligibility to the National Register of Historic Places. In addition to submerged watercraft and aircraft, there are innumerable prehistoric coastal and riverine sites that are now wholly or partially inundated due to erosion, past tectonic events, and fluctuations in sea level. While many of these resources are of considerable significance, baseline information on their current condition is virtually nonexistent.

MANAGEMENT CHALLENGES

Despite the extraordinary length and complexity of Alaska’s coastline and its innumerable submerged cultural resources, the State of Alaska does not currently have a program specific to the investigation and management of submerged cultural resources or for maritime heritage education. It should be noted also that no other agency or university has this type of program in Alaska, although federal agencies such as the Minerals Management Service, the National Oceanic and Atmospheric Administration (NOAA), and the National Park Service (NPS) employ submerged cultural resource specialists in units outside Alaska.

In recent years, new and inexpensive remote sensing, navigation, and diving technologies have removed many of the obstacles that previously prevented site discovery and exploration. This has resulted in a drastic increase in disturbance of protected submerged cultural resources. Artifacts from historic shipwrecks in Alaska waters decorate mantles throughout our state, having been indiscriminately removed by the unknowing or uncaring. At an increasing rate, artifacts from Alaska waters are being sold via eBay and other venues outside the state. Even more troubling are reports within the last several years of commercial dredging operations aimed at the large-scale removal of shipwreck artifacts for sale. The majority of the affected sites are located on or embedded in state submerged lands (i.e., between mean high tide and the 4.8 km limit), placing management responsibility on the state. However, remote locations and a lack of priority for law enforcement agencies, have made the protection of these sites difficult, if not impossible. This is complicated by a general misunderstanding of legal maritime salvage under admiralty law and the applicability of resource protection laws to submerged maritime heritage. Even professionals accustomed to dealing with other types of natural and cultural resource issues are not always able to transfer their mindsets from land to water, incorrectly equating the removal of submerged cultural materials to court sanctioned “finders-keepers” perceptions. In 2004, the well-publicized salvage activities of commercial divers on the Alaska steamship S.S. Aleutian brought Alaska’s historic shipwrecks to the attention of the general public. A series of newspaper articles describing these activities, and efforts by the state to litigate, have contributed to an increased awareness of the richness and vulnerability of Alaska’s maritime heritage.

Unlike many of Alaska’s approximately 30,000 identified terrestrial sites (AHRS data, October 2005), very little baseline information has been recorded for submerged resources. While we know that sites are degrading as a result of both natural processes and vandalism, we do not currently have sufficient information to document changes through time. Basic inventory and site characterization efforts are critical to the development of management strategies. A second line of defense in the protection of Alaska’s submerged sites is the development of data that will contribute to a better understanding of decay processes, corrosion, and biotic relationships specific to coldwater heritage resources. Such efforts have implications for the development of conservation plans in the event that collections are made. The wooden por-
tions of shipwrecks in tropical waters, along with associated metal artifacts, are typically poorly preserved due to intense submarine weathering, corrosion, and biological encrustation. Conversely, it is generally believed that colder waters support relatively less dense benthic biological populations and contribute to better wreck preservation. To achieve a better understanding of these processes, managers need baseline information on sediments, trace metals, organics, and benthic biota. This is best achieved through multidisciplinary collaboration with marine biologists, geologists, and other scientists with appropriate expertise. The only feasible way for the state to gather baseline information on its submerged heritage is through collaboration with other organizations.

**LEGAL FOUNDATION: HISTORIC PRESERVATION AND THE LAW OF THE SEA**

The determination of ownership of historic shipwrecks and their cargo is derived from a sometimes complex and controversial balance between traditional admiralty law and more recent state and federal cultural resource management legislation. Presently there is no comprehensive set of legal standards for submerged resource managers. However, a good synopsis of maritime laws and cultural resources has been written by admiralty attorney David Howe (2000) for the Maritime Archaeological and Historical Society newsletter. Much of the limited discussion of maritime law that follows is derived from Howe’s article.

Traditional maritime law in the U.S. consists of the “law of salvage” and the “law of finds.” The law of salvage is grounded in ancient Roman law, which allows for the recovery of property in peril at sea and return to its owner for a reward. In Howe’s synopsis:

In a nutshell, “salvage” means that if I save your property from peril at sea and return it to you, you owe me a reward for saving it. … Salvage law promotes the unscientific destruction of historic wrecks and the permanent loss of the archeological evidence they contain by rewarding the economically efficient recovery of commercially valuable objects. (Howe 2000:1)

In old maritime cases, salvors successfully argued to the courts that wrecks even as old as 400 years were “in peril” for purposes of salvage awards. In some of the more recent cases, this argument has been rejected by the courts. More recent cases have also set precedents for the inclusion of archaeological documentation in conjunction with salvage. However, the courts have not generally held salvors to the same standards required of good scientific archaeology. Under salvage, a property owner, which might include a successor insurance company, can prohibit, limit, and control recovery efforts. The property owner can also relinquish ownership and abandon the wreck, which may be desirable to avoid liability in some instances, particularly if the vessel contains hazardous materials. Under salvage law, a salvor’s claim against the property generally is in rem, i.e., against the ship, rather than the owner in personam. The salvor “arrests” the wreck by removing an item (an artifact if the vessel is historic) to represent the vessel in legal proceedings. A federal court with admiralty jurisdiction in rem can decide everyone’s rights in the case, even those who do not know the wreck is in dispute. For proceedings that involve historic shipwreck cases where states may wish to intervene, this is particularly problematic because the federal courts are not required to notify the state in whose waters the wreck is located.

The law of finds, which applies only to property voluntarily abandoned by its owner, means that whoever finds sunken property and takes control over it can become its new owner. There is a common misconception that the schoolyard rule of “finders-keepers” (law of finds) automatically applies to any sunken property under federal admiralty law. However, there are many mitigating circumstances. From a liability standpoint, as noted above, it may be more desirable to salvage a vessel than to own it.

Over the last several decades, several federal and state laws were enacted to protect historical values of submerged cultural resources. Applicability depends upon the nature of the resource (i.e., shipwreck, submerged aircraft, or embedded archaeological or historical materials), location, and whether the resource was/is a federal property (i.e., military). Laws of particular interest include the Alaska Historic Preservation Act (AS 41.35) and its implementing regulations (11 AAC 16); the Abandoned Shipwreck Act (43 U.S.C. Part 39); the Archaeological Resources Protection Act (16 U.S.C. Part 470aa–470mm); and Department of State Public Notice 4614 (FR 69[24]:5647–5648).

The Alaska Historic Protection Act (AS 41.35) addresses the protection and management of cultural resources on all state lands, including state submerged lands and tidelands. Neither AS 41.35 nor its implementing regulations contain language specific to submerged cultural resources.
many states developed active programs for managing this and the development of ASA guidelines, model programs. Example, Wisconsin and Michigan) have implemented Alaska, have lagged behind, while other states (for a state underwater archaeologist. A few states, including Alaska, have staff positions for historic shipwrecks and other submerged cultural resources. Some of these state programs include staff positions for a state underwater archaeologist. A few states, including Alaska, have lagged behind, while other states (for example, Wisconsin and Michigan) have implemented model programs.

Abandoned Shipwreck Act (ASA), the federal government asserted title to three categories of abandoned shipwrecks, then transferred title to most wrecks to individual states. Categories are:

1. abandoned shipwrecks embedded in a state’s submerged lands (i.e., out to 4.8 km);
2. abandoned shipwrecks embedded in coralline formations protected by a state on its submerged lands; and
3. abandoned shipwrecks located on a state’s submerged lands and included in or determined eligible for inclusion in the National Register of Historic Places.

The ASA provides that laws of salvage do not apply to shipwrecks protected under the act, but problems arise from the fact that the ASA does not adequately define “abandonment,” a term that has been subject to varying interpretations by the courts. The ASA encourages states to carry out their responsibilities under the act in a manner that also protects natural resources and habitat areas, guarantees recreational exploration of shipwreck sites, and allows for shipwreck investigations and recoveries consistent with the protection of historical values and environmental integrity. The National Park Service ASA guidelines, which are advisory and nonbinding, help states comply with the ASA and set forth recommended components for a shipwrecks management plan. Links to the ASA and ASA guidelines, as well as other cultural resource management laws, may be found at http://www.cr.nps.gov/linklaws.htm. Following passage of the ASA and the development of ASA guidelines, many states developed active programs for managing historic shipwrecks and other submerged cultural resources. Some of these state programs include staff positions for a state underwater archaeologist. A few states, including Alaska, have lagged behind, while other states (for example, Wisconsin and Michigan) have implemented model programs.

Submerged military craft (including vessels and airplanes) of all nations are managed under a separate set of principles, laws, guidelines, and legal precedents. Customary international law, as practiced by most of the world’s leading maritime countries, recognizes the special status of sovereign vessels. This includes the sovereign nature of sunken vessels and perpetual ownership by their flag country. Precedents under international law indicate that ownership of a military or state vessel can only be transferred: (1) if captured or surrendered in battle before sinking, (2) by an international agreement, or (3) by an express act of abandonment, gift, or sale under international law and the law of the flag state (Pixa 2004). A protagonist nation does not acquire title to enemy craft through the act of sinking them or through the passage of time. For example, Spain has never abandoned or relinquished title to ships sailing under the flag of the Kingdom of Spain during colonial times. According to Spanish law, interests in the ships and their contents can only be extinguished through “specific actions pertaining to particular vessels or property taken by Royal Decree or Act of Parliament” (Pixa 2004). During the late 1990s, Spain began successfully meeting legal challenges by salvors attempting to gain rights to historic Spanish vessels in U.S. waters. In 2002, the Embassy of Spain provided notice to the U.S. that salvage or other disturbance of Spanish sunken vessels or their contents may not be conducted without express consent by an authorized representative of the Kingdom of Spain.

In 2003, the Russian Federation stated a similar position:

Under international law of the sea all the sunken warships and government aircraft remain the property of their flag State. The Government of the Russian Federation retains ownership of any Russian sunken warship, including the warships of the Russian Empire and the Soviet Union, regardless [of] the time they sank. These craft are considered places of special governmental protection and cannot be salvaged without special permission of the Government of the Russian Federation. (Pixa 2004)

This has implications for Russian colonial warships, such as the Neva, whose undiscovered wreckage is in Alaska waters. It would not apply to private commercial vessels such as the Russian bark Kad’yak (1850–60), subject of ongoing archaeological research. The Kad’yak is owned by the State of Alaska under the ASA (i.e., it is “embedded” and on the National Register of Historic Places).
Alaska incidents involving submerged historic military properties have focused primarily on efforts to locate and salvage military aircraft or parts. Past management practices for U.S. military wrecks, both submerged and terrestrial, have varied according to land ownership and the branch of service the craft was associated with. In October 2004, Title XIV of the FY2005 National Defense Authorization Act (Public Law Number 108-375) codified the protected sovereign status of sunken U.S. military craft and their permanent U.S. ownership, regardless of location and the passage of time. This law, known as the Sunken Military Craft Act, encourages reciprocal enforcement and protection of sunken military craft by foreign sovereigns, as well as the development of bilateral and multilateral agreements. The law also provides a mechanism for permitting and civil enforcement to prevent unauthorized disturbance. A more thorough discussion of the Sunken Military Craft Act has been posted on the Naval Historical Center, Underwater Archaeology Branch website (NHC 2004).

SUBMERGED CRM OPERATIONAL PRACTICES IN ALASKA

In practice, the protection of submerged resource sites in Alaska is achieved largely through implementation of those sections of the Alaska Historic Preservation Act that address title and ownership (AS 41.35.10), permits (AS 41.35.080), and unlawful acts (AS 41.35.200). In most situations, the state assumes a colorable claim to nonmilitary historic resources on state submerged lands—i.e., they are property of the state unless someone with a stronger claim prevails in court. This allows for enforcement of violations that would compromise the integrity of the resource. The state act does not specify a minimum age for covered artifacts, but for consistency with the National Register of Historic Places, it is generally held to be 50 years. The unauthorized removal of artifacts more than 100 years old, and the transport of those items outside Alaska, is also a violation of the Archaeological Resources Protection Act (ARPA) and may be prosecuted under federal law as well as state law. This has bearing on cases in which items covered under the act are illegally removed, then sold outside Alaska.

The state requires any person wishing to conduct removal of artifacts or any sort of archaeological investigation on state lands to get a permit. This is consistent with other states’ policies, which generally require permits even for passive survey efforts (i.e., magnetometer, sonar, etc.) if part of an organized effort to locate or document historic or archaeological resources. Permits ensure that work is undertaken by persons or organizations qualified to perform the work without compromising the resource and that the state receives a report of findings that will help with continued management of the resource. In Alaska, archaeology permits are issued by the chief of the Office of History and Archaeology (OHA) through authorities delegated from the commissioner of the Alaska Department of Natural Resources through the director of the Division of Parks and Outdoor Recreation. It should be noted that even in situations where salvage rights have been awarded by a federal court (for example, on a vessel that is not covered under the ASA), the state may require the salvor to obtain an archaeology permit before disturbing the sediments in which the wreck is imbedded. Thus, inclusion of an archaeology plan in a salvage effort may be (and usually is) required both by a federal court under the terms of a salvage award and by the state under the terms of its permit.

The most-used inventory of Alaska shipwrecks is maintained by the Minerals Management Service, the federal agency responsible for managing submerged resources on the outer continental shelf. In 1992, the MMS published *Shipwrecks of the Alaskan Shelf and Shore*, a comprehensive compilation of shipwrecks in Alaska waters, including both outer continental shelf and coastal waters (Tornfelt and Burwell 1992). The volume built on unpublished MMS shipwreck inventories compiled by Evert Tornfelt during the 1980s. Due to the conscientious efforts of its creators, the 1992 volume omitted specific location coordinates. Michael Burwell presently maintains an online version of the MMS database, renamed “Shipwrecks Off Alaska’s Coast,” at http://www.mms.gov/alaska/ref/ships/. Also in 1992, the City and Borough of Juneau published a detailed inventory of shipwreck sites within its boundaries (City and Borough of Juneau 1992), restricting specific location information to a confidential supplementary volume. The Alaska Heritage Resource Survey (AHRS) database contains some historic shipwrecks but is incomplete. Shipwrecks listed in the AHRS consist largely of those assigned a number as a consequence of compliance or management issues or as a result of receipt of formal reports such as the City and Borough of Juneau volume.
PAST AND PRESENT INITIATIVES FOR
SUBMERGED CRM IN ALASKA

As in other regions, Alaska’s coastal communities have long held an intense interest in their maritime heritage. Primarily outlets for this interest have included the development of local museum exhibits and the publication of articles in popular maritime-oriented journals and magazines. It wasn’t until after the development of statewide preservation programs in the late 1960s and early 1970s that maritime heritage resources began to be widely viewed in the context of resource management. Even so, the management of maritime heritage has lagged behind that of terrestrial sites. In 1979, the Alaska Office of History and Archaeology and collaborators secured a U.S. Department of the Interior grant to organize a conference entitled “The Sea in Alaska’s Past” in Anchorage. The published proceedings (OHA 1979) illustrate Alaska’s diverse and rich maritime history but do not address management issues. In 1983, with a grant from the University of Alaska Sea Grant program, the University of Alaska, Sheldon Jackson College, OHA, and the U.S. Geological Survey collaborated on a workshop in Sitka that was more focused on marine archaeology, maritime legal issues, and resource management. The published proceedings (Langdon 1983) are a valuable resource and represent a “coming of age” for Alaska.

Now, 20 years later, the state is beginning to build partnerships with federal agencies and academic institutions to generate the baseline data needed to identify, manage, and interpret its rich maritime heritage. In recent years, the state has participated in several collaborative projects that generated resource management opportunities and positive media attention. In 2003, OHA took part in an initiative by NOAA’s Office of Ocean Exploration to develop a comprehensive shipwreck database for the Pacific Coast. The accompanying workshop, funded by NOAA, provided an opportunity for OHA to begin interacting with submerged-resource professionals throughout the U.S. In August 2003, OHA teamed up with NOAA National Marine Fisheries (NMFS) scientist Brad Stevens and the Baranov Museum, along with divers Josh Lewis, Steve Lloyd, and Verlin

Figure 1. East Carolina University archaeologists mapping timbers at the Kad’yak site. Photo by NOAA archaeologist Tane Casserley.
Pherson in a successful search for the wreck of the Russian American Company bark Kad’yak (Figs. 1–3). Following the discovery of the Kad’yak, OHA collaborated with East Carolina University and other partners on a grant proposal to document the wreck. The team was eventually awarded grants from NOAA’s Office of Ocean Exploration and the National Science Foundation for basic documentation and mapping of the wreck (OHA 2004). The wreck was added to the National Register of Historic Places in July 2004, just before the start of fieldwork at the site. Confirmation of the wreckage as the Kad’yak prompted an article in the New York Times, followed by nationwide media coverage, increased awareness of the importance of Alaska’s submerged heritage sites, and the publication of an exemplary report (Cantelas et al. 2005). The Kad’yak work constituted the first substantive underwater archaeology in Alaska, having been preceded by a 1989 effort by underwater archaeolo-

Figure 2. Dave McMahan measuring an anchor fluke at the Kad’yak site. Photo by NOAA archaeologist Tane Casserley.

Figure 3. Believed to be the hub from the ship’s wheel, this artifact facilitated a quick positive identification of the Kad’yak. Photo by Dave McMahan.
gists brought to Alaska by the National Park Service to verify the locations of World War II craft in Kiska Harbor. In February 2004, in the wake of litigation over the steamer *SS Aleutian* and the discovery of the *Kad'yak*, OHA organized a workshop to discuss submerged resource management issues in Alaska. Invited speakers and participants included representatives from state and federal agencies in Alaska as well as submerged resource management specialists from agencies and academic institutions outside Alaska. In conjunction with the workshop, several underwater archaeologists and maritime historians gave well-received public presentations at venues in Anchorage and Kodiak. The Kodiak visit also presented an opportunity for trained underwater archaeologists to examine the *Kad'yak* for the first time and provide insights helpful in planning its further investigation and management.

Also early in 2004, OHA began developing a memorandum of understanding (MOU) with NOAA’s Office of Ocean Exploration (in draft). When finalized, the MOU will offer increased opportunity for mutual assistance and cooperation in protecting Alaska’s submerged heritage resources. Already, NOAA’s Office of Ocean Exploration has facilitated the collection of multibeam sonar data by the NOAA research vessel *Rainier* at the *Kad'yak* site.

In the spring of 2004, OHA collaborated with the U.S. Forest Service (USFS), MMS, NPS, and the Public Broadcasting System series “The History Detectives” to document recently discovered intertidal wreckage near Katalla (Figs. 4–6). The wreckage was believed to be that of the *SS Portland*, credited with helping launch the Klondike Gold Rush following an infamous prior history (Jensen 2005). The PBS producers shared in the cost of

![Figure 4. Documentation of the SS Portland wreckage was a collaborative effort of OHA, MMS, NPS, USFS, and the PBS History Detectives team (pictured). Photo by Dave McMahan.](image)

3 The intent is to acknowledge the pioneering work of formally trained underwater archaeologists in Alaska, not to discount the efforts of underwater photographers and others who have contributed valuable information.
Figure 5. A view of the SS Portland wreckage from bow to stern, showing the double Scotch boilers and engine. A portion of starboard hull is visible. Photo by Dave McMahan.

Figure 6. Nautical archaeologist John Jensen confirmed the identity of the SS Portland by measuring the diameters of the engine cylinders. Photo by Dave McMahan.
documenting the wreck and, at OHA’s request, brought in nautical archaeologist and historian John Jensen to oversee the effort. The documentary, which confirmed the wreckage as that of the SS Portland, aired in August 2004. OHA is presently working on a National Register of Historic Places nomination for the shipwreck.

In 2005, OHA received two grants relating to maritime projects. The first, from the NPS Beringia Program, will allow for the development of a popular publication on the Kad’yak project. The publication, in both English and Russian, is being developed by maritime archaeologists and Kad’yak participants Evgenia Anichtchenko and Jason Rogers. A second grant was awarded by NOAA’s Office of Ocean Exploration for the collection of baseline information on several popular shipwrecks in the Juneau area. OHA’s partners include biologists and chemical oceanographers from the University of Alaska Fairbanks, MMS, NOAA Marine Sanctuaries, and consulting maritime archaeologist John Jensen. The project’s goals, accomplished in April 2006, included extensive photo documentation, collection of GPS coordinates, interviews with recreational divers and historians, documentation of biotic communities, placement of markers citing protected status, and chemical analysis of sediment and structural samples, which may contribute to our understanding of cold-water decay processes (Fig. 7). The project included a strong public outreach component, which allowed for presentations in Juneau and Haines and extensive interaction with the media.

In addition to OHA projects, others have begun efforts directed at research and interpretation of Alaska’s maritime heritage. In 1998, a team of scientists on the Jeremy Project used a remote operated vehicle (ROV) to collect underwater video off Alaska’s northern coast. The images include ballast piles and silt-covered timbers, possibly associated with the loss of the 1871 whaling fleet. These images provide important clues as to the condition of wrecks in the region. During the summer of 2005, a team of scientists from the University of Minnesota and the Barrow Arctic Science Consortium returned to the region to conduct a systematic sonar survey at Point Belcher in an attempt to ascertain the presence and condition of the 1871 whaling fleet. Despite bad weather and poor visibility, the team identified sonar targets that they hope to investigate during follow-up work. In 2004, Evgenia Anichtchenko produced a master’s thesis that describes the fleet of the Russian-American Company from 1799–1867 (Anichtchenko 2004). In Kodiak, the Kodiak Maritime Museum was established in 2003. It is dedicated to the preservation of Alaska’s maritime heritage, an understand-

Figure 7. Undated image of the Princess Kathleen stern (left) and a high-frequency Didson sonar image of the Princess Kathleen stern (captured by John Kelley, University of Alaska Fairbanks Institute of Marine Science) in April 2006.
ing of the commercial fishing industry, and the protection and conservation of marine resources (Kodiak Maritime Museum 2003). In southeast Alaska, the Juneau-Douglas City Museum featured a 2005 exhibit entitled “Pleasures and Perils: Juneau Steamships and Shipwrecks.” In addition to interpreting this important facet of Alaska history, museum staff interfaced with OHA to ensure that exhibit materials contained a strong preservation ethic. During 2005 and 2006, underwater archaeologist Jason Rogers and recreational diver Roger Deffendall located and began documenting the submerged remains of the historic steamer Eliza Anderson just offshore in Dutch Harbor (Fig. 8). This project, being conducted under a state permit, is a good example of collaboration between underwater professionals and the recreational dive community.

THE FUTURE OF SUBMERGED RESOURCE MANAGEMENT IN ALASKA

Due to the remote locations of most of our submerged sites, it is unrealistic to expect that regulation and enforcement alone can protect these resources. Along with the gradual compilation of baseline information, the most important step in resource protection is the development of public education and diver outreach programs. This should be a standard component of grant proposals involving submerged cultural resources. Some states, such as Wisconsin, have secured grants to develop underwater heritage trails. Such trails include monuments and/or plasticized maps and interpretive literature that help promote stewardship. Other regions have been successful in collecting baseline information on underwater resources through collaborative relationships with avocational underwater archaeology groups. The most notable of these groups in the U.S. is the Maritime Archaeological and Historical Society (MAHS). Based on the eastern seaboard, the group has developed a training and certification program that includes a taped lecture series and an underwater field school. Applicants must also sign an ethics statement as a condition of membership. Some states only allow MAHS-certified divers to participate with archaeologists on state projects. The Underwater Archaeological Society of British
Columbia (UASBC) is another prime example of collaboration between professional underwater archaeologists and recreational divers. The organization, one of the largest avocational underwater archaeology groups in Canada, conducts essentially all underwater archaeology in the region. Their surveys, in which artifacts are left in situ, form the cornerstone of British Columbia’s submerged resources inventory. Working closely with the Vancouver Maritime Museum, the organization has published an assortment of shipwreck guides and survey reports of interest both to professional archaeologists and recreational divers. Both MAHS and the UASBC have expressed interest in collaborating on Alaska projects, as have numerous independent Alaska divers.

Our state has a wealth of existing information on submerged resources within recreational dive communities from Barrow to Ketchikan. Only through interaction and outreach can we direct their energies in a direction that will encourage meaningful data collection and stewardship.

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SURVEY AND MONITORING OF ICE PATCHES IN THE DENALI HIGHWAY REGION, CENTRAL ALASKA, 2003–2005

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ABSTRACT

The Alaska Office of History and Archaeology conducted three seasons of ice patch survey in the Denali Highway region of central Alaska. Prehistoric organic and lithic hunting and trapping artifacts had emerged from the melting ice patches and were recovered. Alpine ice patches are seen as part of a prehistoric seasonal round, giving hunters a predictable and reliable location to get close enough to prey, usually caribou, to use dart or arrow. Glacial data from interior Alaska document the recent cyclic melting of ice patches and glaciers that has resulted in a net loss of ice. Land management agencies need to perform ice patch surveys now, before these important items are lost forever.

KEYWORDS: fossil ice patch, climate change, nivation hollows, mountain geomorphology

INTRODUCTION

In August of 2003, Alaska Office of History and Archaeology (OHA) personnel were surveying the edges of a patch of ice containing caribou (Rangifer tarandus) dung in the Amphitheater Mountains in central Alaska (Fig. 1) when parts of an aboriginal hunting arrow were discovered. Further survey recovered additional artifacts and confirmed ice patches in the Amphitheater Mountains as locations with potential for producing prehistoric and protohistoric cultural materials.

Over 240 artifacts have been recovered to date from melting ice patches and glaciers in northwestern North America. These perennial ice and snow patches that contain caribou dung and artifacts have been found on mountains in the Yukon and Northwest Territories in Canada and in the Wrangell and Amphitheater mountains in Alaska (Tom Andrews 2006, personal communication; Dixon et al. 2003, 2004, 2005; Hare et al. 2004a, 2004b; Kuzyk et al. 1999; VanderHoek 2007a, 2007b). Prehistoric hunters used the ice patches and glaciers as ambush locations because they were predictable and reliable locations to find caribou seeking respite from summer heat and insects. In recent years, these ice patches have been melting at a rapid rate, exposing ancient caribou dung and cultural material to the elements. Ice patches are valuable resources to archaeologists because they often preserve organic items used by prehistoric hunters that are rarely found in ice-free
sites. Ice patches have also produced significant biological data: materials recovered from ice patches have provided biologists with an important picture of caribou DNA through time as well as providing data for evaluating regional paleoenvironmental change (Farnell et al. 2004).

The term “ice patch” was coined by Canadian researchers to describe perennial patches of snow and ice (Farnell et al. 2004; Hare et al. 2004b). Ice patches have also been termed aniuvat (Dixon et al. 2005), the Inuit term for permanent snow patches (Kusugak 2002). Ice patches form in alpine areas where snow builds up in drifts throughout the winter. Snowdrifts located in shaded areas often form an ice core that lasts through the summer until snow accumulation begins again in late fall.

Snow and ice patches can be divided into three general morphological classes that reflect snow deposition processes and underlying topography (Lewis 1939). The first, transverse ice patches, are those whose major axis lies perpendicular to the line of drainage (Fig. 2, BLIP 1 and 4). These slab-like ice patches generally run parallel to the tops of plateaus or ridges, reflecting the wind deposition of snow on lee slopes. The second class are located in gullies commonly trending down slope and are termed longitudinal ice patches. The third class of snow and ice patches defined by Lewis are circular ice patches. These are generally round in shape and may represent an initial form of cirque glacier.

Ice patches visited in the Amphitheater Mountains in August of 2003 and 2004 were surrounded by large areas of bare gray rock. These areas are believed to be a proxy for the maximum extent of ice patches at the end of the Little Ice Age and mark the former extent of snow and ice cover that prevented lichen (Umbilicaria sp.) growth (Blake 2004; Farnell et al. 2004:251–252). Many locations in the alpine areas of the Amphitheater Mountains in 2003 and 2004 showed bare rock patches without any snow, sometimes without noticeable dung as well. Yukon researchers have labeled these zones marking the former extent of ice patches “blond patches” (Blake 2004) or “lichen free zones” (Farnell et al. 2004:252); Dixon uses the term “fossil ice patches” (Dixon et al. 2004). The term “fossil ice patch” is particularly descriptive and is used here to describe the former location of an ice patch that has melted completely away. The term “lichen-free zone” is used here to describe the bare, unvegetated area around an ice patch that has recently been reduced in size.
CARIBOU AND ICE PATCHES

Caribou move into the high country in the summer months. They feed on a wide variety of plant species in early summer (willow, dwarf birch, grasses, and sedges) but later shift primarily to sedges. Skoog notes “the highly nutritious, early vegetative growth remains are available throughout the summer, because new areas for plant growth are continually being released from lingering snowdrifts and earlier flooded conditions” (Skoog 1968:148-149). In Yukon studies, caribou were found to favor the north side of hills in the summer. This is thought

Figure 2. Basalt Lake Ice Patches (BLIPs), western Amphitheater Mountains, September 11, 1984. BLIP 1 and 4 are classic transverse ice patches (Lewis 1939), while BLIP 2 and 3 have melted to reveal underlying longitudinal topography. BLIP 1, 2, and 3 were surveyed in 2003 and then monitored with the survey of BLIP 4 in 2004. Cultural materials were found on all four. Photo courtesy of Aero-Metric, Inc.
to be because these commonly moist environments provided the excellent growing conditions for the sedges that are the preferred summer diet in the region (Oosenbrug and Theberge 1980). It is in the high country on these northern facing slopes where the ice patches favored by both caribou and prehistoric human hunters are found.

Another motivation for caribou movement into the high country in summer is to seek relief from insect predation. Skoog termed this period of high insect density the “fly-season pause,” and noted that “during the height of fly-numbers the caribou spend most of the daylight hours huddled closely together on windswept areas and/or glaciers and lingering snow-drifts” (Skoog 1968:451). Caribou gain some relief from insects on ice patches because of the cooler temperatures and generally higher wind speed found there (Ion and Kershaw 1989). Caribou also seek out ice patches for thermal regulation (both by standing and lying on the ice/snow and by eating snow on the surface), but this may not be as important as the relief provided from insects (Ion and Kershaw 1989:210).

While mosquitoes and black flies are irritating to caribou and can drive them to seek out ice patches, two species of oestrid, or bot fly, are of particular importance to the herds of central Alaska because of their negative impact on caribou vitality (Skoog 1968). Skoog notes that fly harassment of central Alaska caribou herds intimidates and distracts the caribou so much that “the animals are very reluctant to leave their hilltops or their snow-banks, and frequently a person can walk into the midst of the group, with the animals merely milling about” (1968:607).

2003 ICE PATCH MONITORING

In 2003, 95,100 hectares in the Denali Highway region were transferred from federal control to the State of Alaska as part of the Alaska Lands Statehood Act (Fig. 1). A research design was developed at the Alaska Office of History and Archaeology (VanderHoek 2003) to address management issues and management-related research needed to develop a cultural resource management plan for the area (VanderHoek 2007a). Further land transfers in 2004 were covered in an updated research design (VanderHoek 2004). One of the activities called for in the research designs was to survey areas in the Tangle Lakes Archaeological District/Special Use Area and other recently transferred state lands that were previously unsurveyed but that had high potential for the presence of cultural resources. One archaeological resource that had not been previously considered in the Tangle Lakes region was the possible presence of ice patches containing cultural material. With the aid of Bill Kiger, the GIS representative for the Department of Natural Resources, Division of Parks and Outdoor Recreation, Interpretation and Education, Landsat 7 satellite images of the Tangle Lakes region were acquired. These satellite images, taken on August 1, 2002, showed numerous ice patches and glaciers. The most prominent cirque glacier and the largest low-elevation ice patch in the Amphitheater Mountains were chosen to be visited as part of the summer survey. Aerial photographs taken in 1984 were also acquired that included the largest ice patch (Fig. 2).

On August 7–8, 2003, two OHA personnel visited the largest cirque glacier in the Amphitheater Mountains. The cirque is located in the center of the east-west trending ridge north of Seven Mile Lake. Caribou were observed on ice patches near the glacier and on the glacier itself. The face of the glacier was very active, with scattered scree and streams of water across it. No caribou dung or cultural material was observed on the top or face of the glacier. The glacier appeared too active to preserve biological or cultural material. It is limited in extent and steep enough to contain relatively short-lived ice.

**BASALT LAKE ICE PATCHES**

The largest low-elevation ice patch in the Amphitheater Mountains (Basalt Lake Ice Patch 1, or BLIP 1) was visited by an OHA employee on August 15, 2003. This ice patch is one of a cluster located within approximately a kilometer of Basalt Lake, on the western edge of the Amphitheater Mountains. The ice patch was considerably melted from the images shown on the 1984 aerial and 2002 satellite photographs. Pieces of an almost-complete arrow were recovered (see VanderHoek et al., this volume). The large ice patch was revisited by a larger OHA crew between August 28–30, 2003 (Fig. 3). The crew also surveyed three smaller ice patches to the east of the large ice patch (which includes BLIP 3) and a remnant ice patch approximately 2 km to the southeast (BLIP 2). These were collectively called the Basalt Lake Ice Patches (BLIPs), with those containing artifacts given BLIP and Alaska Heritage Resources Survey (AHRS) numbers.

**Basalt Lake Ice Patch 1 (XMH-1081)**

Basalt Lake Ice Patch 1 (BLIP 1) is located 650 m northwest of Basalt Lake in the western Amphitheater Mountains.
It is situated on the northern side of a saddle connecting a westward projecting knoll with the main body of the Amphitheater Mountains. BLIP 1 is a transverse ice patch running NNE–SSW across the northern face of the saddle. It was assigned AHRS number XMH-1081.

BLIP 1 has produced the most cultural material of the ice patches visited to date. Artifacts recovered include fragments of two arrow shafts (one complete in three parts), a unilaterally barbed antler point, two pieces of fletching, a sinew lashing, a thick piece of rolled birch bark, and fauna (mostly caribou bones, antler, and antler velvet).

**Basalt Lake Ice Patch 2 (XMH-1082)**

Basalt Lake Ice Patch 2 (BLIP 2) is located across a valley 1.96 km southeast of BLIP 1. While only 20 m long, BLIP 2 was the largest remnant of a series of transverse ice patches that stretched SSW–NNE across the lower north side of the saddle and promontory landform (Fig. 2). A barbed antler point was discovered on rocks in a melted-out area to the southwest of the remaining ice. The dung under the antler point had begun to revegetate with moss, suggesting the point was exposed for lengthy periods of time during preceding summers. This assessment is supported by the amount of weathering and poor condition of the piece.

**Basalt Lake Ice Patch 3 (XMH-1166)**

Basalt Lake Ice Patch 3 (BLIP 3) is located approximately 100 m northeast of BLIP 1. Like BLIP 1, BLIP 3 is formed by snow that has been blown from the south and deposited on the saddle’s northern face. BLIP 3 is more transverse in shape early in the season, but more longitudinal in nature later as it melts and is left to occupy the gully underneath. In 2003, the outline of this ice patch was clearly defined by a lichen-free zone, with only a thin layer of caribou dung and some small ice fragments remaining. BLIP 3 was initially considered part of BLIP 1. After returning from the field it was noted that BLIP 3 was more than 50 m from BLIP 1, and was therefore assigned its own field and AHRS number. Artifacts found at BLIP 3 include a cut section of antler and a roll of birch bark.

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1 See Table 3, Cultural Materials from Denali Highway Ice Patches, in VanderHoek et al., Cultural Materials Recovered from Ice Patches, this volume.

2 See Table 2, Fauna from Denali Highway Ice Patches, in VanderHoek et al., Cultural Materials Recovered from Ice Patches, this volume.

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*Figure 3. Basalt Lake Ice Patch 1, August 28, 2003. Dark areas on ice and across center of lichen-free zone (lighter gray area around ice patch) are caribou dung. Photo by R. VanderHoek.*
2004 ICE PATCH MONITORING

In 2004, OHA personnel visited a cirque glacier in the Clearwater Mountains, and ice patches were monitored in two regions of the Amphitheater Mountains. In early August, OHA personnel visited the remains of a cirque glacier at the head of Surprise Creek valley. Surprise Creek is located in the upper Valdez Creek drainage in the Clearwater Mountains. This site was chosen because the glacier was one of the largest along a historic Native (and later mining) trail that stretched from the Copper River valley to the Valdez Creek region.

All that remained of the glacier were three small patches of ice, the largest less than 15 m long. These glacial remnants were at the eastern head of the valley at the bottom of a rocky headwall. The ice had been regularly covered with layers of scree cascading down from above. Ice patches that form against regularly exfoliating rock walls would appear to have a low probability for finding cultural material, because early historic and prehistoric materials would be destroyed and deeply buried by periodic rock fall.

Figure 4. Basalt Lake Ice Patch 1, August, 24, 2004. Ice has almost completely melted away, with caribou dung (dark areas) remaining: compare to Figs. 2 and 3. Gulkana Glacier data collected by USGS showed 2004 to have the greatest summer melt since records started in 1966. Grey haze in photo is from summer’s forest fires across central Alaska. Photo by R. VanderHoek.

The Basalt Lake ice patches were revisited and monitored between August 24 and 28, 2004. BLIP 1 had melted from approximately 275 m across in late August 2003 (Fig. 3) to two small fragments, one approximately 13 m long and one less than a meter in length (Fig. 4). Monitoring also included the fossil ice patches along the southern edge of Basalt Lake as well as those along the lower northern edge of the saddle near BLIP 2. BLIP 2 had no visible ice, but excavation through 30 cm of overlying caribou dung in the gully showed an approximately 10 m expanse of ice at the bottom. Gauging from the dung line on the rocks around the edge of the gully, it appeared the ice level in the gully had dropped 1.5 to 2 m in the recent past, possibly within the last year. No new cultural material was recovered at BLIP 1, 2, or 3.

Basalt Lake Ice Patch 4 (XMH-1191)

Basalt Lake ice patch 4 (BLIP 4) is one of several fossil ice patches located along the upper northwestern edge of the promontory south of BLIP 2 (Fig. 2). BLIP 4 was first visited in 2004, when three lithic projectile points and a fragment of wooden shaft were recovered.
DELTARIVERICEPATCHES

A set of ice patches located in the central Amphitheater Mountains west of Lower Tangle Lake, along the northern section of a north-south trending ridge, were identified in 2003 and surveyed in 2004. These were named the Delta River ice patches (DRIPs), due to their location 2.5 to 4 km from the headwaters of the Delta River. As opposed to the Basalt Lake ice patches, where only those with cultural material were given numbers, all significant ice patches visited in the Delta River region were numbered. Faunal materials were collected from DRIP ice patches that contained no cultural material and so identifiers were needed for their location. For this reason, as well as the fact that ice patches may produce no cultural material one year but might the next, it appears prudent when feasible to give a number or other identifier to all ice patches in a region.

Six DRIP ice patches were visited between August 30 and September 2, 2004. Four of the six were longitudinal ice patches, which had formed at the bottom of narrow defiles or gullies. Although the longitudinal ice patches had considerable dung covering them, no cultural materials were found. Two ice patches, DRIP 5 and 6, were transverse patches. A single artifact was recovered from DRIP 5.

Delta River Ice Patch 5 (XMH-1192)

DRIP 5 is located on the northern side of a flat-topped peak 2.5 km west of Lower Tangle Lake. The item recovered from DRIP 5 is a wooden stave-like object 75.5 cm long. It was originally believed to be an atlatl. It was found on a layer of caribou dung on a fossil ice patch at approximately 1,630 m elevation, at a location that was still covered with ice in September 2003 (Fig. 5). The item was later identified as a gopher stick, similar to those used in the Yukon for setting snares for ground squirrels (Johnson and Raup 1964:194).

Figure 5. Delta River Ice Patch 5, late August 2003. By August 30, 2004, this transverse ice patch had completely melted. Arrow shows approximate location of wooden stave found in 2004. Photo by R. VanderHoek.
A single ice patch near Butte Lake, in the northern Talkeetna Mountains, was chosen for survey after examination of Landsat 7 satellite imagery. The ice patch is located in the middle of the Nelchina caribou herd summer migration path and is the only one available for many kilometers. It is a transverse ice patch and faces north–northwest at approximately 1,310 m elevation. It is 5.7 km from Butte Lake, which is known for its historic burbot and whitefish fisheries (Simeone and Kari 2004:38) and prehistoric/contact period caribou drive camp (Betts 1987).

On July 14, 2004, Bureau of Land Management and OHA cultural resource personnel traveled via helicopter to the small ice patch, located on BLM-managed land southeast of Butte Lake (Jangala 2004). During the initial flyover at least 50 caribou were observed on top of the ice patch, almost completely covering it. A herd of approximately 150 others were visible within a kilometer to the south. Disappointingly, no cultural material was found while surveying the ice patch. John Jangala (2004, personal communication) suggested that this may be explained by a “waterhole effect,” where the high use and trampling of the area by caribou causes the destruction and loss of any artifacts that may have melted out.

The summer of 2005 was a low melt season in central Alaska and northwestern Canada, and proved to be an unproductive one in terms of survey for artifacts emerging from ice patches. BLIP 1 was visited on August 31, 2005. The ice patch measured 510 m long, and nearly covered the lichen-free zone surrounding it (Fig. 6). The edges of the ice patch were surveyed, but no cultural materials were found. BLIP 3, adjacent to BLIP 1, was visited the same day. This ice patch, barely visible in 2003 and completely gone in 2004, nearly filled the depression it rests in. BLIP 2 and 4 were photographed from a ridgetop near Basalt Lake. Both were quite sizeable, with no visible caribou dung. They were not visited. Due to the low melting of the Basalt Lake ice patches and other observable ice across the region, the Delta River ice patches were not visited in 2005.

The single discovery of an ice patch artifact from the Denali Highway region in 2005 was made by James W. Whitney, anthropology curator for the University of Alaska Museum of the North. This discovery was made not in the field but in the UAF museum collections. There he came across a barbed antler arrow point similar to the one discovered at BLIP 2 in 2003 (James W. Whitney 2005, written communication). Museum records show that D. W. Pettyjohn found it in 1957 “on the edge of a

![Figure 6. Basalt Lake Ice Patch 1, August 31, 2005. Note how little melting took place in the summer of 2005 in comparison to 2003 and 2004. Photo by R. VanderHoek.](image)
snowfield west of Maclaren Glacier. Elevation 5000 feet.” Coincidentally, the Maclaren Glacier lies adjacent to the western edge of the Amphitheater Mountains in the central Alaska Range, approximately 18 km northwest of the cluster of artifact-bearing ice patches at Basalt Lake.

**ICE PATCH RECORDING PROCEDURES**

Permanent datums were established at BLIP 1 and 2 in 2003 so that these sites could be monitored in subsequent years. These locations were recorded by a Garmin Map 76S GPS unit using NAD 27 Alaska datum. In 2003, BLIP 1 was pedestrian surveyed, with pin flags placed by finds and given field numbers matching the items collected. These items were then recorded with a total station electronic transit. All artifact locations at BLIP 2, 3, 4, and DRIP 5 were recorded by GPS.

The BLIP 1 boundaries were surveyed with a total station (VanderHoek 2007b:Fig. 35) and circumnavigated with a GPS unit in 2003 and 2004. In 2005 the ice patch was again outlined with a GPS (Fig. 7). The use of a GPS unit to lay a trackway trail around the snow and ice extent each fall at BLIP 1 has been found to be a labor-saving way of generating a visual and measurable record of melt on the ice patch from year to year (Farnell et al. 2004:252).

**DYNAMICS OF GLACIATION AND ICE PATCH LOCATION**

Most ice patches and glaciers in the Northern Hemisphere are rapidly melting. Climate data indicate that the 1990s were the warmest decade on record, with 1998 being the warmest year in the last 1,000 years (World Meteorological Organization 2003). The years 2003 and 2004 were the third and fourth warmest years on record (World Meteorological Organization 2004). Within this overall warming trend, interdecadal climate regime shifts are noted across the North Pacific region, along with shorter frequency interannual El Niño-Southern Oscillation (ENSO) variability (Hodge et al. 1998). Recent work even suggests a connection between ENSO events and warmer and dryer summers in central Alaska (Hess et al. 2001).

The U.S. Geological Survey (USGS) regularly monitors the mass balance3 of three North American glaciers as part of its Benchmark Glacier Program. These are the Wolverine and Gulkana glaciers in Alaska and the South Cascade Glacier in Washington. Wolverine Glacier is a south-facing valley glacier located on the Kenai Peninsula in southcentral Alaska, with a data record going back to 1965 (Fig. 8). A negative trend of cumulative mass balances for Wolverine Glacier early in its monitoring history was replaced by a growth trend of positive mass balances in the late 1970s and 1980s. This trend is believed to have been driven by warmer winters and increased precipitation during this time (Trabant et al. 1998; Trabant et al. 2003). In the late 1980s the trend reversed, and by the 1990s Wolverine Glacier experienced a strongly negative mass balance (Trabant et al. 2003).

A somewhat different climatic signal is found in the Gulkana Glacier data. The Gulkana Glacier, located on the southern flanks of the Alaska Range, is a south-facing glacier approximately 48 km northeast of BLIP 1. Its mass balance data has been recorded every year since 1966 (Fig. 8). Geologic work on Gulkana Glacier suggests that it has

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3 The mass balance is the amount of ice in meters that accumulates over the winter minus the amount of ablation (melting and evaporation) that takes place the next summer.
Figure 8. Cumulative mass balance data, Gulkana, Wolverine, and South Cascade glaciers, USGS Benchmark Glacier Program (USGS 2005). Note the steady decline, without replacement, of the Gulkana Glacier.

been actively retreating since 1875 (Reger 1968). The glacier has shown a negative mass balance trend throughout its monitored history, with an average yearly net loss of 0.35 m of ice. The Gulkana Glacier experienced a leveling out of mass balance during the first half of the 1980s (when the Wolverine Glacier went through a period of net ice gain) and then a dramatic period of mass balance loss in the 1990s (Trabant et al. 2003). Between 1966 and 1992, there was only one year where the net mass balance loss for the Gulkana Glacier was over a meter of ice. Between 1993 and 2004, there were five years where net mass balance loss was over a meter. In 2004, the net mass balance loss of the Gulkana Glacier was more than two meters of ice for the first time since recordkeeping began (USGS 2005).

Canadian researchers have noted that satellite and aerial photographs taken between 1960 and 1980 show a period of stabilization for some Yukon ice patches and accumulation for others, with a period of considerable melting during the 1990s (Farnell et al. 2004:252–253). The Gulkana Glacier data suggest that little or no accumulation took place during the earlier period on glaciers in central Alaska. While central Alaska is still influenced by interdecadal climate regime shifts in the North Pacific, like glaciers on the Northwest Coast and the southern coast of Alaska (Trabant et al. 1998; Trabant et al. 2003), periods of snow accumulation on maritime glaciers are not as evident in central Alaska. The interior Alaska glaciers and ice patches are thought by some to be more influenced by local processes or circulation patterns outside the Pacific Ocean basin (Hodge et al. 1998). These ice bodies have experienced rapid melt periods over the last century, interspersed with periods of little or no accumulation or melting. This trend is one of continuing loss without replacement and points to a time in the near future when by late summer there will be no more ancient ice patches to be found in the region. Any cultural materials originally deposited in them will have melted out and will be seasonally exposed to the elements until they decay and disappear.

Ice patch surveys require information about where ice patches are and predictions about those likely to contain cultural material. Satellite imagery4 and aerial photography are available for locating ice patches, and have been used by OHA and other researchers to find and evaluate ice patches for their cultural potential. Imagery of a region for ice patch location is probably most useful when acquired between mid-June and mid-August, after seasonal snows have melted but before intermittent ice patches have melted away.

The Denali Highway region has numerous snow patches visible in early summer. These are locations where wind-blown snow accumulates through the winter in ravines or on the lee side of ridges or plateaus.5 During the early summer they are found facing all directions. Those facing in a southerly direction will usually melt completely during the summer. Periodic snow patches like these still provide a location throughout most of the summer for caribou to seek refuge from insects and the heat and may have been excellent ambush locations for prehistoric hunters. Long-term preservation of organic artifacts is expected to be much poorer on seasonal snow patches than on more permanent ice patches. Nevertheless, such places should be surveyed for any artifacts that might remain.

Locations where wind-blown snow accumulates on the lee side of slopes and is shaded from the sun will often

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4 Landsat 7, Google Earth (Tom Andrews 2006, personal communication).
5 For an excellent discussion of snow patch formation, see Seppälä (2004:262–275).
survive through the summer. These generally north-facing snow patches melt, compact, and refreeze (Farnell et al. 2004:250) forming a potentially long-lived ice core. As previously noted, these perennally frozen snow patches are what have come to be called ice patches (Farnell et al. 2004; Hare et al. 2004b). Factors involved in the formation of ice patches include latitude, elevation, aspect, geomorphic setting, regional precipitation (particularly winter snowfall), winter wind conditions, catchment basin size, and the warmth and duration of summer temperatures (Christiansen 1998; Lewis 1939; Seppälä 2004). To exist, the ice patches need to gain at least as much snowpack in the winter as they lose to ablation in the summer. This requires enough snowfall throughout the winter, the deposition of wind-drifted snow on the ice patches, and the survival of the ice through the summer. Ice patches form not just in areas of high snowfall, but also in areas of intermediate and low snowfall where ice patches accumulate snow blown in from large catchment basins.

Ice patches commonly occupy depressions called “nivation hollows” (Lewis 1939:153). Nivation is generally considered “the localized erosion of a hillside by frost action, mass-wasting, and the sheetflow or rillwork of meltwater at the edges of, and beneath, lingering snowdrifts” (Washburn 1980:236). The nivation process forms a positive feedback loop, where the formation of a nivation hollow begins to collect snow. This forms a snow patch or cirque, which collects more ice, which deepens the depression, and so on (Locke 2005). This process is poorly understood (Hall 1998), and has been called into question by some authors (French 1996:159).

Ice patches are found near snowline at varying latitudes and elevations across the Arctic. Ice patches on the northern Alaska Peninsula (about 59º north latitude) are found just above 400 m (Dale Vinson 2005, personal communication). Researchers in the Yukon have found ice patches with dung and cultural material at latitudes ranging between approximately 60º and 61º 17’ north, at elevations between approximately 1,500 and 2,000 m (Hare et al. 2004b:Table 1). In the Wrangell Mountains (between 61º 15’ and 62º 15’ north), ice patches begin forming at approximately 1,675 m elevation (Dixon et al. 2005:131, 134, Fig. 2). The ice patches observed in the Amphitheater Mountains (between 63º and 63º 15’ North) are between approximately 1,200 and 1,700 m. The Basalt Lake ice patches are between approximately 1,340 and 1,400 m in elevation, while the Delta River ice patches are between 1,450 and 1,650 m. Between 1,500 and 1,700 m, the ice patches with enough volume in the Tangle Lakes region become cirque glaciers. Like ice patches, cirque glaciers in the region have shown a dramatic retreat, with many now half the size shown on USGS maps made from data collected in the 1950s.

Ice patches at high latitudes may be found in areas of low elevation and precipitation, if they are supplied by large enough catchment basins and have short melt seasons. These ice patches exist in cold environments, where temperatures are below freezing for most of the year. An example of this is the large ice patch on the edge of Franklin Bluffs, east of the Sagavanirktok River near the Dalton Highway on Alaska’s North Slope. This ice patch, which attracts caribou during the warm season, is located above 69º north latitude, between 150 m and 220 m in elevation, in a region with relatively little snowfall. It appears to owe its existence to cool, short summers, long periods of winter snow accumulation, and a large catchment area.

Canadian researchers have noted that bodies of ice that have the greatest potential for containing artifacts (especially prehistoric artifacts) are those that do not flow (P. Gregory Hare 2003, personal communication). These can be ice patches like those already discussed or larger glaciers, especially those that have sections of stagnant ice. Human remains and cultural materials dating to 500 BP have been recovered from a section of stagnant ice on a glacier in British Columbia (Beattie et al. 2000). Another British Columbia glacier yielded a shaft, presumably an arrow, dating to cal AD 1473–1641 (Keddie and Nelson 2005). Glaciers in the Wrangell Mountains have produced both historic and prehistoric artifacts, including arrow parts and dart sections (Dixon et al. 2004, 2005). Active valley glaciers, like those occupying passes, are relatively short lived and may seldom contain ice more than several centuries old (Dixon et al. 2005:139). These active glaciers are thus less likely to contain prehistoric materials.

While ice patches do not flow like a valley glacier, a Yukon glaciologist has recently noted that large ice patches will slump (“creep flow”) over time (Blake 2004). Research has shown that ice patches generally contain relatively few internal layers of dung. When these dung layers are radiocarbon dated, it is found that each layer commonly returns a range of ages (Blake 2004). Major melting periods are believed to cause these thick accumulation layers, termed

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6 The Franklin Bluffs ice patch (69º 48’ 08” N, 148º 39’ 00” W) is visible on Google Earth.
“super layers” (Blake 2004; Farnell et al. 2004:250). Recent visits to several of the largest Canadian ice patches (some over a kilometer long) at the end of high melt summers have revealed “super layers” of caribou dung over the whole surface. These ice patches appear to be quite long-lived and have produced artifacts and caribou skulls dating to more than 8,000 radiocarbon years B.P. Smaller ice patches often have more dung deposition around and under the patch than on top of the ice itself. These appear to be shorter-lived and to periodically melt away (P. Gregory Hare 2003, personal communication). It is unclear how often total melting may take place for smaller ice patches, and this may vary from region to region. The ice patches visited or observed from the air in the Amphitheater Mountains generally appear to be relatively short-lived.

Numerous fossil ice patches were observed in the Amphitheater Mountains in 2003 and 2004. These were high melt years for ice patches in the region. Relatively long-lived patches (BLIP 3, with the thousand-year-old chopped antler, and DRIP 5, with the five-hundred-year-old wooden stave) were found to have melted completely away. Some areas inside the lichen-free zone of these ice patches have dung that has been exposed long enough to become vegetated by mosses. The antler point at BLIP 2 was found in one of these areas. Therefore, ice patches, fossil ice patches with caribou dung, the lichen-free zones around existing patches, and even the low-elevation seasonal snow patches are all important locations to examine, because they all may contain cultural material.

**ICE PATCH USE BY PREHISTORIC HUNTERS**

Prehistoric kill sites are not well known in Alaska. Prehistoric and protohistoric use of caribou fences and drive lanes in Alaska and Canada offer examples of kill sites and communal hunting activities (de Laguna and McClellan 1981:648; Spiess 1979) and are periodically noted in the literature but have seldom been studied (Brink 2005:2). Reasons for this lack of study include the difficulty in finding, interpreting, and (for drive lines) dating these sites, or finding associated cultural material (Brink 2005:2; Fitzhugh 1981:188). With the abundance of overlook and retooling sites documented in the literature, there are many examples of projectile point bases and other implements suggesting the discard and repair of broken hunting implements, but organic technology is lacking or poorly preserved in these sites. With the exception of ice patch and glacial sites of Alaska, the Yukon, and British Columbia, only cave (Ackerman 1996:470; Larsen 1968; Schaaf 1988), permafrost (Geist and Rainey 1976 [1936]; Hall and Fullerton n.d.; Shaw 1983), and wet sites (Knecht 1995) have yielded organic artifacts still hafted to stone tools. Because the ice patch sites were the locus of direct procurement and are reservoirs of well-preserved, dateable organic tools, they offer an unparalleled opportunity to develop an understanding of prehistoric caribou hunting technology.

Though numerous accounts are available of the Athapaskan use of glaciers as travel routes (Cruikshank 2001) and hunting caribou in the high country “near the ice” is a known technique of Inuit hunters (Binford 1978:313), there is a dearth of information on the ethnographic use of ice patches by Athapaskan hunters. Athapaskan hunters with rifles were able to shoot caribou from a greater distance than had been possible with the bow, making it less critical that they hunt caribou in a location amenable for close ambush. Rifles were being imported into the Copper River basin by the Upper Tanana and Upper Ahtna in the 1830s and 1840s, and before the end of the nineteenth century rifles had supplanted the bow and arrow as the chief means of hunting most kinds of game (de Laguna and McClellan 1981:648, 651–652). It is possible that the use of ice patches was discontinued after the regional adoption of the rifle, and they may have fallen from favor as hunting locations.

It is clear that ice patches were used prehistorically by many northern people as part of a seasonal round of resource harvesting sites. Radiocarbon dates on Amphitheater Mountain ice patch material show use of these locations, presumably by ancestors of the modern Athapaskan people, throughout the last millennium. Ethnographic accounts indicate that the Ahtna in the Copper River region used a multiple resource spike camp7 (VanderHoek 2007a:16) near a lake or stream in the mid- or late summer and fall. A sizeable group of men, women, and children would make this trip into the high country, leaving behind those unable to make the trip to watch the smaller children and to guard the salmon caches. Generally, the women and children would fish, snare ground squirrels and marmots, pick blueberries, and deal with the meat, while the adult men

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7 Similar to Binford’s (1980:10) “field camp” or the commonly used “base camp,” this term is used to denote camping locations centrally located within walking distance of a number of resources.
went into the mountains to hunt caribou and other species. Before snowfall most of the group would return to the permanent winter villages. Hunters left in the mountains would bring the meat back to the villages after freeze-up when lake and river ice was safe for travel (Potter 1997:46; Reckord 1983a:29–30; 1983b:81). A similar pattern was seen ethnographically among the Southern Tutchone of the Yukon Territory. The ice patch hunting sites in the Southern Yukon are within 10 to 15 km or less of known archaeological (multiple resource spike camp) sites in the adjacent valley bottoms, often along lakes (Hare et al. 2004b:262).

Transverse ice patches that form high on the leeward side of saddles, ridges, and plateaus presented an environment that offered prehistoric hunters an opportunity to get relatively close to their prey before being detected. At locations where the ice patch is just below the edge of the hilltop, the break in the slope provides concealment for hunters until they are just above the ice patch and caribou. These hunters, like many modern hunters (especially bow hunters) were aware of the diurnal wind shift and used it in their favor. Summer nights in mountain valleys experience cool down-drafts, while days often have warm up-drafts coming up the valley and over the ice patch from below. This allows hunters to stalk the caribou from across the top of the ridge and come down on their quarry from above, both unseen and undetected by smell. The larger bull caribou would probably be found along the top of the ice patches and would have been the most desirable targets because of their greater size, high fat content, and larger antlers (Martin Farris 2005, personal communication). Most of the artifacts found on ice patches in the Amphitheater Mountains have been found along the upper edges, supporting the idea that the caribou were ambushed from above while on the ice.

No rock hunting blinds have been found associated with ice patches in the Amphitheater Mountains, but some have been found in the Yukon (Hare et al. 2004b). The rock blinds in the Yukon are usually located above the ice patches, and it is thought that individuals below the ice patch may have driven the animals up to the hunters in the blinds (Greer et al. 2004), possibly similar to techniques used by the Ahtna for hunting sheep (Reckord 1983b:32).

**ICE PATCH ASSESSMENT AND SURVEY**

A variety of factors are important in the assessment of an ice patch for the possible presence of cultural materials and prioritization in a survey strategy. Not surprisingly, regions with concentrations of caribou during the summer, or locations that were known to have them in the past, are most likely to have ice patches used by caribou. Researchers should look for the presence of caribou dung, showing regular use by caribou (Dixon et al. 2005; Greer et al. 2004). Ice patches commonly occur in clusters, and when they do it is generally the largest ice patch that produces the most cultural material (Carcross-Tagish First Nation et al. 2005:3). Larger ice patches appear to be more desirable for caribou (giving greater relief from flies) as well as of greater antiquity, increasing the chance for finding older cultural material (Greer et al. 2004). While lower elevation ice patches would have been easier for both caribou and humans to access, higher elevation ice patches may be preferred because of fewer biting insects (Farnell et al. 2004:249). Ice patch proximity to geomorphic features that channel movement of caribou or people may be a significant factor, with those near a pass or other travel route having a higher potential for accumulating cultural material.

The Basalt Lake ice patches are located near both human and caribou travel corridors. An important Ahtna summer trail was located west of Basalt Lake on the eastern edge of the Maclaren River valley. The BLIPs that contained cultural material are on the northern sides of two saddle/promontory complexes on the western edge of the Amphitheater Mountains. These ice patches exist because the southern wind is channeled around the western end of the Amphitheater Mountains and over the saddles and flat-topped promontories, causing snow to accumulate on the north sides. The Basalt Lake saddles also channel caribou movement to and across the ice patches. Deep caribou trails were noted approaching BLIP 2 and 3, and OHA researchers regularly saw caribou approaching the ice patches or crossing the saddles.

Ice patches near areas where resources are concentrated—e.g., lakes and streams, caribou migration corridors, berry patches, ground squirrel and marmot habitat, and lithic sources—would be more likely to have been used by prehistoric hunters. Canadian researchers note that ice patches with cultural material may correlate to the presence
of valley-bottom fish lakes (P. Gregory Hare 2003, personal communication), especially those lakes with known archaeological sites around them (Sheila Greer 2006, written communication). Campsites are usually located at these lakes within 10 to 15 km of the ice patches (Hare et al. 2004b:262). The Basalt Lake ice patches (including both existing and fossil patches) form two clusters within a kilometer of Basalt Lake. While Basalt Lake has no significant fish population, Seven Mile Lake, located 2.5 km to the north, is a modern sport fishing destination and may have been a useful prehistoric fishing location.

The Delta River ice patches (DRIPs) appear to be optimally located for use by human hunters. The Tangle Lakes/Delta River corridor in the valley west of the ice patches was a protohistoric travel route and contains many archaeological sites. Lakes with fish are found to the north, southwest, and east (Simeone and Kari 2004:30). A bedrock lithic source is located to the southwest in Landmark Gap. Berries are plentiful in the region, and concentrations of marmots and ground squirrels are available nearby. Sugarloaf Mountain, across the Tangle Lakes valley from the ridge the DRIPs are located on, was called “Ground Squirrel Island” by the Ahtna Athapaskan people who used the area (Kari 1983:62).

Transverse ice patches that form on the leeward sides of saddles, ridges, and plateaus (i.e., BLIP 1 and DRIP 5) have proven to be the most productive type of ice patch for recovering cultural materials, while longitudinal ice patches have been unproductive to date. The OHA’s results from the Amphitheater Mountain region match those of other researchers (Tom Andrews 2006, personal communication; E. James Dixon 2006, written communication; P. Gregory Hare 2004, personal communication; John Jangala 2004, personal communication), who also found nothing in longitudinal ice patch surveys. No cultural materials were found on the four longitudinal ice patches examined above the Delta River in 2004, yet each had considerable dung on them, indicating they were repeatedly used by caribou (Fig. 9). Two ice patches found in the bottom of shallow defiles near Basalt Lake (BLIPs 2 and 3; Fig. 2) have lichen-free zones indicating a more transverse history when larger. It may be that the longitudinal ice patches are not as advantageous to hunt caribou on as transverse ice patches. It is also possible that exposed artifacts became buried by alluvial/colluvial deposits along the sides of longitudinal ice patches (Lewis 1939:157) or were washed off by melt water or “slush flows” (Seppälä 2004:276–278) and lost.

Modeling the archaeological potential of ice patches can be conducted very explicitly, with variables modeled as layers on a GIS database. This approach was productive when modeling potential survey locations in Alaska’s Wrangell-St. Elias National Park and Preserve (Dixon et al. 2005). A series of variables (caribou, sheep, goat, and moose ranges; mineral licks; lithic sources; trails; and archaeological sites) were weighted and combined with land cover classification data from Landsat imagery. These were used to create a map of “site potential values” that highlighted ice patch locations more likely to contain archaeological or paleontological remains (Dixon et al. 2005:135).

A qualitative approach was used by OHA (VanderHoek 2003, 2004, 2007b), with variables that included the above as well as fish lakes and multiple resource concentrations. OHA archaeologists used Landsat 7 imagery as a relatively low-cost way to locate potential ice patches. Ahtna and Yukon ethnographic use and archaeological site location patterning were used to prioritize the ice patches for survey. This led to the inspection of two cirque glaciers and approximately 19 existing or fossil ice patches in 2003 and 2004, five of which yielded cultural material.

Ice patch survey would be helped if remote sensing imagery could be used to detect ice patches with caribou dung. The imagery would have to be taken in late summer, in high melt years, when as much caribou dung as possible was exposed. If the spectrographic signature of caribou dung could be determined, this could be used with Landsat 7 multispectral data to highlight those ice patches.
patches. OHA personnel contacted Anupma Prakash, an associate professor at the Geophysical Institute, University of Alaska Fairbanks, who agreed to do the spectrographic analysis. Her analysis was performed using the University of Alaska Fairbanks Geophysical Institute high-resolution spectrometer on an approximately one-kilogram sample of thawed caribou dung originally collected in August 2003 from Basalt Lake ice patch 1. The spectrographic readings were taken in Fairbanks in late April 2006 using natural light. Readings were taken at two different heights above the surface of the dung sample, and then again after the dung was “smashed,” in an attempt to simulate the natural surface of the dung in the field. Preliminary results were somewhat inconclusive, producing considerable reflectance “noise” in the visible and near-infrared frequencies of the electromagnetic spectrum. A wavelength spike was evident at approximately 1,850 nanometers in all three datasets. No spectrographic search with the 1,850-nanometer signature had been done at the time of publication.

The development of high-potential ice patch models is in its infancy. As such, it runs the risk of eliminating locations that may not fit into a particular model. Yukon researchers caution that the presence of cultural material cannot be verified by a model and must still be ground-truthed (Greer et al. 2004).

Archaeological surveys of ice patches should be done during or after the period of maximum melt, but before the patch is covered with fresh snow in the fall. Canadian ice patches were profitably surveyed starting in late July in high melt years but were otherwise visited in mid-August (Farnell 2004, Sheila Greer 2006, written communication). OHA surveys in the Amphitheater Mountains were usually conducted the last two weeks of August.

**CULTURAL RESOURCE MANAGEMENT ISSUES AND RECOMMENDATIONS**

Ice patch archaeology is a new concern for land management agencies to deal with on their already full cultural resource management plate. In this regard several points must be kept in mind:

1. **Ice patches are a diminishing resource.** Like an important archaeological site that is being lost to stream erosion, ice patches must be inventoried and surveyed now before they are lost completely. There is no practical way to prevent ice patches from melting.

2. **Ice patch surveys need not be complex or overly expensive.** A sophisticated GIS model, though helpful, is not required. An archaeologist with knowledge of basic anthropological theory, regional ethnographic use patterns, present and past biological resources, and cultural site locations should be able to design and conduct a satisfactory ice patch survey. Remote sensing with Google Earth, Landsat 7, or other imagery is a cost-effective way of discovering and conducting preliminary evaluation of regional ice patches.8 Expensive airplane or helicopter time should be reserved for examining ice patches for caribou dung and transportation to and from the region. Logistical costs may be moderated by sharing helicopter time with other disciplines or agencies, using fixed-wing aircraft to land researchers on centrally located lakes, and using ground transportation where practical to reach ice patches.

3. **Ice patch surveys must be conducted over multiple years.** While the long-term trend is steady melting, some years may have little or no net loss to ice patches in a particular area. The first three years of ice patch research in the Yukon (1997–99) were high melt years. Researchers were able to survey melting ice patches and find cultural material that had melted out, either from that year, or (if the ice patch had not been surveyed before) in previous years (Carcross-Tagish First Nation et al. 2005:6). The year 2000 was a “zero melt year,” and 2001 and 2002 were low melt years where ice patch survey was nonproductive or poorly productive (Greer et al. 2004). The years 2003 and 2004 were high melt years and productive for ice patch surveys, but 2005 again showed little melting.9 Funding and planning should be flexible enough to shift ice patch surveys to those years where low snow pack and/or high summer melt have exposed more cultural material.10 Another important reason for planning multiyear ice patch surveys is that as long as ice patches are in existence and melting, they have the potential to produce cultural material. After ice patches with dung

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8 See VanderHoek 2007b:Fig. 41 for a Google Earth image of BLIP 1.
9 Compare BLIP 1 in 2003 (Fig. 3) and 2004 (Fig. 4) with 2005 image (Fig. 6).
10 It appears that years with active ENSO events may be higher melt years in central Alaska (Hess et al. 2001). If these events can be noted early they may provide warning of a high-melt summer.
and cultural material have been found, they should be monitored year after year until they melt away, as the potential for additional cultural material is high. Canadian researchers have a 220 cm long, 4,000 year old atlatl dart, the largest complete dart yet found from an ice patch, which was recovered in sections over four different years of survey of the same ice patch (Carcross-Tagish First Nation et al. 2005:8; Hare et al. 2004a). Fossil ice patches, with no ice present, still have potential to produce cultural material. Three of the five Amphitheater Mountain ice patches that produced artifacts were fossil ice patches. Artifacts may even be exposed by melt water in the dung of fossil ice patches, years after all ancient ice has melted away (P. Gregory Hare 2004, personal communication).

4. **Thorough ice patch research requires a multidisciplinary approach.** Researchers in the Yukon have set an excellent example for those in Alaska and elsewhere to follow (Hare et al. 2004b; Farnell et al. 2004). The integration of biology, geology, and other disciplines with archaeology not only creates a more detailed picture of the resources and prehistory of a region but also allows the sharing of logistical resources and costs. This can be a critical asset, considering the need to do long-term monitoring of the dung-rich ice patches.

5. **Regional Native communities should be included in ice patch research.** Yukon ice patch researchers have had a close collaboration with Canada’s First Nations from the beginning (Carcross-Tagish First Nation et al. 2005:4). Many Native people are interested in regional ice patch research and have valuable ethnographic information to share (Carcross-Tagish First Nation et al. 2005:10; Strand and Greer 2004). Joint Canadian government/First Nations work has demonstrated that a scientific, multidisciplinary approach to studying the past through ice patch research can strengthen traditional values and pride in a people’s past (Carcross-Tagish First Nation et al. 2002; Joe 2004).

**CONCLUSION**

Increased warming across the Arctic and Subarctic is causing ice patches and glaciers in Alaska, the Yukon and Northwest Territories, and British Columbia to melt at an alarming rate. The result of this is that cultural materials, preserved for hundreds or thousands of years in ice, are being exposed to the elements. The artifacts and other materials that have been recovered from melting ice patches and glaciers are unique resources that give us an unprecedented look at how people hunted and lived in the past. It is certain that many prehistorically used ice patches across the Arctic have not been discovered. This is both encouraging and discouraging. It means that northern ice patches hold recoverable materials with tremendous potential to teach more about past human lifeways. Sadly, these artifacts and their potential for elucidating an important part of the prehistoric past will be lost unless immediate action is taken. Land and cultural resource managers alike need to make ice patch survey a priority before these rare, fragile, and irreplaceable items are lost forever.

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HUMAN REMAINS AND CULTURAL RESOURCE MANAGEMENT IN ALASKA: STATE LAWS AND GUIDELINES

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ABSTRACT

The treatment of human remains following inadvertent discovery is governed by state and federal laws, land status, time since death, and biological/cultural affiliation. In many instances, a field anthropologist (usually an archaeologist) must make a judgment regarding the age of the remains, his or her level of confidence in the evaluation, and whether further investigation by a specialist is warranted. The anthropologist must comply with legal requirements before further disturbing the remains. State law, which does not differentiate remains on the basis of biological/cultural affiliation or time since death, requires certain notifications, permits, and operating procedures. The disturbance of remains, graves, monuments, or associated items without authorization is a felony under state law, regardless of land ownership. Federal laws such as the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection Act (ARPA) supersede but do not replace human remains requirements under state law. Recently, state agencies involved with human remains issues attempted to provide consistency in operating procedures by completing a Memorandum of Understanding (MOU) that sets forth operating definitions, describes permit requirements, provides for consultation, and defines certain steps that agency officials or individuals should follow when reporting human remains.

KEYWORDS: cemetery, osteology, legal protocol, human remains

INTRODUCTION

No cultural resource management topic is more sensitive than that involving human remains, graves, and funerary objects. Despite perceived differences of opinion over the treatment of the dead between anthropologists and some community members, current values and goals of respect for the dead are shared. In Alaska, the treatment and disposition of human remains and funerary objects, while not devoid of disagreement and poor past practices, has not generated the same level of controversy as in other states. This relative lack of controversy is likely due to a combination of increased cultural awareness; appropriate consultation between developers, anthropologists, and Native groups; treatment of all human remains with dignity and respect; willingness to compromise; and planning in the event of human remains being discovered during public construction.

To fully understand the issues associated with human remains discoveries and treatment in the context of cultural resource management, it is necessary to understand past and underlying legal principles as well as current
laws and guidelines. This article discusses each of these areas as they relate to legal and practical requirements in Alaska. The primary focus is on state laws and guidelines as opposed to the Native American Graves Protection and Repatriation Act (NAGPRA), which is discussed here only in the context of inadvertent discoveries on federal lands, federally restricted lands (i.e., Alaska Native allotments), and federal trust lands.

THE LAW OF THE DEAD IN LEGAL CONTEXT

LEGAL OVERVIEW

The “law of the dead” has traditionally been administered by individual states under either a coroner system or a state medical examiner system. Most states have statutes founded on English Common Law, the original intent of which was to prohibit the desecration of human remains and graves within church cemeteries. In the past few decades, partly due to complaints of inconsistent enforcement by state courts, the federal government intervened with the Native American Graves Protection and Repatriation Act (NAGPRA), which recognizes the rights of Native Americans and Hawaiian peoples to control the disposition of the skeletal remains of their ancestors. NAGPRA supersedes but does not negate state law (that is, both the state and federal laws must be met, but if there is a conflict the federal law takes precedent over state laws).

It is important to note that the inadvertent discovery clause in NAGPRA is limited to only Native American or Native Hawaiian remains located on federal lands, federally controlled lands, or tribal lands (see definitions in NAGPRA Regulations 43 CFR 10.2.f.1–2). In Alaska, federally controlled lands include the more than 81 million hectares of federal lands, as well as federally restricted properties such as Native allotments. Native corporation patented lands are regarded as private lands and are not covered under NAGPRA. However, inadvertent discoveries on Native allotments are covered under NAGPRA.

There is a common misconception that the inadvertent discovery clause in NAGPRA is linked to federal funding and permits regardless of land ownership. NAGPRA applies only to inadvertent discoveries on federal or federally restricted lands, but the section of NAGPRA concerning museum collections does apply to Native human remains and associated items in any institution that receives federal funds, regardless of when or where the human remains were recovered.

Concurrent with strengthening federal laws during the past two decades, many state governments have also strengthened their human remains statutes and regulations. In some instances, these state laws provide important protective measures beyond the scope of NAGPRA. In Alaska, state criminal law protects all human remains and burials in the state, regardless of ethnicity, race, or the location of their discovery (AS11.46.482(a)(3)).

HISTORIC LEGAL CONTEXT FOR THE TREATMENT OF HUMAN REMAINS IN ALASKA

In Alaska, the first synthesis of laws regarding human remains and graves was published as part of a report on the Utqiavik site, BAR-00002 (Smith 1984). This article documented the discovery of ancient frozen bodies and skeletal remains in a crushed semisubterranean house at Barrow. The discovery of human remains (complete and partial bodies) rather than the skeletal remains usually discovered in archaeological contexts raised questions about jurisdiction, legal definitions, treatment, and disposition.
within Alaska’s legal framework. While there have been substantive changes to the legal framework at both the state and federal level since 1984, the article remains a valuable contribution to our understanding of the “law of the dead” from an Alaska legal perspective (Smith 1984:142). According to Smith, the “prevailing view [in 1984] and the rule in Alaska is that all human remains found in an archaeological context, such as those discovered in Utquiyagvik site in Barrow,” are legally “dead bodies” (Smith 1984:145). He further noted that a death certificate is needed only when the remains are “a lifeless human body or parts or bones of it from the state of which it reasonably may be concluded that death recently occurred” (AS 18.50.950(6)).

Smith also addresses the concept of dead bodies as property. He concludes that human remains are not property in the true sense of property (with its associated connotation of ownership), but are treated as “quasi property” (Smith 1984:145). The property concept is based in part on the fact that there is a legal custodian for a body. This is typically the surviving spouse, then the next of kin. If there is no surviving next of kin, then the public has the right to possess the body for purposes of burial. Under existing law, the state medical examiner represents the public as the legal custodian of the body and is responsible for the disposition of unclaimed or unknown remains (AS 12.65.100).

Alaska statutes treat graves and human remains as property for purposes of protection against damage under criminal law. This idea of property damage associated with the disturbance of grave sites and/or human remains is based on traditional European views of the dead. The concept of gravesites and human remains as property is not a universally shared idea, but has been incorporated into the present legal system to facilitate the protection of human remains, grave sites, and memorials under property law. In this sense, the basic premise of how graves and human remains are protected under state law differs from that of NAGPRA. Alaska law treats graves and human remains solely as a property issue, whereas NAGPRA treats Native graves and human remains as a civil rights issue as well as a property issue.

At the time of Smith’s article, Alaska’s medico-legal framework was based on a regional coroner system. In 1994, Alaska replaced the coroner system with a centralized medical examiner system. At the same time, statutes and regulations were modified to transfer authorities formerly vested in coroners to the Office of the State Medical Examiner, Alaska Department of Health and Social Services.

**CURRENT ALASKA STATE LAWS AND HUMAN REMAINS**

Several state laws are directly applicable to the discovery and treatment of human remains in Alaska. They identify jurisdictions, duties, notification requirements, permits, and criminal acts. The state medical examiner has jurisdiction over all human remains investigations in the state regardless of when the death occurred, with rare exceptions such as military aircraft deaths and certain federal jurisdictions.

**DISTURBANCE OF GRAVES, MONUMENTS, AND HUMAN REMAINS**

Before 2001, graves and human remains in Alaska that were outside NAGPRA jurisdiction were protected

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4 Two significant changes have been the replacement of the coroner-based system by a state medical examiner system and the change in the law so that knowingly disturbing graves has become a felony instead of a misdemeanor.
5 This view of the dead has not changed since 1984.
6 AS Title 18. Health, Safety, and Housing
   AS Chapter 18.50. Vital Statistics Act
   AS Section 18.50.950. Definitions
   In this chapter, (6) “dead body” means a lifeless human body or parts or bones of it from the state of which it reasonably may be concluded that death recently occurred.
7 AS Title 12. Code of Criminal Procedures
   AS Chapter 12.65. Death Investigations and the Medical Examiners
   AS Section 12.65.100. Unclaimed bodies
   When a person dies and no person appears to claim the body for burial, and no provision is made for the body under AS 13.52, the Department of Health and Social Services, upon notification, shall request a court order authorizing the body to be plainly and decently buried or cremated and the remains decently interred. A judicial officer shall issue the requested order upon the sworn testimony or statement of a representative of the Department of Health and Social Services that a person has not appeared to claim the body for burial and provision is not made for the body under AS 13.52.
primarily under the Alaska Historic Preservation Act (AS 41.35.200, AHPA) in the natural resources section of the Alaska Statutes. Unauthorized disturbance was a misdemeanor offense, as are all offenses covered under the unlawful acts (AS 41.34.200) section of the AHPA. The language in AS 41.35.200 was worded in such a way that it was unclear as to whether the law applied to all lands in the state or only to state-owned lands. Aside from the AHPA, human remains were only protected under the concepts grounded in English common law. This meant that graves had little or no protection unless they were in a church cemetery.

AS 11.46.482(a)(3), enacted in October 2001, moved the section of the AHPA that protects graves and human remains (AS 41.35.200(c))8 into the criminal law section of the Alaska Statutes under “Offenses Against Property.” The law, which also applies to “burial artifacts” and “memorials,” makes the “intentional and unauthorized destruction or removal of any human remains or the intentional disturbance of a grave” by an unauthorized person a class C felony. AS 11.46.482(a)(3) substantially strengthens the statutory language that protects human remains and graves, clearly applies jurisdiction to both private and public lands, and elevates the crime from a class A misdemeanor to a class C felony. Sufficient language has been retained in AS 41.35.200 to still include the disturbance of graves, included in the statutory definition of “historic, prehistoric and archeological resources,” as a misdemeanor offense.

**NOTIFICATION OF HUMAN REMAINS DISCOVERIES**

AS 12.65.005(a)(1)9 requires immediate notification of a peace officer of the state (police officer, village public safety officer, or Alaska state trooper) and the state medical examiner when the cause of death is unknown and/or the result of a possible suicide or accident. The state troopers have interpreted these notification procedures as applicable to all remains, including ancient remains. In addition to a local peace officer (if within a local jurisdiction) or the state troopers (if outside a local jurisdiction), formal notification should include the state troopers, Alaska Bureau of Investigation, formerly known as the Criminal Investigation Bureau. The Alaska Bureau of Investigation Missing Persons Bureau maintains a confidential database of all reported human remains discovery sites. Inclusion of ancient remains in the database not only allows the state troopers to avoid unnecessary criminal investigations, but may protect known ancient remains from additional disturbance. Alaska Statute 12.65.005 also establishes the duties of the state medical examiner and requirements for notification when remains are discovered.

**DISINTERMENT, RELOCATION, AND REINTERMENT OF HUMAN REMAINS**

AS 18.50.25010 requires that anyone seeking to remove, relocate, transport, or rebury human remains must se-

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8 AS Title 41. Public Resources
AS Chapter 41.35 Historic Preservation
AS Section 41.35.200. Unlawful acts
(a) A person may not appropriate, excavate, remove, injure, or destroy, without a permit from the commissioner, any historic, prehistoric, or archeological resources of the state.
(b) A person may not possess, sell, buy, or transport within the state, or offer to sell, buy, or transport within the state, historic, prehistoric, or archeological resources taken or acquired in violation of this section or 16 U.S.C. 433.
(c) [Repealed, Sec. 3 ch 83 SLA 2001].
(d) An historic, prehistoric, or archeological resource that is taken in violation of this section shall be seized by any person designated in AS 41.35.220 wherever found and at any time. Objects seized may be disposed of as the commissioner determines by deposit in the proper public depository.

9 AS Title 12. Code of Criminal Procedure
AS Chapter 12.65. Death Investigations and Medical Examiners
AS Section 12.65.005. Duty to notify state medical examiner
(a) Unless the person has reasonable grounds to believe that notice has already been given, a person who attends a death or has knowledge of a death, in addition to notifying a peace officer, shall immediately notify the state medical examiner when the death appears to have (1) been caused by unknown or criminal means, during the commission of a crime, or by suicide, accident, or poisoning.
cure a permit from the Bureau of Vital Statistics, Alaska Department of Health and Social Services. The statute does not differentiate between modern and ancient remains, skeletal and in-flesh remains, or whether the remains are complete or fragmentary. The state registrar interprets the statute to include human remains from archaeological sites, whether whole or fragmentary. The Alaska Administrative Code (7 AAC 05.540) that implements the statute states:

No body shall be disinterred for removal to another cemetery, or removed from a permanent vault for movement to another location, without a permit issued by the recording magistrate of the recording district within which the body is located, in accordance with the instructions of the State Registrar. All other health and transportation requirements shall be fulfilled. The State Registrar [Registrar of Vital Statistics] shall determine what necessary records must be kept of such movement, both at the place of disinterment and with the recorded and original certificates of death or fetal death, and he shall designate the form or forms to be used. Such permit shall be authority also for reinterment or other final disposition of such body and for transportation thereof. (7 AAC 05.540)

The state registrar issues two types of human remains permits: (1) disinterment-reinterment permits and (2) burial-transit permits. Disinterment-reinterment permits are required for any disinterment or reinterment of remains that have been previously buried, including those exposed by nature or in archaeological context (Sue Falkner, Bureau of Vital Statistics, 2005, personal telephone communication). Burial-transit permits are required for remains being buried (or cremated, or otherwise disposed of) for the first time. This permit is also required for the transport of remains (including historic and archaeological remains) using a commercial transportation carrier.

Under previous operating procedures (i.e., the coroner system), the authority to issue permits was delegated to the district courts and varied somewhat according to jurisdiction and interpretation. Permits are now centralized with the registrar of the Bureau of Vital Statistics,11 which should be consulted regarding current operating procedures when archaeological or ancient remains are encountered. Although relocations of marked cemeteries and graves in urban areas are typically done by local funeral homes or their contractors operating under a state disinterment-reinterment permit, relocations of human remains can be accomplished by archaeologists or community members working under the appropriate permits.

**STATE PROTOCOLS: 2004 MEMORANDUM OF UNDERSTANDING**

In October 2004, the Alaska Office of History and Archaeology (OHA), state medical examiner, and Alaska State Troopers completed a memorandum of understanding (MOU) to provide consistency in state operating procedures when treating and reporting on human remains, particularly ancient remains. These procedures are summarized in the flow chart shown in Figure 1.

The state troopers, state medical examiner, and OHA all have statutory responsibilities related to graves and human remains. OHA is charged with compiling an inventory of historic, prehistoric, and archaeological resources in Alaska, including ancient graves and associated artifacts. To facilitate the protection of grave sites, the OHA has established a policy of assigning Alaska Heritage Resources Survey (AHRS) numbers to grave sites regardless of age.

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10 AS Title 18. Health, Safety, and Housing
AS Chapter 18.50. Vital Statistics Act
AS Section 18.50.250. Permits

(a) The funeral director or person acting as the funeral director who first assumes custody of a dead body or fetus shall obtain a burial-transit permit before final disposition or removal from the state of the body or fetus and within 72 hours after death, except as otherwise authorized by regulation for special problem cases.

(b) The local registrar of the registration district where the death occurred shall issue a burial-transit permit when a certificate of death or fetal death has been filed in accordance with this chapter, except as otherwise authorized by regulation in special problem cases.

(c) A burial-transit permit that accompanies a dead body or fetus brought into the state is authority for final disposition of the body or fetus in the state.

(d) A permit for disinterment and reinterment is required before disinterment of a dead body or fetus except as authorized by regulation or otherwise provided by law. Upon proper application the permit shall be issued by the local registrar of vital statistics in accordance with instructions of the state registrar.

11 The Bureau of Vital Statistics is a section of the Division of Public Health, within the Department of Health and Human Services. There are offices in Anchorage, Fairbanks, and Juneau.
Figure 1. Flow chart of reporting (notification) procedures in Memorandum of Understanding Among the Alaska Departments of Natural Resources, Public Safety, and Health and Social Services Regarding the Treatment and Reporting Procedures for Human Remains and Graves.

Notes:
PA = programatic agreement
SME = state medical examiner
AHRS = Alaska Heritage Resources Survey
AST = Alaska State Trooper
NAGPRA = Native American Graves Protection and Repatriation Act
SHPO = State Historic Preservation Officer
MOA = Memorandum of Agreement
The state medical examiner has statutory jurisdiction over death investigations in the state, with rare exceptions.12 The state troopers have jurisdiction over major crime investigations throughout the vast majority of the state. Since 1988, OHA has provided routine forensic consultation to the state troopers and state medical examiner through a reimbursable services agreement. OHA, the state medical examiner, and the state troopers jointly participate in a “cold case” working group to resolve questionable deaths and victim identities with assistance from the Federal Bureau of Investigation and other organizations with access to the advanced forensic technology.

The memorandum of understanding offers several potential benefits. Although each of the state agencies is charged with certain statutory responsibilities, the Alaska Statutes and the Alaska Administrative Code do not always provide clear and specific guidance for the reporting and treatment of remains determined to be ancient. The memorandum sets forth operating definitions, allows for consultation between agency officials and groups that may have an interest in the remains, and defines certain steps that agency officials should follow when ancient remains are reported. It also discusses permit requirements and allows the troopers, state medical examiner, and OHA to provide uniform guidance and counsel when contacted regarding human remains issues. The memorandum also requires that law enforcement officers notify the state historic preservation officer (SHPO) when investigating remains believed to be ancient. As an added benefit, the memorandum provides a general framework that can be adapted for use in cultural resource management agreements to ensure compliance with state laws and operating procedures.

To ensure that criminal activities do not go undetected, the memorandum assumes that human remains discovery sites are potential crime scenes and should not be disturbed until examined by a person with the appropriate level of expertise to make the required decision. This assumption that human remains discovery sites represent crime scenes until proven otherwise is based on legal protocols. The MOU allows that the “appropriate level of expertise” may vary according to the situation and does not always require forensic expertise. For example, a trained archaeologist with limited experience in the investigation of human remains should be able to assess whether the remains are modern or ancient based solely on context and associations. However, if context and associations do not allow for a conclusive opinion by the field archaeologist, the remains should be examined by someone with training and experience in forensic anthropology (including both archaeology and forensic osteology). It is important that field and laboratory examinations be documented by notes, sketches, and photographs that allow for independent evaluations by the state medical examiner and other interested parties. The MOU also addresses consistency in the manner in which basic osteometric data sets are collected. For purposes of the MOU, ancient human remains are the remains of a person who died more than 100 years ago. Since the state medical examiner has the right to review all cases regardless of postmortem interval, 100 years is simply a practical guideline to facilitate MOU procedures. For much of Alaska, written documentation concerning missing persons, death certificates, etc. were not available until the turn of the 20th century.

The MOU is underlain by the premise that a respectful, nonintrusive examination of remains is important and necessary for (1) differentiating between ancient and recent remains, (2) establishing whether a criminal investigation is warranted, and (3) helping to identify living descendants and related ethnic groups. For example, a basic examination of the remains may reveal biological age, race or biological affiliation, sex, postmortem interval (time since death), trauma or disease, distinguishing characteristics, and other attributes that can help identify the deceased and determine the manner and cause of death. This information allows the police and medical examiner’s staff to decide whether further investigation and/or disposition of the remains is needed. For ancient remains, such studies can also provide insights on aspects of the person’s life that otherwise would be unknown (for example, nutrition, disease, genetics, migrations, ethogenesis, longevity, cultural values, and environmental or task-related stress). More in-depth studies often produce comparative data sets that can help in a range of research applications that may ultimately benefit modern populations. For example, data specific to Alaska populations can help with more accurate identification of unknown deceased persons and may help modern medical personnel understand why some populations have higher rates of certain diseases. These type studies, which may require samples for DNA and other analyses, should be balanced.

12 The exceptions include military plane crashes and some federal lands. For some federal lands, joint jurisdictions have been established through federal-state agreements.
against the wishes of the lineal and cultural descendents of the deceased.

The MOU recommends reports of osteological examination when postmortem interval, race, and cultural affiliation cannot be determined on the basis of context and association (e.g., if the remains are not from a known archaeological site or a marked grave, as determined by a qualified person). For remains disturbed by a construction project or relocated to facilitate construction, the MOU places the financial burden of examination and relocation on the person or organization disturbing the remains.

Many ground-disturbing activities have the potential to disturb unreported burials. It is advisable to prepare a plan of action in advance of any archaeological or construction projects that could result in inadvertent discoveries of human remains, graves, or associations. These are now standard components of agreement documents associated with Section 106 of the National Historic Preservation Act (16 CFR 800). The plan should spell out procedures for complying with state and federal requirements, as well as how consultation will be conducted with appropriate tribes and other organizations that may have an interest in the discovered remains. The resolution of protocols in advance by consulting parties reduces the risk that a project could be stopped or delayed.

Key points of the MOU are: (1) treatment of all human remains with dignity and respect; (2) treatment of discovery sites as crime scenes until proven otherwise; (3) notification of the Alaska State Troopers, Bureau of Missing Persons, and local law enforcement jurisdictions; (4) notification of the state medical examiner, particularly for remains less than 100 years old; (5) notification of the state historic preservation officer when ancient or historic remains are discovered; (6) consultation with the state registrar regarding permits for the relocation and transport of human remains; (7) basic examination of the remains to ascertain postmortem interval and race; (8) more extensive examinations, when warranted by circumstances, to ascertain individualizing characteristics (i.e., sex, biological age, traumatic lesions, etc.); (9) consultation with tribal organizations, church organizations, community organizations, landowners, and individuals or organizations with lineal or cultural interests in the remains; (10) development of a treatment plan for the remains; and (11) compliance with NAGPRA and other federal laws when applicable. A copy of the MOU and attachments is available upon request from OHA.

**PRACTICAL OPERATING PROCEDURES WHEN DEALING WITH ANCIENT HUMAN REMAINS IN ALASKA**

The following protocols will ensure compliance with legal responsibilities and notification requirements in the event that human remains are discovered during project activities in Alaska.

- When planning ground-disturbing projects, including archaeological excavations, prepare a plan of action with specific guidance in the event that human remains are encountered. This is often specified in a section of an overall programmatic agreement or memorandum of agreement, but may be in a standalone document linked by reference to these. The plan should specify actions to be carried out in the event of human remains discoveries, as well as who is responsible for the actions. For example, “the project archaeologist shall make efforts to protect the grave, remains, and/or associated materials from further disturbance.” The plan should be prepared in consultation with tribes, churches, landowners, local governments, and other organizations or individuals that may have an interest in human remains discoveries through lineal, cultural, or community ties. The plan should identify specific contacts and notification procedures, how the plan will ensure compliance with applicable state and federal laws, methods through which basic information will be collected and recorded, timelines and methods for any additional studies or sampling procedures, and details of final disposition of the remains.

- When human remains are discovered, stop activities that would further disturb the remains until legal requirements have been fulfilled. Treat all human remains with dignity and respect, be respectful to local customs, and avoid public display of the remains.

- Notify: (1) the Alaska Bureau of Investigation Missing Persons Bureau; (2) the law enforcement agency with local jurisdiction; (3) the state medical examiner, (4) the state historic preservation officer, if the remains are believed to be ancient; and (5) other parties identified in agreement documents. A list of current telephone numbers and e-mails is available upon request from OHA.

- Contact the state registrar, Alaska Bureau of Vital Statistics, regarding a permit if human remains (including archaeological remains) are to be removed, relocated, or transported.
• Unless otherwise instructed by the state medical examiner, Alaska Bureau of Investigation, or law enforcement investigator, conduct or sponsor a basic assessment of the remains, along with their associations and context, to determine time since death, race, and cultural affiliation. Forward this information to the state medical examiner, state historic preservation officer, and others identified in planning documents.

• Initiate NAGPRA consultation if the remains are determined to be Native American and the remains are from federal, federally restricted, or federal trust lands (Native allotments or town site lots). Note that compliance with state laws is also required.

• Conduct consultation with tribes and other interested organizations or individuals who may have an interest in the remains and their final disposition. Follow any identified procedures set forth during project planning.

REFERENCES

Alaska Departments of Natural Resources, Public Safety, and Health and Social Services
2004 Memorandum of Understanding Among the Alaska Departments of Natural Resources, Public Safety, and Health and Social Services Regarding the Treatment and Reporting Procedures for Human Remains and Graves. On file, Office of History and Archaeology, State of Alaska Division of Parks and Outdoor Recreation, Department of Natural Resources, Anchorage.

Smith, Frederick H.
IMPLEMENTING GOVERNMENT-TO-GOVERNMENT RELATIONSHIPS BETWEEN FEDERAL AGENCIES AND ALASKA NATIVE TRIBES

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ABSTRACT

Although tribes are recognized as “domestic dependent nations” with inherent sovereignty over their own affairs, the U.S. government has accepted various trust responsibilities such as protecting tribal rights and resources. Based on this trust relationship, federal agencies have been working to conduct meaningful government-to-government consultation on projects and policies that may have implications for tribes, including impacts to tribal cultural resources. The purpose of this paper is two-fold: (1) to provide legal background and understanding on government-to-government relationships and the federal recognition of tribes in Alaska; and (2) to present practical information on the implementation of government-to-government relationships, the inequality of funding and capacity between federal agencies and tribes, and what generally constitutes meaningful consultation to tribes. Government-to-government implementation is challenging and often involves conflict. Recommendations for enhancing implementation are included.

KEYWORDS: applied anthropology, tribal consultation, cultural resource management, ANCSA

INTRODUCTION

Working with federally recognized tribes on projects that may impact tribal cultural resources is both required by law and unique in Alaska due to the 1971 Alaska Native Claims Settlement Act (ANCSA). Cultural resource managers working for federal agencies in Alaska should at least be attentive to government-to-government consultations with federally recognized tribes, if not heavily involved. Although several cultural resource laws discuss consultation with ANCSA corporations, this article focuses solely on the requirements of federal agencies to engage in the government-to-government process with federally recognized tribes.

This article is divided into two sections. The first section provides an overview of federal policy regarding government-to-government relationships and Alaska Native tribes from 1993 to the present. Topics addressed include federal recognition and how tribes become federally recognized, government-to-government relationships between the U.S. government and federally recognized tribes, and the differences between Alaska Native tribes and ANCSA corporations. The second section incorporates data gathered while researching for my masters thesis (Shearer 2005). Topics addressed provide practical information on: the implementation of government-to-government relationships; the inequality of funding and capacity between federal agencies and tribes; and, describes what generally constitutes meaningful consultation to tribes. Implementing government-to-government relationships is challenging work, and often involves conflict. Therefore, recommendations for enhancing implementation are also included.
U.S. POLICY AND ALASKA NATIVE TRIBES: 1993 TO PRESENT

There are several recent, significant dates for tribes in Alaska, as seen in Table 1.

FEDERAL RECOGNITION OF TRIBES

The existence of tribes and tribal governments predates the U.S. Constitution. In fact, tribes governed their members long before any contact with European nations (Berger 1985:137). Most of the powers of self-government that tribes possess today do not originate from congressional delegation but are inherent powers of a limited sovereignty that have not been extinguished. Thomas R. Berger, a former member of the British Columbia Supreme Court and appointed in 1983 by the Inuit Circumpolar Conference to head the Alaska Native Review Commission to review ANCSA, wrote:

Before and after contact, Native peoples of the New World governed themselves according to a variety of political systems... They were acknowledged to be sovereign as distinct peoples. They had mechanisms for the identification of territorial boundaries, the maintenance of political autonomy, and the regulations of affairs with other societies. Ancient political systems have adapted to new challenges with new forms. New institutional forms have been introduced and adopted, but decision-making at the village level remains grounded in traditional ways and values (Berger 1985:140).

The term “Indian tribe” is defined to mean “any Indian or Alaska Native tribe, band, pueblo, village or community within the continental United States that the secretary of the interior presently acknowledges to exist as an Indian tribe” (25 CFR 83.1 1994). Tribes are political entities based on history, court cases, and guardianship. Tribal recognition is not determined by race, rather it is a unique political extra-constitutional relationship (Case and Voluck 2002:384). Federal recognition allows a tribe to become eligible for federal social, health, education, and other funds available for tribal groups (Feldman 2001:100).

There is a distinct process that must be followed for tribes to be recognized by the federal government. Identifying tribes is the responsibility of the Department of the Interior, delegated to the Bureau of Indian Affairs (BIA). To become federally recognized and to establish tribal status as an Indian Reorganization Act (IRA) tribe, the group is required to document its history and the genealogies of its members (Feldman 2001:100). The report is then submitted to the BIA for review and determination. Once recognized, tribal status cannot be terminated except by an act of Congress.

Congress passed the Federally Recognized Indian Tribe List Act in 1994, which was submitted by Ada Deer, head of the BIA at that time. This act confers upon the secretary of the interior the authority to both acknowledge tribes and to publish a list of all federally recognized tribes annually. The secretary of interior’s listings since 1995 have been published according to this authorization. The most recent list, dated March 22, 2007, is found in the Federal Register Volume 72, Number 55, pages 13648–13652.

Table 1. Alaska Native tribal timeline: Significant dates 1993 to present.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>Department of Interior rules that Alaska Native villages have the same status as tribes in the contiguous 48 states (Pevar 2002:302)</td>
</tr>
<tr>
<td>1994</td>
<td>Executive Memorandum Government-to-Government Relations with Native American Tribal Governments signed by President Clinton acknowledges the U.S. government’s responsibility for consultation with tribes on a government-to-government basis</td>
</tr>
<tr>
<td>1994</td>
<td>Department of the Interior enacts the Federally Recognized Indian Tribe List Act; the list is published in the Federal Register</td>
</tr>
<tr>
<td>1998</td>
<td>Supreme Court held that ANCSA land is not Indian Country even when owned by a federally recognized tribe in Alaska v. Native Village of Venetie Tribal Government</td>
</tr>
<tr>
<td>1998</td>
<td>Executive Order 13084 Consultation and Coordination with Indian Tribal Governments signed by President Clinton</td>
</tr>
<tr>
<td>2000</td>
<td>Executive Order 13175 Consultation and Coordination with Indian Tribal Governments supersedes Executive Order 13084 and reaffirms the federal policy of government-to-government consultation with tribes</td>
</tr>
</tbody>
</table>

1 The IRA was enacted in 1934 and amended to apply to Alaska in 1936.
GOVERNMENT-TO-GOVERNMENT RELATIONSHIPS

U.S. Supreme Court Chief Justice John Marshall,² the first American jurist to define the principles of aboriginal title doctrine, described the relationship between the federal government and Native American tribes as one that is government-to-government (Case and Voluck 2002:29, 36).

That relationship is founded on principles of constitutional, international, and common law, all of which lead to the conclusion that, on a government-to-government basis, Natives are compelled to depend on federal plenary power. They are dependent on the federal government to protect their aboriginal lands and give fair satisfaction to legitimate Native land claims; they depend on the government to provide important human services when the states refuse or are unable to; and they are dependent on the government to protect subsistence resources and tribal government from state or non-Native encroachment (Case and Voluck 2002:4).

Current federal regulations further state that the United States maintains a government-to-government relationship with recognized tribes in acknowledgement of the sovereignty of those tribes. “The Government-to-Government relationship of American Indian tribes and the U.S. is a truly unique one in the world system of governments” (Utter 2002:255). It is through government-to-government consultation that federal agencies can assess the potential effect that proposed federal actions may have on tribal rights or resources (Department of Defense 1998:3).

EXECUTIVE ORDERS AND MEMORANDA

In the past, presidents were more involved in Indian affairs than at present. More recently, the president’s contact with Indian policy is “largely ceremonial and symbolic” (Deloria and Lytle 1983:34). Nonetheless, the president’s position on Native affairs is still important, since it is the president who sets the tone for the administration (Deloria and Lytle 1983:35).

President Clinton recognized the government-to-government relationship between the federal government and tribes in May of 1994 when he met with American Indian and Alaska Native political leaders on the lawn of the White House (Deloria and Wilkins 1999:38). During this meeting, Clinton stressed his support for tribal self-determination and the trust obligations of the federal government. He vowed “to honor and respect sovereignty based upon our unique historic relationship and he pledged to protect the right of tribes to exercise their religious freedoms” (Deloria and Wilkins 1999:38). This meeting was followed by Executive Order 13084, entitled Consultation and Coordination with Indian Tribal Governments, issued in 1998.³

President George W. Bush reaffirmed Indian tribal sovereignty as recently as September 23, 2004 with the issuance of an executive memorandum entitled Government-to-Government Relationship with Tribal Governments. In this memorandum, Bush stated:

My Administration is committed to continuing to work with federally recognized tribal governments on a government-to-government basis and strongly supports and respects tribal sovereignty and self-determination for tribal governments in the United States. I take pride in acknowledging and reaffirming the existence and durability of our unique government-to-government relationship and these abiding principles.

The memorandum Bush signed holds no legal authority, since it neither created new law nor new rights for tribes. It simply restated the federal government’s recognition of and support for tribal sovereignty. “Native American cultures survive and flourish when tribes retain control over their own affairs and their own future,” Bush said (Vitucci 2004).

TRIBES IN ALASKA

The primary instrument for relations between the United States and Indian nations between 1789 and 1871 was the treaty (Monette 1996:643). The last treaty between the U.S. and an Indian tribe was negotiated in 1868 (Monette 1996:643). Feeling that the treaty process was unfair to Indians, the House attached a rider to the 1871 Appropriations Act officially ending treaty making with Indian tribes. Since Alaska was purchased from Russia in 1867, treaties were not available to Alaska Natives as a means of protecting their resources or as a means of establishing their sovereignty.

² John Marshall served as U.S. Supreme Court chief justice from 1801 to 1835.
³ Executive Order 13084 was superseded by Executive Order 13175, Consultation and Coordination with Indian Tribal Governments in 2000.
Aboriginal title in Alaska was extinguished through ANCSA, which diverted the land and money settlement to Alaska Native corporations. Therefore, federally recognized tribes in Alaska are separated from the land base.4 “Tribal governments in Alaska are in the same peril in which tribal governments found themselves after the General Allotment Act [of 1887]: they do not hold title to ancestral lands, which have been deeded to private corporations composed of individual shareholders” (Berger 1985:126).

Alaska Natives are “domestic dependent sovereigns” without “territorial reach” over tribal lands. This led to court cases during the 1990s regarding tribal jurisdiction. Pevar states:

One post-ANCSA issue in sharp dispute was whether the land set apart for Natives under the act is Indian country. This issue was addressed by the Supreme Court in Alaska v. Native Village of Venetie Tribal Government (1998). In that case, a village corporation had conveyed its land to a tribal government. The tribe then sought to tax the profits made by a construction company when it built a public school under a state contract on that land, a power the tribe could exercise only if the land was Indian country. The Supreme Court held that ANCSA land is not Indian country even when owned by a tribe, and the Court thus invalidated the tax (Pevar 2002:302).

Nonetheless, ANCSA did not extinguish Alaska Natives’ special relationship with the federal government or their entitlement to services. Alaska Native people and their tribal organizations receive the same federal services available to Indians and tribes generally (Pevar 2002:303). Federally recognized tribes in Alaska continue to retain the power to “determine tribal membership, regulate domestic relations among tribal members, punish tribal members who violate tribal law, and regulate the inheritance of tribal property” (Pevar 2002:303). In addition, legislation enacted for Native Americans has also benefited Alaska Natives, including the Indian Financing Act of 1974, the Indian Self-Determination Act of 1975, the Indian Health Care Improvement Act of 1976, and the Indian Child Welfare Act of 1978 (Case and Voluck 2002:28). These laws show the ongoing trust relationship between the federal government and Alaska Natives by recognizing various Alaska Native organizations as eligible for their benefits (Case and Voluck 2002:28).

Of the 561 federally recognized tribal governments in the United States, 229 are located in the state of Alaska (Federal Register 2005:72(55)). Four of the 229 tribes are regional tribes that are not restricted to a single village location, including the Inupiat Community of the Arctic Slope, the Central Council of the Tlingit and Haida Indian Tribes, the Pribilof Islands Aleut Communities of St. Paul and St. George Islands, and the Native Village of Venetie Tribal Government. These regional tribes are comprised of individual IRA governments that assert their own recognition and rights to government-to-government relationships. This creates either duplication or conflict over which of the organizations should be recognized in various circumstances.

DIFFERENCES BETWEEN ALASKA NATIVE TRIBES AND ANCSA CORPORATIONS

There are certain dichotomies that distinguish ANCSA corporations from Alaska Native tribes, as seen in Table 2. It is important to note that federal agencies have a government-to-government relationship with Alaska Native tribes, not Alaska Native corporations.

Table 2. Comparison of ANCSA corporations and Alaska Native tribes

<table>
<thead>
<tr>
<th>ANCSA Corporation</th>
<th>Alaska Native Tribe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granted land through ANCSA</td>
<td>Not granted land through ANCSA</td>
</tr>
<tr>
<td>Not government entity</td>
<td>Federally recognized entity</td>
</tr>
<tr>
<td>Concern is profit making</td>
<td>Concern is village life, welfare and cultural knowledge</td>
</tr>
<tr>
<td>State-chartered business designed for profit and subject to state laws. Trust doctrine may apply.</td>
<td>Empowered with jurisdiction over tribal membership and stands in a government-to-government relationship with the U.S. federal government. Trust doctrine applies.</td>
</tr>
<tr>
<td>Usually has money</td>
<td>Usually has no money</td>
</tr>
</tbody>
</table>

Source: Adapted from Sandra Borbridge (Borbridge 2002, written communication)

4 With the exception of Annette Islands Reserve, a federal Indian reservation created in 1891 that was not extinguished by ANCSA.
THE PRESENT STATUS OF GOVERNMENT-TO-GOVERNMENT IN ALASKA

The data for the remaining portion of this article come from transcripts of interviews of Alaska Native tribal representatives who have been involved in government-to-government consultations with the Department of Defense (DoD) and Native or tribal liaisons who work for DoD agencies in Alaska (Shearer 2005). A brief description of the research methodology and data analysis is presented below to provide context for the information.

RESEARCH METHODOLOGY AND DATA ANALYSIS

Data gathering took place over two years, beginning in May 2002 and ending in December 2004. The methodology used was solely qualitative in nature and a variety of data gathering techniques were used. Participant observation within two DoD agencies provided first-hand experience with government-to-government processes. Interviews with the tribes supplied rich qualitative data about how government-to-government consultation is viewed by the participants. Interviews with the DoD liaisons clarified the issues that liaisons face and provided context from different agencies. An interview with an Alaska Native regional nonprofit corporation representative gave insight into their organization's role as an interested party and advocate for the tribes.

The transcripts became the primary documents for ethnohistorical analysis (Barber and Berdan 1998:29). The long-table method, via computer, was used to analyze the data. The long-table approach is a low-technology, low-cost option that allows the analyst to identify themes and categorize results (Krueger and Casey 2000:132). A coding system was used to identify each quote by participant, protecting interviewee identity while allowing the analyst to trace the source of the quote (Krueger and Casey 2000:137). These participants are cited as “T” for tribal representatives and “L” for liaisons. Themes and quotations were chosen for frequency, specificity, emotion, and extensiveness (Krueger and Casey 2000:136). The following sections describe a portion of the research findings.

CONSULTATION

Consultation is one of the primary mechanisms for instituting the federal government-to-government relationship. Despite the number of legal mandates either requiring or suggesting consultation with Indian tribes, consultation is not explicitly defined in any statute. The common understanding of the term is to seek guidance or information from another person. Consultation should not be confused with either notification, which simply provides information, or obtaining consent (U.S. Army Garrison Alaska 2007:2). For example, Army guidance states that “[t]he end goal of consultation is the resolution of issues in terms that are mutually acceptable to the U.S. Army and to the participating Native American, Alaskan Native, and Native Hawaiian groups” (Department of the Army 1998:37–38). Therefore, agency representatives should enter into consultation with tribal governments before decisions have been made and with a willingness to listen and take tribal viewpoints into account.

Generally, tribal consultation means the formal, mutually agreed-upon process when an agency leader coordinates on a government-to-government basis with tribal governments. Coordination includes formal written correspondence, telephone contact, and face-to-face meetings (U.S. Army Garrison Alaska 2007:3). Consultation is intended to assure meaningful tribal participation in planning and decision-making for actions proposed by the federal government that may have the potential to affect protected tribal resources (including tribal cultural resources), tribal rights, or Indian lands.

Government-to-government consultation is required whenever a federal action or a federally funded action may have the potential to significantly affect the interests of tribal governments and their people (U.S. Army Garrison Alaska 2007:2). Government-to-government coordination is mandated even in instances when the tribe is not the landholder where tribal cultural resources may be located. Consultation is not simply sharing general information with tribes, nor is it a one-time event, but rather a process of determining how to communicate between governments. The partnerships that develop must be built on an open dialogue. Each government needs to be able to effectively understand and operate within the bounds of the other's culture.

Agencies must take an inclusive approach when evaluating which tribes may have interests affected by federal actions (U.S. Army Garrison Alaska 2007:3). Tribal sovereignty means that tribes themselves are in the best position to decide whether they have an interest or may be affected by federal activities. Consideration should be given to the wide geographical area that tribes use for subsistence hunting and fishing and the effects of the federal activities on
these resources. It is better to include many tribes, rather than miss an opportunity for early consultation, or worse, determine on behalf of the tribes that particular tribal villages should not have any interest based on current location. Tribal villages may have been relocated or moved from traditional areas and may be interested in projects and policies despite their current geographic locations.

Affected tribes must be afforded an opportunity to participate in the decision-making process to ensure that tribal interests are given due consideration in a manner consistent with tribal sovereign authority (U.S. Army Garrison Alaska 2007:3). It is suggested that federal agencies adopt formal procedures to establish effective relationships with federally recognized tribes. General and frequent consultation, outside the pressures of specific agency proposals, is most advantageous to developing meaningful consultation (Department of Defence 1999:(d)).

TRIBAL INFRASTRUCTURE AND CAPACITY

Due to federal funding and bureaucratic structure, federal agencies generally have a much higher capacity to produce and process paperwork than do most federally recognized tribes. Tribes are generally small with few paid staff and little to no economic backing (T7 2004:4), whereas federal agencies are massive national bureaucratic organizations funded by the taxpayers. Very few tribes have the infrastructure required to work on a government-to-government level. “[Agency personnel] are directed to deal with [tribes] as a sovereign entity, but many of them can’t operate as a sovereign entity. The tribes are poorly funded” (L2 2004:5). Government-to-government coordination can become a burden to the tribes that lack the funding, expertise, and personnel to deal with federal issues (L6 2004:2–3). The challenge for federal agencies is to create meaningful consultation when the equation is so uneven (L6 2004:6).

Building infrastructure and technical capacity requires funding and training (T1 2004:5; T2 2004:5). Some federal agencies, such as the Department of Defense, have been able to build their own capacity with the way they address Alaska Native relations by instituting aggressive, dedicated programs to create competencies (T1 2004:10). Tribes do not have the resources to match such agency efforts (T1 2004:5). “Tribal capacity affects government-to-government [relationships] a great deal in a small tribe where there are only a few personnel on staff” (T5 2004:1). Yet it is inappropriate for outside agencies to suggest that tribes don’t have the capacity required to work with a federal agency.

“[T]he tribe needs to request that they need help…. Politically and ethically, it is a very fragile playground and you have to be very careful how you approach that…. You certainly don’t want to imply that they don’t have capacity. (T1 2004:5)

Another aspect that affects tribal infrastructure is the fact that many tribes are located in small rural villages that do not have the services that urban areas offer. This affects the day-to-day operation of tribal offices, such as having proper telephone services or getting routine maintenance for office equipment (T3 2004:5). Tribes often have to call in service representatives from urban hubs, and it may take days or weeks to receive service (T3 2004:5).

Regardless of the capacity challenges that tribes face, they are confident that the education of their own people will cause improvement from within. When discussing government-to-government relationships, a tribal member stated:

“We are becoming more educated. We have more young people who are going away to attend school who are becoming educated at the college level, who chose to return to their village to work and fight for their people’s rights…. Now we are loaded with the tools we need to fight the government back. We are putting ourselves at their level with the education that is needed to stand in front of them or fight with them verbally and to be able to stand our ground. And I think that a lot of people would agree with me on that basic concept. Education is the major part of all of this, a large component of the whole circle. (T3 2004:5)

Tribes are also working hard to build an economic backing for their efforts since being separated from their land and money settlement through ANCSA (T8 2004:8). Many grants and contracts received by tribes come with “strings attached”… We got to make our own economy … so we can decide what we are going to do with that money our own selves” (T8 2004:9).

Capacity is a two-way street (T8 2004:9). The tribes are not the only party that needs to work on developing capacity. Agencies also need to develop capacity to understand tribal culture and to begin appropriately incorporating traditional knowledge into agency assessments (T8 2004:9).
WHAT CONSTITUTES MEANINGFUL CONSULTATION TO TRIBES?

Consultation is more than just fulfilling the requirements of agencies to meet with tribes regarding projects that may affect them. Two-way communication is one of the keys to successful consultation (T6 2004:2). A tribal member stated:

You have to be interested in us if you expect us to be interested in you. Treat us with respect if you want respect from us. Communicate with us if you want us to communicate with you. (T3 2004:8–9)

Meaningful consultation occurs “when the tribe has had an opportunity to give their opinion and effect a change that will affect future generations” (T5 2004:1). Tribes generally judge the effectiveness of consultation based on tangible results (T2 2004:1). Tribes also want to be fully involved in planning when and how consultation occurs, and they generally want consultation to be one-on-one.

Nothing is in it for tribes when [agencies] chooses when, where and how [consultation occurs]… . When you hold these big [meetings with] 10, 15, 20 tribes in one room, consulting with certain individuals with the [agency], there is nothing in it for tribes. (T2 2004:3–4)

IMPLEMENTING GOVERNMENT-TO-GOVERNMENT RELATIONSHIPS

Government-to-government coordination with the agencies can be a burden on tribal personnel, who receive a multitude of information and requests from all federal agencies. It requires the tribe to have technical people on board, which is not a reality for most tribes in Alaska. In the true spirit of consultation, tribes want agencies to give them choices and not ask tribes to simply concur with agency decisions.

Properly implementing government-to-government relationships requires continuity and constant communication. “Coordinating with the tribes is keeping up the dialogue, working with them, assessing if something is going to impact the tribes, to get to the notification stage, and then the consultation stage, you’d have to be coordinating with them effectively” (T1 2004:9–10).

Government-to-government relationship building between tribes and federal agencies in Alaska is a fairly new phenomenon (T8 2004:1). The old days of the government telling the tribes what their decision is are over (T8 2004:1). Nonetheless, implementation is still trial and error.

ENHANCING GOVERNMENT-TO-GOVERNMENT IMPLEMENTATION

There are several ways to enhance government-to-government implementation. The ability of each federal agency to employ a full-time dedicated Native or tribal liaison position improves the program and provides for more consistent coordination (L8 2004:5). Standard operating procedures documents and/or internal policy guidance have been identified as important for continuity when there is turnover within liaison positions (L4 2004:7). All liaisons need to have direct access to and support from the leadership “because [liaisons] aren’t representing the subordinates, you are representing the leader” (L7 2004:13; L5 2004:5).

Education and technical training is a continuing need, both within agencies and also for the tribes (L4 2004:7). One interviewee expressed desire for the Alaska Inter-Tribal Council to train tribes on their powers under the policies and laws (L4 2004:7). Another training need identified revolves around the issue of contracting:

It would help the process if the tribes could be more clearly informed… That’s where the biggest disappointment rests with the tribes. The message should be clear to them that money and contracts are not an outgrowth of government-to-government. Or, if [an agency] thinks they should be an outgrowth of government-to-government, then we need clear guidance. (L2 2004:6)

Regarding the chosen location for government-to-government meetings, agencies need to either travel to villages for government-to-government meetings or provide funding for tribe’s time and travel to meetings. “Don’t expect tribes to foot the bill to come to [agency] offices in Anchorage for meetings” (L4 2004:7). Tribes request that agency personnel travel to their villages for one-on-one consultation, rather than inviting multiple tribes to group meetings in urban centers (T2 2004:2).

Natives will talk more in the outdoors and on their own turf than in meetings in town. I don’t like cities and don’t get along with them. Natives won’t talk at group meetings in the city, they won’t say a
Traveling to the villages also allows agency personnel to spend time with elders. “Elders for the most part in our tribe are too old to travel so the [agency] should come to them” (T5 2004:1).

To be successful, government-to-government consultation must be initiated at the earliest stages of proposed project development (L6 2004:1):

I think there’s got to be consultation initiated in a real early planning level of stages, even in the conceptual stages. That’s the only way it can really be successful. And that one of the best ways of doing it is having a quarterly or biannual meeting with the tribes where you start discussing what’s coming up in the long range—not that there’s any long range planning. Give them a greater opportunity to understand what’s going on. To understand and select those items that are going to be of interest to them to participate in.

Tribes want to be involved in the planning of meeting agendas and desire more consultation before government-to-government meetings (T2 2004:4). Tribes appreciate advance notice of project planning (T8 2004:16) and want agencies to be more considerate of tribal constraints such as time and funding (T2 2004:4), since government-to-government is an unfunded mandate (T1 2004:5).

Tribes want agencies to take action on items brought up during consultation (T2 2004:4) and they would like the efforts to be long-term (T8 2004:15). A tribal member expressed the need for written agreements in order to combat the problem of broken promises. “If a handshake don’t mean anything, then we need to write it down. It don’t mean nothing—you have to have it in writing” (T8 2004:16-17).

Lastly, vast improvements can be made through communicating on a regular basis with the tribes. “Don’t be afraid of picking up the phone or e-mailing the tribes… . Interact with [tribes] just like you would any other group, whether it is a contractor or a regulatory agency, communicate with calls and e-mails” (L1 2004:6).

CONCLUSIONS

It has been determined that Alaska Native tribes have the same federal status as do tribes in the Lower 48. Federally recognized tribes possess the inherent rights of self-government and are entitled to certain federal benefits because of their special trust relationship with the U.S. government. The relatively new mandates for government-to-government consultation discussed in this article have given further credence to the sovereignty of tribal governments and have become an avenue for further relationship development between federally recognized tribes and the U.S. government.

As discussed, there are several things federal agencies can do to reduce the challenges that government-to-government relationships impose on tribes. Funding for tribal programs and staff are essential for tribes to participate in government-to-government consultation on more meaningful terms and to develop the level of capacity tribes need to work with the federal government as sovereigns. At a minimum, agencies should make an effort to hold government-to-government meetings in the villages or offer reimbursement for tribal time and travel for meetings held in urban hubs.

Agencies should host training for tribes on the unfamiliar processes they expect tribes to participate in, such as the National Historic Preservation Act and National Environmental Policy Act. Also, agency personnel involved in government-to-government relationships must be trained in Alaska Native cultural awareness and working with Alaska Natives. Training can be supplemented with guest speakers, videos, handbooks, and agency-specific standard operating procedures for government-to-government consultation.

Federal agencies must investigate ways to contract with tribes as they have with other governments, including state and municipality governments. Contracting with tribes during the coordination of work in rural villages would serve two purposes. It would enhance the economics of rural Alaska while also boosting trust between the parties. Tribes would no longer feel that the government “came in the middle of the night, did their thing, and off they went” (T3 2004:2).

Agencies should host non-project-related meetings to enhance the quality of government-to-government relationships. Non-project-related meetings allow tribes to discuss issues of importance to them and not just focus on agency agendas. Tribes should be involved in the planning of the meeting agendas.

Government-to-government communications can be further enhanced when agencies hire full-time dedicated Native or tribal liaisons trained in cross-cultural communications and Alaska Native culture. Employing a full-time liaison improves the program by providing for more
consistent coordination. However, liaisons must have the support of and direct access to agency decision makers to facilitate effective communication.

Most importantly, government-to-government relations must be initiated at the earliest stage of proposed project development to be successful. This gives tribes a greater opportunity to understand projects, be involved in planning, and select those projects in which they are interested. Throughout the process, agencies must give the proper consideration to a variety of tribal constraints, such as time and funding.

Bridging these two worlds through government-to-government relationships will continue to be challenging, as the differences between tribes and federal agencies are immeasurable:

Villagers are more likely to view their world holistically, interrelated in a complex web of social, political, cultural and economic forces; all connected with the land, spiritual beliefs, and collective history and experience. Representatives of federal and state agencies interfacing with tribes approach them with highly focused agendas emanating from specific institutional programmatic goals. Each federal and state bureaucracy has its own culture, policies and rules and regulations that present a morass to a handful of tribal administrative staff attempting to advance community goals and get tasks accomplished. (Sprott and the Louden Tribal Council 2000:38)

Nonetheless, people work together best when they respect each other and are truly interested in each other's needs. To be productive and successful, federal agencies must not “just check the box” but rather make an effort to fulfill the true spirit of Executive Order 13175, Consultation and Coordination with Indian Tribal Governments. It is through effective government-to-government coordination, which includes additional funding, greater involvement and responsiveness to tribal interests, and concern for present activity, that the federal government can both achieve its goals and ensure compatibility with tribal interests.

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COMPLETING THE CIRCLE: THE ROLE OF PUBLIC EDUCATION IN CULTURAL RESOURCE MANAGEMENT

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ABSTRACT

Public education programs about our nation’s cultural resources are mandated by federal law and carried out by CRM professionals around the country. Education initiatives and nationwide programs, along with some innovative programs developed specifically for Alaska audiences, have flourished over the last 15 years and are described in this paper. Although a variety of audiences are now being reached, it is argued that an effort should be made to reach other segments of the population. Fresh voices, creative approaches, and strong partnerships are needed to effectively communicate new and interesting CRM stories, and thus complete the circle of funding by the public to education for the public.

KEYWORDS: federal and state agencies, public education audiences and programs, conservation education

INTRODUCTION

Sitka’s Castle Hill may be the perfect place to provide the public with what they deserve in terms of public archaeology. As a national historic landmark, where Alexander Baranov constructed his “castle” during the Russian-American era and also where the American flag was raised for the first time in Alaska in 1867, the site contains many elements important in state and local history within a single, confined location. In 1995 and 1997–98, the public got a close-up look at an exciting project with well-informed archaeologists as guides to understanding the excavation process and the artifacts recovered. Dave McMahan of Alaska’s Office of History and Archaeology,1 made the most of this unique site and location in his research design for archaeological testing before renovations for improved public access at Castle Hill. By including local museums and historical societies, government agencies, Alaska Native groups, and universities as participants, he enabled local people to become involved in the project. Tourists learned about the site during visits to the excavations and public lectures in Sitka (Fig. 1), while people around the state and country learned about it in the newspaper or on the radio (McMahan 2002). The Castle Hill Project exemplifies the concept that education is not something to be tacked onto the end of a project but something that should be interwoven into the whole process, completing the circle of funding from the public to interpretation for the public.

1 Archaeology is spelled “archeology” when citing federal government publications and programs.
Although educational programs are legislated as one of the many activities integral to cultural resource management (CRM), there are few guidelines that specify exactly what form these programs should take. Depending on an agency’s emphasis, the specific job description, and the CRM staff’s individual interests and inclinations, education can be interpreted to mean anything from simply making the results of a CRM report available to the public to establishing a nationwide program for school-age children and their teachers. This very broad definition of what public education actually encompasses provides an opportunity for some innovative approaches. This paper will highlight the variety of approaches used by state and federal agencies nationally and in Alaska. Some fundamental questions in planning and implementing these programs are also addressed. Who are the appropriate audiences for public education programs? How do we measure the success of these programs, and are they effective in bringing about changes in public perception of the value of our cultural resources?

THE LEGAL MANDATE FOR PUBLIC EDUCATION PROGRAMS

Within the language of a multitude of laws and regulations pertaining to historic preservation and cultural resource management are some very clear directives about public education, beginning with the Historic Sites Act of 1935. In Section 1, the act declares that “it is a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States” (16 U.S.C. 461). The secretary of the interior, through the National Park Service (NPS), is charged with the responsibility of carrying out this policy, which includes several duties and functions, including to “develop an educational program and service for the purpose of making available to the public facts and information pertaining to American historic and archaeological sites, buildings, and properties of national significance” (U.S.C. 462(j)).

Figure 1. Visitors learn about Alaska history and archaeology while visiting the Castle Hill site excavations in Sitka (photo courtesy of Dave McMahan).

2 The federal laws referred to in this section are published in the United States Code (U.S.C.).
The responsibilities for historic preservation were expanded from primarily the National Park Service to its partners in other federal agencies; state, local, and tribal governments; and private organizations with the passage of the National Historic Preservation Act (NHPA) in 1966, amended in 1980 and 1992. Included within the activities defining “historic preservation” in Section 301 of the act are those of interpretation, education, and training (U.S.C. 470w). However, it was not until the Archaeological Resources Protection Act of 1979 (ARPA) that a real mandate was made for all land-managing agencies to institute public education programs. Section 10(c) of ARPA reads: “Each Federal land manager shall establish a program to increase public awareness of the significance of the archaeological resources located on public lands and Indian lands and the need to protect such resources” (U.S.C. 470ii(c)).

In more recent years, the push for incorporating public education programs more consistently throughout all cultural resource management programs has accelerated, particularly in federal agencies under the Department of the Interior. In 1999, Secretary of the Interior Bruce Babbitt reissued the National Strategy for Federal Archeology, a policy originally set forth a decade earlier by his predecessor, Manuel Lujan. Among the four general areas of emphasis in the strategy was the incorporation of public outreach activities in archaeological projects. Specifically the policy states that outreach and participation are to be increased by (1) establishing education programs as a regular agency function, (2) interpreting archaeological research for the public in a way that is accurate and understandable, (3) considering the views of diverse cultural groups when interpreting the past, and (4) engaging the public in archaeology through professionally directed volunteer programs (National Park Service 2005a).

In Alaska, cultural resource managers are given additional responsibilities for assistance programs, including interpretation, displays, and training through the Alaska National Interest Lands Conservation Act (ANILCA). However, in ANILCA, unlike previous legislation that refers in the most general terms to the “public,” the intended audience for this assistance—Native Corporations and Native groups—is specified in Section 1318 of the act.

[T]he Secretary may, upon the application of a Native Corporation or Native Group, provide advice, assistance, and technical expertise to the applicant in the preservation, display, and interpretation of cultural resources, without regard as to whether title to such resources is in the United States. Such assistance may include making available personnel to assist in the planning, design, and operation of buildings, facilities, and interpretive displays for the public and personnel to train individuals in the identification, recovery, preservation, demonstration, and management of cultural resources. (16 U.S.C. 3206; 461)

In many cases, federal agency public education programs designed specifically for village audiences in Alaska take their mandate from Section 1318 of ANILCA.

**PUBLIC EDUCATION PROGRAMS ON A NATIONAL LEVEL**

It took several years after the passage of ARPA for public education programs to gradually come into focus as an important aspect of CRM. William Lipe (1977:21–25) recognized the value of such programs in the late 1970s, when he stated that public education and its objective, public support, were crucial to the conservation of archaeological sites, but very little of the work was being done at that time. Arizona archaeologists took the lead on public education programs in the mid-1980s because they recognized that the “cops and robbers” approach of site protection was not a positive long-range tactic. The Arizona Archaeological Council organized the Archaeology for the Schools Committee in 1985, with the goal of enhancing appreciation of archaeological resources among the state’s younger citizens (Rogge and Bell 1989). They promoted archaeological awareness to teachers as a supplement to the curriculum rather than another in a long list of mandatory topics to be covered during the school year, and cast their materials in the lesson plan format familiar to teachers. Their pilot presentation to teachers was made during the spring 1987 celebration of Arizona Archaeology Week. The concept of Archaeology Week, initiated in Arizona in 1983 with overwhelming public approval, has now been adopted by nearly every state in the union.

In 1988, the Society for American Archaeology (SAA) got on the public education bandwagon by developing the Save the Past for the Future Project. SAA archaeologists enlisted the aid of federal agencies, along with state and private organizations, to understand why site looting and vandalism occur and provide opportunities for public education (Reinburg 1991). After the SAA 1989 Anti-Looting Working Conference in Taos, New Mexico, there was a consensus from the conference participants that
public education would be the most effective long-range and broadly based solution to the problem of site destruction. By 1990, a growing contingent of the membership established the SAA Committee on Public Education (Society for American Archaeology, Committee on Public Education 1990). The SAA Public Education Committee has been very active over the last 15 years, producing newsletters (printed and electronic), teaching modules, and a traveling exhibit and establishing a network of state and provincial archaeology education coordinators. In 2000, SAA published *The Archaeology Education Handbook: Sharing the Past with Kids* (Smardz and Smith 2000), an edited volume of articles that deal primarily with the interface between archaeologists and educators.

In 2002, a special issue of the *SAA Archaeological Record*, the main newsletter of this nationwide organization, was devoted to public outreach. Among the contributors to the issue was Brian Fagan, professor at the University of California Santa Barbara and author of several books that make reading about archaeology interesting for just about anyone. His short article concludes with these remarks:

> Public outreach is one of the most fundamental issues facing archaeology today. In recognizing this, we should be aware that innovative approaches both in the classroom and in the wider public area are long overdue, expanded use of interactive teaching methods and the Web being among them. And, above all, we have to realize that the best archaeology is written in fluent, jargon-free prose that makes people want to learn about the past, not avoid it because it is incomprehensible. (Fagan 2002:7)

Also in this special issue of the *SAA Archaeological Record* is an article by Barbara Little, who provides a resource guide to the variety of programs sponsored by federal agencies (Little 2002). In it she lists programs developed by the Forest Service, Natural Resource Conservation Service, Bureau of Land Management, Bureau of Reclamation, Fish and Wildlife Service, Minerals Management Service, National Park Service, Army, Army Corps of Engineers, Navy, Smithsonian Institution, and the Department of Transportation. Much of the information about individual programs is available on line by accessing the home page of each of the agencies listed above. What is important to recognize in discussing the programs of these various federal agencies is that their programs were not developed in isolation. Although each agency has a unique spin on how to market and implement their own heritage programs, it is clear that forging partnerships between cultural resource managers; educators; state, local, and tribal governments; and private preservation and funding organizations has been fundamental to making the programs viable and effective in terms of public outreach.

It is probably fair to say that, given the mandate established by the 1935 Historic Sites Act, the NPS has taken a leading role in developing educational programs for the public in history, anthropology, and archaeology. One of the functions of the Washington, D.C., office of NPS is to administer the National Register of Historic Places, established by the NHPA in 1966. The national register is familiar in the CRM context because prehistoric and historic sites, districts, or structures must pass muster with national register criteria of significance in order to be considered in the preservation process. National historic landmarks are at the pinnacle of all properties listed on the national register. In the context of public education, the national register is also a valuable tool, which is often overlooked as a source of excellent research and interpretive materials. Historic context, the narrative in each nomination that serves to anchor the property in time, place, and theme, are useful in historical publications, tourist pamphlets, walking tour notes, and educational manuals directed at elementary and secondary school students. These nominations are in fact used in a well-established national register program, known as Teaching with Historic Places, which integrates information from the nomination with the history curriculum for grades 5 through 12. It currently includes more than 115 classroom-ready lesson plans, categorized by United States History Standards, available on the web. Among these units is a lesson about Attu, one of Alaska’s national historic landmarks, which is important for understanding the effects of World War II at home (History Standard 3C) and how the Allies prevailed (History Standard 3B) (National Park Service 2005b).

Other National Park Service programs, publications, and web sites have been developed since the great push of the late-1980s to improve the role of public education in CRM. For example, the NPS took an active role in compiling and distributing information about existing activities and programs through a publication known as LEAP (Listing of Education in Archaeological Programs) and through an administrative branch known as the Archeological Assistance Branch (Smith and McManamon 1991). The drive behind these programs continues today through the efforts of the NPS Southeast Archeological Center (SEAC) in Tallahassee, Florida. SEAC spearhead-
ed a public interpretation initiative designed to foster an exchange of ideas between archaeologists and education professionals. Activities resulting from this initiative include academic symposia, workshops, and training sessions presented in both national and international forums (Jameson 1997:11). One of the products of this initiative is a book entitled *Presenting Archaeology to the Public* (Jameson 1997), which focuses on interpreting archaeology in cities, museums, parks, and sites.

The Bureau of Land Management (BLM), the U.S. Department of Agriculture Forest Service, and the Department of Defense also initiated some very successful nationwide programs during the late 1980s. Adventures in the Past, a BLM program created in 1989, evolved into a far-reaching Heritage Education Program which includes Project Archaeology. It was designed in Utah by the BLM and an interagency task force on cultural resources to help combat vandalism of archaeological resources by teaching young citizens to value and protect the past. The program includes three components: curriculum materials compiled in *Intrigue of the Past: A Teacher's Activity Guide for Fourth through Seventh Grades* (Smith et al. 1996), a delivery system of teacher training workshops, and ongoing teacher support. In addition, several states with active Project Archaeology programs developed state-specific handbooks; Alaska’s is called *Intrigue of the Past: Discovering Archaeology in Alaska* (Laubenstein and King 1996).

The Forest Service initiated another variation of heritage preservation in Windows on the Past, which fostered an exciting program called Passport in Time (PIT). PIT offers volunteers the opportunity to participate in cultural resources projects such as test excavations, inventories, historic building restorations, architectural documentations, and rock art recordings in programs throughout the country. Not to be overlooked is the Department of Defense Legacy Resource Management Program, in which millions of dollars have been spent for a wide range of cultural resource projects, including brochures, reports, videotapes, and public awareness programs about military lands (Haas 1995:44–46).

**PUBLIC EDUCATION PROGRAMS IN ALASKA**

Public education programs in Alaska are many and varied, some stemming from national initiatives and some developed on a local level for a local audience. Project Archaeology, Passport in Time (PIT), Teaching with Historic Places, and Archaeology Week/Month, all national programs described above, have been successfully implemented in Alaska. Perhaps the most visible of these programs has been Alaska Archaeology Month. Beginning as Archaeology Week in 1990, the program was expanded to a month-long celebration to accommodate the schedules of local organizers throughout the state, many of whom are employed in CRM and represent various agencies. They plan evening public lectures, hands-on activities for kids (Fig. 2), museum displays, and special programs such as the atlatl (spear-thrower) competitions. These competitions have been organized for the last eight years by archaeologist Richard VanderHoek in Anchorage, Fairbanks, and Dutch Harbor. Highlighting Archaeology Month is an annual poster, colorfully depicting some aspect of Alaska anthropology or archaeology and mailed to every school, museum, public land information center, tribal government, and Native corporation in the state.

The target audiences for many Alaska Archaeology Month events are school children and the museum-going segment of the adult population, because many of the events are held in museums such as the Anchorage Museum of History and Art and the Alutiiq Museum in Kodiak. In 1998, a special interest group—the Boy Scouts—became the target audience for many of the Archaeology Month activities in Anchorage. Archaeologist Robert Shaw contacted sponsors from state and federal agencies, the professional archaeological community, University of Alaska Anchorage, Anchorage School District, the Native village of Eklutna, and the Traditional Archers of Alaska in organizing a series of events that would satisfy the requirements for the newly instituted.

![Figure 2. Two boys play the “Alaska Board Game” at an Archaeology Month event at the Alaska Native Heritage Center in Anchorage (photo courtesy of Susan Bender).](image-url)
Boy Scout merit badge in archaeology (Fig. 3). The program was a resounding success and demonstrated that cooperation among various interest groups results in better programs and greater audience participation.

The Public Education Group of the Alaska Anthropological Association now provides statewide sponsorship for Alaska Archaeology Month. Composed mostly of federal and state archaeologists, the group banded together in 2000 and petitioned the Alaska Anthropological Association for affiliation as a special interest group. The rationale was that by working together, the group could increase the quality, creativity, and attendance levels for a variety of programs, including Archaeology Month, regardless of agency affiliation. There are two co-chairs who lead the Public Education Group, one of whom is designated to serve as the Alaska coordinator on the national SAA network of state and provincial archaeology education coordinators.

Besides Archaeology Month, the Public Education Group also plans and organizes a public lecture series, underwritten by the Alaska Anthropological Association. The concept of the series is to bring anthropologists from “Outside” who have the knowledge and skills to present thought-provoking lectures to both urban and rural audiences. The first lecturer in the series was Dr. Claire Smith, who is the head of the Archaeology Department at Flinders University in Adelaide, Australia, and president of the World Archaeological Congress. With Public Education Group member Karlene Leeper as her Alaska guide, Dr. Smith traveled to Skagway, Ketchikan, Anchorage, and Kodiak in 2004.

Beginning in 2006, the Public Education Group will also be working toward compiling lesson plans developed over the years by archaeologists in Anchorage and in southeast Alaska who spend time visiting classrooms. Some of these lesson plans, such as the ever-popular “Layer upon Layer” exercise, a hands-on activity that teaches children about stratigraphy and changes in artifact types over time, will be available on the web at http://www.nps.gov/akso/CR/AKRCultural/index.htm in 2006. Also to be available on this web page is the Archaeological Resource Guide for Alaska Elementary School Teachers (Carpenter et al. 1999).

In order to learn more about the variety of public education programs sponsored by CRM programs throughout the state, I sent out an informal questionnaire to 32 individuals, including members of the Public Education Group and other cultural resource managers who have been involved in some capacity with educational programs. It consisted of three questions: (1) What is an estimate of the amount of time on the job that you spend in doing public education programs or creating products (pamphlets, newsletters, etc.) that pertain to public education? (2) What type of programs and educational products have you worked on? (3) What are your thoughts about how public education programs could be made more effective?

According to the responses received (38%), it appears that the on-the-job time spent working on public education programs varies widely. The answers to Question 1 ranged from 0% to 35% of time spent on these programs. Table 1, which compiles the answers from Question 2, lists the types of programs and the target audiences. Table 2 presents a sample of the wide variety of products, ranging from pamphlets and booklets, to posters, videos, and web sites, that have been produced in Alaska.

One of the most active areas of the state in terms of public education is southeast Alaska, where the Alaska

Figure 3. Chuck Mobley helps an Anchorage Boy Scout earn his merit badge in archaeology during Alaska Archaeology Month, 1998 (photo courtesy National Park Service).
Region of the Forest Service has a growing cultural resource education program. Archaeologists work with educators at many levels to improve the public appreciation of historic places and ultimately to enlist the public in the stewardship and protection of archaeological and historic places. High on their list of rewarding activities are visits to elementary school classrooms (Fig. 4). Forest Service archaeologists have created several products for use by educators, such as the “Passages” brochure (U.S. Forest Service 1993). Beginning as a timeline of human occupation in southeast Alaska and containing illustrations of scenes from the lives of past inhabitants, the brochure takes the reader from the earliest southeast Alaska residents to the beginnings of the 20th century. Another product is the “Alaska Region Rock Art” brochure (U.S. Forest Service 2001), showing images of petroglyphs and pictographs. It attempts to inculcate a conservation ethic in the reader by stressing noninvasive enjoyment of rock art, such as photography. In the Chugach National Forest, archaeologists have sponsored Passport in Time programs, such as one focused on the history and archaeology of an historic cabin, and testing at prehistoric sites with youth of the Kenaitze Indian Tribe (Heritage Programs of the Tongass and Chugach National Forests 2002).

**Table 1. Target Audiences for CRM Public Education Programs in Alaska**

<table>
<thead>
<tr>
<th>Audiences</th>
<th>Programs</th>
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</thead>
<tbody>
<tr>
<td>Elementary School Classrooms</td>
<td>Visits and programs by teacher request; Archaeology Month; BLM Outdoor Week; Fairbanks BLM Outdoor Days; mock dig site at BLM Campbell Creek Tract</td>
</tr>
<tr>
<td>Middle, High School Classrooms</td>
<td>Visits and programs by teacher request; Alaska History program in Sitka; National History Day in Alaska; electronic field trip on totem poles; career days; culture camps; field and lab opportunities in Barrow</td>
</tr>
<tr>
<td>Colleges and Universities</td>
<td>Visits and presentations by request; opportunities for internships and mentoring programs; Western Arctic National Parklands archaeological research lab at UAA</td>
</tr>
<tr>
<td>Educators</td>
<td>Project Archaeology; Alaska Humanities Forum Teacher Institutes for Alaska Studies; resource guides for Alaska teachers</td>
</tr>
<tr>
<td>Visitors to Parks, Museums, Recreation Areas</td>
<td>Field trips to local sites; Castle Hill site interpretation; ranger-led programs in Sitka Historic Park; volunteer archaeology at old Knik townsite</td>
</tr>
<tr>
<td>Special Interest Groups</td>
<td>Boy Scout merit badge and Boy Scout Jamboree; volunteer programs such as Passport in Time; Alaska National Resource and Outdoor Education presentation; presentations to lodges and businesses</td>
</tr>
<tr>
<td>Rural Alaska (Villages)</td>
<td>Presentations in NPS-affiliated villages, Archaeological Mentorship Program; CRM program in Village Management Institute; Public Education Group lecture series; testing program involving Kenaitze youth</td>
</tr>
<tr>
<td>General Public</td>
<td>NPS, BLM, FS web sites; Archaeology Month presentations; various brochures, pamphlets, books distributed free of charge to the public; interpretive signs and on-site programs; public service announcements in Barrow</td>
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</tbody>
</table>

*Figure 4. Terry Fifield demonstrates flint-knapping techniques to an elementary school class in Craig (photo courtesy of Terry Fifield).*
<table>
<thead>
<tr>
<th>Educational Materials Produced by CRM Programs in Alaska*</th>
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</thead>
<tbody>
<tr>
<td><strong>Pamphlets</strong></td>
</tr>
<tr>
<td>Alaska’s Mesa Site (BLM)</td>
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<tr>
<td>Alaska Region Rock Art Brochure (FS)</td>
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<tr>
<td>Fossil Collecting and Artifact Hunting in Alaska (BLM)</td>
</tr>
<tr>
<td>Kodiak Naval Operating Base National Historic Landmark (U.S. Coast Guard)</td>
</tr>
<tr>
<td>Ladd Field National Historic Landmark (U.S. Army)</td>
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<tr>
<td>Passages (FS)</td>
</tr>
<tr>
<td>Save Alaska’s Past (NPS); Save Alaska’s Heritage (NPS)</td>
</tr>
<tr>
<td><strong>Booklets</strong></td>
</tr>
<tr>
<td>Alaska Goldrush National Historic Landmarks, The Stampede North (NPS)</td>
</tr>
<tr>
<td>Witness, Firsthand Accounts of the Largest Volcanic Eruption in the Twentieth Century (NPS, Lake Clark–Katmai Studies Center)</td>
</tr>
<tr>
<td>World War II National Historic Landmarks: The Aleutian Campaign (NPS)</td>
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<tr>
<td><strong>Newsletters</strong></td>
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<tr>
<td>Cultural Ties (NPS)</td>
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<tr>
<td>Heritage Newsletter (electronic) (OHA)</td>
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<tr>
<td>History Day in Alaska (NPS)</td>
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<tr>
<td>Sitka Historical Park Archaeological Survey Project (NPS)</td>
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<tr>
<td><strong>Resource Guides and Curriculum Materials</strong></td>
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<tr>
<td>Archaeological Resource Guide for Alaska Elementary School Teachers (NPS/OHA)</td>
</tr>
<tr>
<td>Intrigue of the Past, Discovering Archaeology in Alaska (BLM)</td>
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<tr>
<td>World War II in Alaska, A Resource Guide for Teachers and Students (NPS)</td>
</tr>
<tr>
<td><strong>Posters</strong></td>
</tr>
<tr>
<td>Alaska Archaeology Week/Month posters 1990–2006 (Public Education Group)</td>
</tr>
<tr>
<td><strong>Videos and CDs</strong></td>
</tr>
<tr>
<td>Siulipta Paitaat: Our Ancestor’s Heritage (NPS)</td>
</tr>
<tr>
<td>The Quest for Gold: National Park Service Historic Mining Sites on the Last Frontier (NPS)</td>
</tr>
<tr>
<td>Science in Our Lives (NPS, Western Arctic National Parklands/AK Dept. Fish &amp; Game)</td>
</tr>
<tr>
<td><strong>Web Pages</strong></td>
</tr>
<tr>
<td><a href="http://www.nps.gov/akso/CR/AKRCultural/index.htm">http://www.nps.gov/akso/CR/AKRCultural/index.htm</a></td>
</tr>
<tr>
<td><a href="http://www.blm.gov/education/LearningLandscapes/menu/states/alaska.html">http://www.blm.gov/education/LearningLandscapes/menu/states/alaska.html</a></td>
</tr>
<tr>
<td><a href="http://www.fs.fed.us/r10/tongass/forest_facts/resources/heritage/heritage">http://www.fs.fed.us/r10/tongass/forest_facts/resources/heritage/heritage</a></td>
</tr>
</tbody>
</table>

a The materials listed here do not include a multitude of published CRM reports and books, which are available to the general public but are usually intended more specifically for professional and resource management audiences. Acronyms include BLM (Bureau of Land Management); FS (USDA Forest Service); NPS (National Park Service); OHA (Office of History and Archaeology).
Two other programs, both in southeast Alaska, serve as excellent models for incorporating education into CRM projects. The first, in Coffman Cove on Prince of Wales Island, is sponsored by the Tongass National Forest in cooperation with the City of Coffman Cove, the Wrangell Cooperative Association (Tribe), the Southeast Island School District, and the State of Alaska Office of History and Archaeology, among others. Upcoming archaeological excavations of midden sites in the community will incorporate local volunteers, and a professional design team will prepare on-site interpretation, brochures, signage, and displays in 2006. A Project Archaeology teacher workshop3 was provided for teachers in Coffman Cove in 2005 (Terry Fifield 2005, personal communication).

The second exemplary series of programs takes place at Sitka National Historical Park, where NPS historians, archaeologists, and interpreters, and educational specialists team up for a number of programs. One of them involved students at a local alternative high school, who helped the park monitor a ground-disturbing activity at a known historic site. The park developed and provided an overview of archaeology and hosted site visits. Then, under close supervision, the students excavated the area to be disturbed (Fig. 5) and will develop a public exhibit in 2006 (Kristen Griffin 2005, personal communication).

The audiences for public education programs are different in the urban Anchorage area than in the small communities of southeast Alaska. Much of the public outreach in Anchorage and the Matanuska-Susitna Borough involves classroom visits to elementary, middle, and high school classrooms. One innovative year-long program, sponsored by the Office of History and Archaeology and the U.S. Fish and Wildlife Service, provided fifth and sixth grade students at Chinook Elementary in Anchorage with the opportunity to learn the fundamentals about archaeology and to participate in a real archaeological testing project on the Russian River. At school, the kids learned how to analyze artifacts and write reports; while in the field, they learned how to use a compass (Fig. 6) and to dig small test pits, coached by a cadre of state and federal archaeologists. OHA is also the Alaska sponsor of Project Archaeology and is involved in organizing teacher workshops throughout the state. The BLM in Anchorage takes advantage of its large tract of wooded acreage at the Campbell Creek facility by hosting an annual Outdoor Week, which includes archaeological activities, for Anchorage sixth grade students. BLM archaeologists and others from the Public Education Group are currently working on a permanent “mock dig” site at this facility that can be used in educational programs for Campbell Creek Science Center and Trailside Discovery camps held at the center every summer.

Another type of educational program developed by CRM archaeologists is village outreach. A good example of such a program is one sponsored by the Air Force (611th Civil Engineering Squadron at Elemendorf Air Force Base). It involved archaeologists working on a National Science Foundation-funded project at Uivvaq on Cape Lisburne and provided the community of Point Hope with a chance to participate in the research and testing of a site in 2000. The educational component of the project included stu-

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3 Several other Project Archaeology workshops have been conducted in Alaska, including ones held in Anchorage, Fairbanks, Bethel, Barrow, Klawock, and Wrangell.
dent interns from Point Hope, who assisted with the site excavation, and elders, who shared their knowledge of the site with the archaeologists (Karlene Leeper 2005, personal communication). Village outreach is one aspect of the archaeological program of the NPS Lake Clark–Katmai Study Center, located in Anchorage. Archaeologists travel to villages in the Lake Clark–Katmai region for public presentations during Archaeology Month in April, and special attention is provided to villages, such as Newhalen, in their requests for more intensive cultural resources assistance and student training.

Another example of village outreach programs is the Archeology Mentorship Program, sponsored by the NPS Shared Beringian Heritage Program and Alaska Regional Office. This three-year program provides training and archaeological fieldwork opportunities for young people from villages in northwest Alaska. In 2004 and 2005, village youth 16 to 22 years old from Noatak, Kiana, and Point Hope were employed in the program and had the opportunity to work with NPS archaeologists at the Tuktu-Naiyuk site, near Anaktuvuk Pass (Fig. 7), the Knik historic site in the Matanuska-Susitna Borough, and at Agiak Lake in Gates of the Arctic National Park and Preserve (Fig. 8). The Ukpeagvik Inupiat Corporation also sponsors ongoing programs for the residents of Barrow in the form of field schools, presentations in schools and for the public, radio shows, pamphlets, site signage, and science center displays (Anne Jensen, 2005, written communication).

**MEASURING AND IMPROVING THE EFFECTIVENESS OF PUBLIC EDUCATION PROGRAMS**

The success of educational programs can be measured in many different ways. In theory, we might measure success by estimating the total number of people who benefit...
from the programs. Considering the variety of audiences and many forms of public outreach, this would be a difficult task. From my own vantage point as a member of the Alaska Anthropological Association Public Education Group, active in educational outreach in the Anchorage School District, I can conservatively say that our group talks to 500 to 1,000 students every year during classroom presentations and special events, such as the BLM Outdoor Week, in Anchorage alone. However, success is not just about quantity, but also about the quality and effectiveness of the programs. Sometimes, small successes can be chalked up when a class of fourth-graders each writes a personal letter (often with a hand-drawn picture) to express thanks for an interesting presentation or when a student brings an artifact found on the beach to his teacher, who in turn calls it to the attention of an agency archaeologist. The hope is that we make a positive impact on most of these students, even if they only learn that there really are archaeological sites in their home state and not just in far-away places shown on television programs.

To the best of my knowledge, there have only been a handful of studies on the effectiveness of CRM public education programs. One of them, published in the Common Ground, a CRM magazine published by the NPS Archeology and Ethnography program, provides the results of an evaluation of the Project Archaeology curriculum sent to 550 educators who had attended the training workshops. Although the percentage of respondents was fairly low (15%), evaluation results showed that the program was largely successful educationally but may not have changed attitudes about site protection for a small percentage of students in Utah and Colorado whose families have “collected artifacts from public lands for several generations” (Moe and Letts 1998:28).

In her doctoral dissertation, Barbara Bundy (2005:161) reports the results of interviews she sent to 34 archaeologists in the Pacific Northwest about site looting. Education scored highest (in comparison to site monitoring and law enforcement) as a preventative measure to combating vandalism. The interviewees believed that multidimensional programs—in comparison to presentations to adults and children, publications and displays, informal contacts, and signage—were the most successful type of educational elements in a looting-prevention strategy. McCallum (1998) also got very positive results about the value of educational programs for instilling a resource stewardship ethic in his questionnaire for visitors to the Sandy Beach archaeological site near Petersburg, Alaska, in 1998. Most of the respondents (N=56) expressed strong values and support for heritage resource preservation and protection. He also found that they preferred personal contact and interaction, such as site tours, museums, and lectures, as activities for learning about cultural resources.

Given the results discussed above, it appears that there is a high return on the dollar in terms of public understanding and appreciation, i.e., “customer satisfaction,” for some of the existing educational programs. CRM professionals involved in public education get frequent confirmation about the value of their programs in the form of positive feedback from teachers, students, and the recipients of educational products distributed free to the public. Jane Smith, one of the Forest Service archaeologists from Petersburg, had these remarks to make on Question 3 of the informal questionnaire: “To me effectiveness is revealed in the comments I get around town, small town—lots of people know me…. It’s always positive and the community wants more. Public attendance is key. Every time it seems like we pack the room” (Jane Smith, 2005, written communication).

For some segments of the public, messages about the value of cultural resources and the need to protect them for future generations are being heard loud and clear, but in all likelihood, these people are ones already sympathetic to preservationist messages. The challenge for the future will be to reach out to more diverse segments of the population and to design even more effective ways for communicating the concept that cultural resources are worthy of study and protection. In other words, the “preaching to the choir” method of public education needs to be broadened to include harder-to-reach audiences.
The answers received from Question 3 of my informal questionnaire provided some good insights about problems in communicating about cultural resources and how to overcome them in the future. Many of the responses focused on the importance of establishing good communication with teachers, particularly by designing standards-based lessons that are easily incorporated into the classroom. The value of personal contact with the public (rather than being isolated by federal agency security systems) was stressed by one respondent, and one said that she believes we need more “glossy books” to get our messages across. Another respondent said that we need to provide more volunteer opportunities for children to become personally involved in testing sites. From the perspective of living and working in a predominantly Alaska Native community, one respondent said that public education should focus on the buyers of artifacts as souvenirs and that we should promote modern arts and crafts instead of pillaging the past.

From a personal point of view, I believe we need to turn to people with other voices, such as interpreters, educational specialists, and journalists to help disseminate information to the public. A new web site was recently developed to provide NPS interpreters with the basics about archaeology to guide them in developing their own programs (National Park Service 2005c). Television and popular magazines are all under-used as media for spreading the word about our cultural resources. An SAA Harris poll conducted on public perceptions and attitudes about archaeology indicated that television scored highest (56%) as the source of information most people relied upon to learn about archaeology, with books and magazines tying for second place. Public lectures scored only 1% as a source of information (Ramos and Duganne 2000).

Secondly, I believe that more CRM professionals need to become involved in public outreach. Peter Young (2003), editor in chief of Archaeology magazine, urges us to become storytellers in order to make archaeology accessible to the general public. Ten tips of writing for the public and presented at the Public Benefits of Archaeology Conference in Santa Fe in 1995 bear repeating here: (1) find a hook, (2) tell a story, (3) include yourself, (4) avoid jargon, (5) talk to a single reader, (6) names are important, (7) determine the data you need, (8) present the data visually, (9) emphasize theory and methods, and (10) always think audience (Allen 2002:248).

For those who are not storytellers by nature or shy away from the rowdy world of elementary school classes, there are other alternatives. Partnerships are a key element in forging ways to get information out to the public. One simple step to take in spreading the word is to team up with others who have professional communication skills or a wide network of contacts in the community or with the media.

CONCLUSIONS

Over the last two decades, there has been a nationwide surge in the number of CRM education programs. National heritage education initiatives spearheaded by the Society for American Archaeology, National Park Service, Bureau of Land Management, and USDA Forest Service, among others, have paved the way for state programs such as we have in Alaska. CRM and the public have benefited from these consciousness-raising efforts, and there are now a tremendous number of educational products, including pamphlets, brochures, newsletters, videos, and web pages, to draw upon. One lesson CRM professionals have learned over the years is that partnerships are essential to the success and effectiveness of educational programs. Partnerships need to involve not only state and federal agencies but also local and village governments and organizations, educators, and special interest groups to have the best chance of success in reaching a large audience and effectively communicating a preservation message. Ultimately, public education must be a concern for all CRM practitioners, who have many options and resources now available to use in fashioning programs to meet the needs of their own agencies and organizations or of particular interest groups or target audiences. We all have the obligation to complete the circle by making sure that the stories and images of exciting discoveries get back to the people who are paying the bills.

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Society for American Archaeology, Committee on Public Education

U.S. Forest Service


Young, Peter A.
This paper gives a personal perspective on cultural resource management (CRM), as viewed from rural Alaska. It reviews the sociocultural and economic realities of bush Alaska, which may be unfamiliar even to archaeologists based on the Alaska road system. It then describes how CRM archaeologists, and often other archaeologists, appear to many Bush residents and attempts to explain why these perceptions may arise. It lists some particular challenges that can develop due to these perceptions. Further, it describes the benefits of working in bush Alaska. It also offers some suggestions that may be helpful to those who are new to working in the Bush, to help them avoid some common problems, an outcome that will benefit both the communities and the cultural resources.

Keywords: CRM, bush Alaska, public archaeology

BACKGROUND

This paper presents my personal perspective on cultural resource management (CRM) in Alaska, as seen from rural Alaska, well off the road system, and from outside federal or state agencies. While I am not alone in working for an Alaska Native organization, or in working off the road system, the number of nonagency archaeologists living in rural Alaska is quite small. Opinions expressed in this paper are my own and in no way reflect the positions of my employers, past, present, or future.

My initial exposure to CRM came in 1982, while I was attending graduate school. I worked for several firms in the Philadelphia area and eventually owned an incorporated consulting firm, which did its first work in Alaska in 1986 at Pingusugruk, at Point Franklin. My firm was very active in eastern Pennsylvania and also did work in Vermont, New York, New Jersey, Maryland, and West Virginia. Projects ranged from work at the Betsy Ross House in Philadelphia to flood-control projects in Dolgeville, New York, and Chester County, Pennsylvania, through landfill expansions and innumerable sewer systems to ground-truthing geophysical data in support of reconstruction of the house at the Thomas Stone National Historical Site in Maryland. Clients ranged from federal and state agencies to public utilities to small municipalities to developers to a few well-to-do individuals who were interested in the history and prehistory of their property. All this gave me broad exposure to a variety of regulatory and client approaches, as well as experience with various ways to handle common cultural resources problems.
In 1994, my firm got a contract that involved field work in a large number of bush communities in Alaska. It gave me the opportunity to talk with people in quite a few villages throughout Alaska while doing background research and making arrangements for field teams, and there also was field work in a number of the communities. The same year, Glenn Sheehan, Greg Reinhardt, and I got National Science Foundation funding for excavations at Pingusugruk, fulfilling a promise we had made to people in Wainwright after the 1986 contract to find money to come back and do more work. We were still Pennsylvania-based, and traveled to Alaska for the field seasons.

WORKING FOR AN ANSCA NATIVE CORPORATION

In 1996, I moved to Barrow, Alaska. I started working for Ukpeagvik Inupiat Corporation (UIC) in early 1997. UIC is the village corporation of the Native Inupiat people of Barrow. UIC Science Division was part of the Real Estate Department and recently has been spun off as an independent subsidiary, UIC Science, LLC. UIC was created under the Alaska Native Claims Settlement Act (ANCSA) and is one of the most successful of the village corporations. In fact, it is more profitable than a number of the regional corporations. This economic success is what gave UIC the flexibility to hire and equip someone to do CRM, even though it incurred costs that were not necessarily going to be recouped quickly. Unfortunately, not all ANCSA corporations are in a financial position to take such a step.

The community of Barrow has a long history of cooperating with scientists. From the days of the first International Polar Year in 1881–83 up through the Naval Arctic Research Laboratory days, the people of Barrow worked with scientists, including archaeologists and anthropologists, and found at least some of what they did interesting and of value. This history, combined with the presence in UIC management of many people with a great interest in the cultural resources of the North Slope, is in large part why UIC chose to hire someone to handle CRM issues. Most ANCSA corporations do not have a CRM professional on staff.

WORK IN THE BARROW AREA

As senior scientist/cultural resource management specialist for UIC Science, I am the only practicing archaeologist in the community of Barrow and indeed at times in the entire North Slope Borough. As a result, most cultural resource issues that arise eventually come to my attention, not infrequently at night or on holiday weekends. For most people in Barrow, cultural resources are equated with archaeological sites and graves, although there is a growing interest in older buildings and Naval Arctic Research Laboratory sites. There is as yet little popular understanding of the category of traditional cultural properties/places (TCPs), although it is quite clear that a number of them exist in the area.

As an ANSCA corporation, UIC has title to a surface estate of approximately 91,000 hectares in the general area of Barrow. While this may seem insignificant to many cultural resource managers at federal agencies, who have rather more acreage to worry about, it is centered on Barrow, an expanding community that has a significant erosion problem and a long history of occupation. There are a number of known sites on UIC lands, including Nuvuk, Piñiq (better known to most archaeologists as Birnirk, a national historical landmark and type site of the Birnirk culture), Utqiaġvik, Nunavak, Kugusugaruk, Walakpa, and the Coffin site. Undoubtedly there are even more as yet undiscovered sites. Erosion, land use patterns past and present, and subsistence digging (Staley 1993) all take their toll.

Protecting cultural resources on UIC lands is one of my major job responsibilities. We try to keep track of these resources and their condition. Obviously, it is not possible to visit all sites nearly as often as desirable, and indeed there are certain sites that could use round-the-clock babysitters, at least on summer weekends. However, local residents, whether UIC shareholders or not, are very helpful in quickly reporting changes to sites and exposures of artifacts or graves. I respond to these reports with a site visit and salvage data if possible, often with the help of volunteers or local students. I then attempt to find longer-term solutions for the problems and funding to implement them.

UIC tries to anticipate effects from sanctioned activities on our lands and avoid them. In some cases, like the Barrow Arctic Research Center site, federal funds are involved and therefore consideration of cultural resources is mandated. Title 19 of the North Slope Borough Municipal Code has very strong language protecting cultural resources, although the current permitting process unfortunately allows many cases to fall through the cracks. The current North Slope Borough administration is examining the process in order to eliminate this problem. Even in
cases with no regulatory requirement for cultural resource studies, UIC tries to avoid impacts to cultural resources, at least in principle.

Certainly, as is the case with any private landowner, conflicts can arise between preservation of cultural resources, be they archaeological sites or TCPs, and the economic goals of the corporation. In my experience, these instances have been very rare, and it has been possible to find a way forward that meets both goals. This lack of conflict may be due to the fact that people who are planning UIC projects in the Barrow area include local residents who are generally aware of where cultural resources are located, and therefore such areas don’t even enter into consideration. I usually get a call fairly early in the process as well. My impression is that such conflicts may be more likely to arise in cases where the management is not locally resident, either regional corporations where shareholders could be from another village and thus lack specific local knowledge, or where the corporation is being run from a city on the road system, perhaps by shareholders who may have spent considerable time away from their village.

Some land in the area belongs to the City of Barrow, and there are private townsite lots, Native allotments, and shareholder homesite lots. UIC is perhaps the only ANCSA corporation that has essentially completed transfer of shareholder lots, so there are many private lot owners. The State of Alaska owns the airport and a nearby gravel pit. Nearby federal land includes a few tracts in or close to Barrow, as well as the National Petroleum Reserve-Alaska, which surrounds Barrow. The City of Barrow owns much of the Utqiagvik site, including Ukkuvqi where the frozen family (Lobdell and Dekin 1984) and the little frozen girl (Zimmermann et al. 2001) were found, and portions of the Birnirk, Thule, and pre-and-post-contact components on both sides of Kugok ravine. Other parts of the site are on private or State of Alaska land.

Although these areas are not officially part of UIC’s land, since they don’t belong to UIC, in practice I am still the person who gets called to deal with archaeological problems. Sometimes the caller doesn’t know who owns the land and assumes that it is UIC land; in other cases they know quite well but cannot think of whom else to call. The Utqiagvik site in particular is a source of a number of calls. It is located in town, it is eroding, it suffers from some subsistence digging in the hard-to-monitor areas, and it has a history of yielding frozen human remains. It also seems to contain a truly prodigious number of worn-out mukluks. When these are first exposed, they tend to be filled with ice, and when an observer grabs one, they feel hard, leading people to conclude that there is a foot inside and an attached body still buried in the bluff. At this point, they become concerned and report it to some authority, and I get urgent calls and e-mails.

WE ALL WEAR MANY HATS

In most bush communities, the majority of people fulfill a wide variety of roles. In larger urban communities, a lot of these roles would belong to separate people who would be able to devote full time to each job. Since bush communities are smaller (often much smaller), the only way to get these roles covered is for one person to fill several of them. The same individual may be an elected government official, a Native corporation board member or executive, a tribal government official, a member of a committee or commission to regulate a subsistence resource, and an elder in the church, not to mention having family obligations. This means that the person filling a particular niche may not be immediately available, often because they are filling another role of equal or greater importance.

As an anthropologist living in bush Alaska, I also wear many hats. I am a local resident, a neighbor (in Barrow) or fellow bush resident (elsewhere), an archaeologist, a cultural resources educator (both formally and informally), the person to call when bones are found or missing, someone who discourages the artifact trade (and associated looting), an ethnographer, and the person to whom weird objects are brought for identification.

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1 The biggest challenge in this regard is the former Naval Arctic Research Laboratory, which was turned over by the Navy in 1982 with no Section 106 process whatsoever. Since the Navy was essentially demolishing by neglect before the turnover, the structures are in need of considerable investment to preserve them. In some cases, they are so deteriorated that health and safety issues demand demolition. The only economically viable plan is through use of historic preservation tax credits, which require that the structures be placed on the National Register of Historic Places. The lack of any prior Section 106 documentation means that UIC will have to pay for all the work necessary to nominate the laboratory if they are to be able to take advantage of the tax credits and preserve the structures. Although many UIC shareholders worked at the Naval Arctic Research Laboratory and it is generally perceived to be culturally important, it is not as important locally as other sites.

2 Under ANCSA, there is a provision for all shareholders to receive title to primary home sites and subsistence camps, which is to come from the land transferred to the corporations.
As a knowledgeable local citizen with an interest in 
the culture and the past of my community, I attempt to 
make sure that cultural resources are taken into account 
before ground-disturbing activities, at least to the extent 
required by law. This places me in a situation that might 
be perceived as a bit of a conflict of interest. I may wind 
up urging that cultural resources studies be done (wearing 
either my local citizen or unofficial cultural resources con-
tultant to the North Slope Borough Planning Department hat) and then wind up bidding on (and carrying out, if 
all goes well) the investigations (wearing my UIC Science 
cultural resources hat). In fact, in most bush communities 
such situations arise frequently, due to the multiple roles 
people must play.

HOW DO ARCHAEOLOGISTS APPEAR 
TO NONPROFESSIONALS?

For most bush residents, and in fact for many agencies and 
businesses on the road system as well, archaeologists are 
perceived as odd and intrusive people. There are a num-
ber of reasons why this is so, some of them historical and 
therefore beyond our control. Other reasons are easier to 
address.

WE COME AS STRANGERS

Most archaeologists come to villages as strangers. 
Particularly in smaller villages, strangers are not that com-
mon, except for the revolving door of government con-
tractors and agents who often fail to interact with many 
residents. Diligent efforts to make contacts with village 
residents before arriving can help to alleviate the issue. 
The real cure is repeated contact with a community, rather than 
the situation that led Barrow Elder Warren Matumeak (in 
his younger days as a North Slope Borough official) to 
greet a visitor who announced he was from the EPA with 
“I know you. You’re a different one every time!”

HIT-AND-RUN SCIENCE

In some cases the archaeologists seem to arrive, do a project 
and depart with little or no contact with the community, 
either to explain their mission or to consult people who 
hold local knowledge. I am aware of surveys purportedly 
carried out in Barrow for which I can later find no evi-

3 To anyone, including the agencies employing the archaeologists and doing the construction.
in general, with no subsequent attempt to make sure that the letter actually reached anyone who was empowered to deal with it. There is obviously a need for radical improvement in this area on the part of agencies.

A common concern in bush Alaska is that archaeologists are chiefly interested, in the words of one anonymous reviewer, in “grabbing artifacts and taking them away” from the village. In fact, this is seldom an issue with most CRM projects, most of which are directed towards site inventory and result in little or no artifact collection. However, most village residents are familiar with academic or museum-based projects, where this has happened. Reporting to the community could help to alleviate this concern. In cases where large numbers of artifacts are collected, typically in mitigation excavations, the best course is to do as much work as possible in the community. Where all work cannot be done in the community, visual documentation of work as possible in the community. Where all work cannot be done in the community, visual documentation of artifacts before they leave the community for analysis can be very helpful and reassuring. Many people assume that an artifact is an intact tool, and therefore imagine if they are told that 1,000 artifacts are being taken that they are all complete harpoon heads, figurines, and so forth, rather than the more likely scenario of hundreds of pieces of debitage and baleen fragments, a few dozen artifact fragments, and a few complete pieces. In many cases, simply being able to see what is under discussion can change great concern to complete approval.

WHY DO YOU NEED TO DO THAT?

People in villages generally don’t know the requirements for cultural resources surveys. In many cases, even if they have had fairly recent state-funded or federally funded projects, little or no work has been carried out because agencies and their contractors often honor the relevant laws and regulations more in the breach than the observance. Thus, what people may perceive is strangers coming to town and taking away artifacts for no good reason. The artifacts are part of peoples’ cultural heritage. In some communities where subsistence digging occurs, they are also seen as an economic resource.

Access to wage labor is critical for survival even in a primarily subsistence economy, and paying jobs are very limited in villages. Archaeology, particularly shovel testing or monitoring, looks pretty simple. Residents may not understand why one of them isn’t qualified to do the job you are doing. Residents also might want to know why local people are not being hired to work “under instruction.”

In fact, projects can and should be designed to maximize work with community members. It is quite possible to train interested local residents to be effective field assistants on survey or monitoring projects and even to be competent excavators, given a reasonable amount of time and proper supervision. It behooves us to remember that many significant sites in Alaska and elsewhere in the Arctic were excavated with local residents as field assistants and often primary excavators. By using local residents as field assistants, one has the opportunity to educate community members about the importance of context, which has the potential to discourage subsistence digging. It also has the potential to expose young people to the possibility of CRM as a career, which is certainly the first step to developing more Alaska Native CRM professionals. Explaining that certain credentials are legally required to be in charge of a CRM project can serve both as an incentive for interested individuals to pursue an education and to explain why you are qualified to be the archaeologist in charge and they are not.

UNPLEASANT SURPRISES

Due to their unfamiliarity with cultural resources protection laws, people are often taken by surprise by CRM projects. Where a village is not known to have extensive cultural resources, project planning almost always assumes they will not be found. If they then are encountered, project schedules can be disrupted. This is a serious problem in villages that may be waiting for infrastructure that Alaskans on the road system have taken for granted for decades. It also may mean that paying construction jobs will not be available when residents had counted on them. Given that most villages have very few paying jobs,
high unemployment, and costs far higher than on the road system, this is an unwelcome situation. It may be exacer-
bated in cases where residents have been told (falsely) that
the costs of archaeology will reduce funds available for the
proposed project, perhaps leaving some residents without
the infrastructure benefits they had come to expect from
the project. Again, a large part of the solution to this prob-
lem is proper scoping.

**WHAT’S SO SPECIAL ABOUT THAT?**

Local evaluations of the significance of resources may dif-
fer from those of federal or state agencies. Agencies may
dispute the importance of a resource that is very signifi-
cant to the community, while showing interest in resources
to which community members are indifferent. In either
case, residents do not perceive that their history or culture
are being protected. Cultural resource protection laws do
not privilege “academic” or research interests above local
interests in determining significance.

When sites that residents don’t think are important are
determined to be significant, this can lead to interference
with community development goals and real economic
hardship. This is a real issue. Certainly, better communi-
cation of project findings to communities may change a
community’s evaluation of the importance of a resource
and thus its interest in preserving it. Cultural resource protection laws do
not privilege “academic” or research interests above local
interests in determining significance.

Challenges

Unfortunately, one of the issues with which we all have to
contend is a fairly deep-seated mistrust of members of our
discipline. While it would be grossly unfair to attribute
all of this to Hrdlička, he is held in low esteem by Alaska
Natives, even in areas such as the North Slope, where his
activities were limited. The term “anthros” and the stereo-
types that sometimes accompany it are derogatory and occa-
sionally painful.

There are notable cases where Western scientists, ar-
chaeologists or not, have proposed and occasionally done
harmful things to Native populations in Alaska and
elsewhere. The Project Charriot episode (O’Neill 1994)
featured experimental radioactive contamination of the
tundra. The caribou on which Point Hope residents sub-
sist live off that tundra vegetation. The lack of concern
with possible contamination of those caribou and the
plans to use nuclear explosions to dig a deep-water port
at Cape Thompson, despite the total lack of need for any
such port, obviously did not promote trust of non-Native
scientists. Neither did the iodine 131 experiments carried
out in Wainwright by the Army Aeromedical Laboratory.
While it is true that standards of informed consent as well
as radiation safety were different at the time, Wainwright
residents were told they were being given vitamins.

Obviously, such a history can lead to a situation in
which strange scientists arriving at a village may not be
greeted with open arms or trust. Politeness, patience,
straightforwardness, and attention to follow up on any
promises made will pay dividends not only today, but for
you or any of your colleagues who eventually return to the
village. Bad attitudes are based on bad experiences; posi-
tive attitudes can grow from positive experiences.

All Parts of the Government Communicate

One reality in many bush communities can take people
from larger communities by surprise: generally, in small
communities everybody knows everybody else’s business.
Many bush residents operate with an implicit assumption
that a similar situation exists within the federal or state
government, or at least within an agency. Thus, people will
communicate their issues and concerns with the govern-
ment to any representative of that government, whether
or not that person’s job description pertains to anything
remotely resembling the topic of concern. Archaeologists
working for an agency on contract may well be considered
equivalent to agency employees, and therefore communi-
cation with them may be considered by village residents to
be communication with the government. Obviously, care-
ful explanation of the actual situation, repeated as neces-
sary, can go a long way towards avoiding such confusion.
However, it may not solve the problem. Some years ago, I
spent almost a third of my time in the field on a project
on the Kenai Peninsula listening to the laments of vari-
ous homeowners about the design and function of vari-
ous

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ous sewage facilities. Sometimes, the best one can do is to politely take down the complaints and attempt to pass them along.

A corollary to the belief that all government people talk to each other is that you may arrive in a village to find people rather upset that something has not been done about an urgent issue that they communicated to the previous set of governmental people who passed through town. The fact that it may have been members of an Air Force Restoration Advisory Board who were told about possible toxic waste at a World War II military installation rather than someone from the Army Corps of Engineers, or wildlife biologists who were told about an eroding archaeological site, is irrelevant. Again, one can only make a plea that government personnel either make note of issues and pass them on to the appropriate agency or attempt to point people in the right direction.

**SUBSISTENCE DIGGING**

Subsistence digging (Hollowell 2006; Staley 1993) is a problem for cultural resource managers everywhere. It can be more of a problem in bush communities because often it is one of the few ways of earning any cash. As professionals we are aware of the problems it causes for preserving and interpreting the past, but these issues are not readily apparent to most local residents.

If local residents have experience with archaeology, it generally consists of seeing artifacts dug up and taken away. For elders, the excavations they may have observed were certainly not conducted to today’s standards. In fact, some of these excavations were apparently carried out with little more care than would be taken by the average subsistence digger, judging by the frequent accounts of excavating an entire frozen sod house in one day. Most non-archaeologists don’t know what happens to artifacts after they are dug out of the ground and generally imagine they just go on display at the museum right away. Thus, many subsistence diggers see little difference between what they are doing and what archaeologists do, except that if they do it the money stays in the community and their kids get fed. As noted above, they may not really understand why they are not as qualified to do an archaeologist’s job as you are.

Public education is obviously not the sole solution here. I would suggest that doing as much archaeological work (including lab work and conservation) in the community as is feasible, using local students or local hires to the maximum extent possible and making sure other community members are able to come watch, combined with talks in the schools and reports to the community, is helpful. It also may help to educate ANCSA corporation officials about the potential issues—including increased site destruction, potential increases in coastal erosion, and increased damage to private property—that may arise in connection with buying and selling artifacts as opposed to modern crafts and artwork. Both of these approaches are far easier when one has a long collaborative history with the community in question.

I would also suggest avoiding the use of the clearly pejorative terms “looters” and “looting” in instances where “subsistence digging” might be more appropriate. Much of this activity is taking place on private property. As such, it is entirely legal. Many of the participants are doing this because it is the only means available to them to earn the cash necessary to support their families. Most archaeologists are probably not in a position to create long-term stable employment in a community, which would almost certainly reduce subsistence digging. However, we can help to influence people’s attitudes and understanding of the practice in such a way that it becomes a least-preferred alternative when other opportunities do become available in the community. It seems unlikely that one will make much progress in that direction by denigrating people who are attempting to feed their families.

**MISUNDERSTANDING OF LAWS AND REGULATIONS**

Another issue that gives rise to a great deal of frustration in many villages is misinformation about various laws and regulations. This can lead to misplaced expectations and then to disappointment.

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6 My personal favorite was the family who had been given a new outhouse, approximately twice as far from their home as the old one. The new one had been constructed in Washington state and brought up to Alaska. It was a fine structure indeed but the location was really inconvenient in winter, and so it had been converted into an equally fine smokehouse. I can attest to the fact that it worked well for smoking salmon. The family liked the smokehouse well enough, but we all felt, as taxpayers, that there might have been a better use for the money.

7 The issue of subsistence digging as opposed to looting is far too complex to go into here. There is a considerable literature on the subject, (e.g., Brodie et al. 2006; Carman 2005; Matsuda 1998; Skeates 2000; Staley 1993), with which anyone working in rural Alaska should be familiar.

8 If this concept seems obscure, I would recommend a quick perusal of Carnegie (1998).
Many misunderstandings revolve around the Native American Graves Protection and Repatriation Act (NAGPRA). Most village residents have heard of it, but there are at least two main areas of misunderstanding. The first is how the process of repatriation actually works. Initial expectations often are that the request will be made to a museum, then people will travel to the museum, and their ancestors will return home to them almost immediately. The time it takes to arrange for NAGPRA grants to cover travel and for publication of repatriation plans and so forth can come as a shock. The second major area of misunderstanding concerns “objects of cultural patrimony.” To many people, this means any artifact connected with their culture, and they expect to be able to make claims for ethnographic and archaeological collections and have them returned to their villages in their entirety.

Another set of misunderstandings concerns tribal historic preservation officers (THPOs). Many tribal governments have heard of them but few actually know what the regulations are concerning the establishment of a THPO. The Indian Country Development Program has heard of them but few actually know what the procedures usually were fruitless. It has obvious deficiencies in the realm of cultural resources surveys and other activities that are now excavated as artifacts. For example, when trying to identify fragments of sewn hide, experienced skin sewers can identify the whole from a rather small fragment, based on the type of stitch used and the cut of some individual piece. Many more people spent at least part of their youth camping at what are now archaeological sites around the North Slope. When attempting to interpret sites from a hunting culture it is absolutely invaluable to be able to consult with people who have worldviews that may be somewhat at odds with those underlying Western science.

Where I work, I am fortunate that there are still some elders who remember seeing people using types of tools or other items that are now excavated as artifacts. For example, when trying to identify fragments of sewn hide, experienced skin sewers can identify the whole from a rather small fragment, based on the type of stitch used and the cut of some individual piece. Many more people spent at least part of their youth camping at what are now archaeological sites around the North Slope. When attempting to interpret sites from a hunting culture it is absolutely invaluable to be able to consult with people who have worldviews that may be somewhat at odds with those underlying Western science.

Another real benefit is that you have the chance to interact with children many times as they grow up, in the classroom and also in the summer when you are excavating near town. It gives you the chance to channel their natural curiosity about cultural resources, leading to concern for their preservation, rather than coming across as a preachy outsider who is easily ignored. For several years, I have been carrying out a major excavation of an eroding Thule cemetery with a crew composed in large part of local high-school students. I don’t believe any of them had seriously considered archaeology (or any science) as a possible career option, but several of them have gained the skills to be competent archaeological technicians, both in the lab and

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9 Due to the lack of Indian country in Alaska (other than on Annette Island), it would appear that even if a federally recognized tribe were to follow the process and obtain National Park Service approval of a THPO, they would be merely symbolic, since THPOs only have jurisdiction on tribal land, which has generally been considered to exclude lands owned by a tribe but not considered Indian country.
Two of them have worked for me on local CRM projects. Several of them are considering continuing on to higher education, and even if they don’t choose to major in anthropology, they have the skill set to work in on-campus archaeology labs or local CRM firms, instead of at a fast-food outlet. Even those who show no interest in post-secondary education understand that archaeology entails more than just picking up old artifacts. They clearly have a much greater understanding and appreciation of their ancestors’ lives and the challenges they faced, as well as the resourceful ways they met those challenges. Some students are returning for their fourth season, and a number of the other students were originally encouraged to apply to the project by friends who are already participating.

You also have the chance to interact with a variety of community members. Even if the interactions do not involve archaeology directly, they shape people’s views of archaeology and archaeologists. There are also many opportunities for some informal science education about archaeology, how archaeologists learn what they learn, the importance of context, and the problems created by uncontrolled artifact excavation. Where I live, there are alternatives to subsistence digging for people needing to support themselves and their families, and over time, one can gently nudge people away from the practice.

As relationships develop, you have the opportunity to learn what sorts of cultural resources and historic questions are most important to the community and to collaboratively develop programs that address those concerns and questions. In doing so, community members can become more engaged in archaeology and often develop interest in a much broader array of topics than they initially had. Research questions that may have been uninteresting, or even felt to be somewhat unpleasant, may over time become things community members want to know.

CONCLUSIONS

Clearly, I feel that being an archaeologist based in the Bush has major advantages when it comes to both cultural resource management and research in general. It is equally clear, however, that it is not practical for most archaeologists to operate from the Bush. For the foreseeable future, the majority of archaeologists working in the Bush will be from road-system communities or even Outside. I have made a number of suggestions throughout this paper of ways that such archaeologists can increase their chances for interactions with bush communities that are positive for community members, cultural resources, and archaeologists alike.

The following list is offered as helpful suggestions for those of us who are not fortunate enough to be able to work from the Bush.

1. Remember that people in bush communities may occupy several roles.
2. Proper scoping, including cultural resources, is absolutely crucial.
3. Make contact with the community before arriving, consult extensively, explain what you’re doing when you get there (including why the work is legally required), and return to give public presentations of the results after the project is finished. Do not rely on letters, written reports, or e-mail for any of the above.
4. Do as much work as possible in the community, including lab work. Involve young people.
5. Explain who you work for (agency or contractor) and that you are there about the cultural resources connected with a specific project. If community members raise concerns about other government-related issues, make notes and attempt to pass them on to the appropriate parties. Give the community members contact information for the appropriate parties. If you work for an agency, try to get your noncultural resources colleagues to do the same.
6. If subsistence digging appears to be an issue, gentle education about the problems it can create for understanding archaeological sites may be appropriate. Using pejorative terms, whether in community meetings or in interviews with the media in communities on the road system, is not productive.
7. If the opportunity arises, straightforward explanations of laws pertaining to cultural resources that community members may have heard about, such as NAGPRA and THPOs, can be helpful in avoiding unpleasant surprises and disappointments to the community.
8. Your actions, and those of your colleagues and crew members, affect not only people’s opinions of you and your project but their attitudes toward all future archaeologists and anthropologists who may work in that community or any other community in the region. Please try to act in a collegial manner.
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QUANTIFYING DIMENSIONS OF THE LOOTING PROBLEM AT ARCHAEOLOGICAL SITES IN ALASKA

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ABSTRACT

Protecting archaeological sites from intentional destruction requires an understanding of the dimensions of the problem. In this study, the proportion of archaeological sites in Alaska that have been looted or vandalized was quantified and statistically compared to factors thought to contribute to these activities. Three factors were significantly correlated with looting severity in Alaska: accessibility and site density were positively correlated, and the proportion of land in federal ownership was negatively correlated. Although data quality was a persistent problem and results should be considered preliminary, this analysis demonstrates that improved data on looting and vandalism are essential if we are to more effectively combat looting. Archaeologists are the ones who are in the best position to collect more systematic data on site looting, data which can then be used to more comprehensively address the looting problem.

KEYWORDS: historic preservation, subsistence digging, Alaska Heritage Resources Survey, monitoring

INTRODUCTION

The looting and vandalism of archaeological sites is a serious threat to the study of Alaska’s past. Although archaeologists and others have long recognized the problem, Bundy’s dissertation (2005) was the first study to attempt to quantify the proportion of sites that have been affected and the cultural, geographic, and economic factors thought to contribute to looting and vandalism. In this paper, we report in abbreviated form some of the results of Bundy’s (2005) study, with updated data on accessibility. Bundy divided Alaska into eight regions (Fig. 1) and estimated the proportion of looted and vandalized sites in each region. The estimates were then statistically correlated with six potentially contributing factors.

Although quantitative analysis was hampered by poor data quality and availability (estimates of the proportion of looted or vandalized sites are likely far too low), results indicated that different factors are correlated with looting and vandalism. Gathering more systematic data on looting and vandalism activity in the future will allow more reliable analyses. Improving the quantity and quality of information on looting will be time-consuming and logistically difficult, but accurate assessments are required to address this ongoing threat to cultural heritage. With this study, we hope to offer an incentive to begin improving data by demonstrating the potential of quantitative analysis and evaluating how the quality of information on looting can be improved.

The terms “looting” and “vandalism” as they are used here refer to activities that damage sites, whether or not those activities are prohibited under any federal, state, or local law. These terms will refer to acts by individuals committed for the purpose of obtaining artifacts and/or...
human remains or destroying cultural resources through vandalism. We do not address destruction of sites by construction related to development, recreational vehicle use, or other activities. Although different communities and individuals may choose to accept or reject nonprofessional digging, it clearly damages archaeological sites, and that is a concern to archaeologists and others.

**QUANTIFYING LOOTING AND VANDALISM**

Assessing which factors contribute to looting and vandalism requires estimating the proportion of sites that are looted or vandalized (it is often impossible to tell when a site was looted, or how often, so a proportion of looted sites must be used rather than a rate of looting activity). Many different sources offer data about looted and vandalized sites. These datasets differ in scale, geographic coverage, and quality. Estimating the proportion of looted and vandalized sites is difficult because sites are numerous and many are rarely visited by archaeologists or other monitors. Even when sites are visited, updated condition reports may not be gathered together at the statewide level.

In addition to problems with the information available through various sources, not all archaeological sites are known or recorded. The target population for this study is “all archaeological sites,” the population available for study is “known sites,” and the available population represents the target population to an unknown degree. Assuming an estimate can be made of the proportion of known sites that are looted or vandalized, how well does that estimate represent the proportion of all sites that are looted or vandalized? Differences between the proportion of looted sites among all sites and known sites may be significant but are impossible to quantify. For the purposes of this study, we assume that the proportion of looted and vandalized sites among known sites is similar to the proportion among all sites, with the understanding that this assumption has not been tested and may be incorrect.

With this caveat in mind, the proportion of looted and vandalized sites can be examined using several quantitative sources: responses from a survey of professional archaeologists conducted for Bundy’s (2005) study, agency annual reports, archaeological survey reports, national historic landmark condition assessments, and Office of History and Archaeology records. Survey and interview responses rely on individual perception and memory, but theoretically include all sites. Agency annual reports, national historic landmark condition assessments, and archaeological survey reports use data on file but only include a relatively small proportion of the population of known sites. State database records contain information on all known sites, but the data are often outdated or in-

![Figure 1. Alaska divided into eight regions.](image-url)
complete. Consideration of these various sources reveals that the Office of History and Archaeology database offers the best quantitative data, but other sources also provide insight into the looting problem in Alaska.

**SURVEY AND INTERVIEW RESPONSES**

Because so much important knowledge in cultural heritage protection is experiential and/or unpublished, 23 archaeologists with experience in Alaska were interviewed for this project. Interviews sought both quantitative data (answers which can be standardized and compared) and qualitative information (individuals’ descriptions of their experiences combating looting and vandalism).

One question in the interview asked these archaeologists to estimate what percentage of sites in their region(s) has been looted or vandalized. Their responses are given in Table 1. Unfortunately, the survey and interviews proved to be a poor way to estimate looting and vandalism. Many people felt uncomfortable making an estimate, and a good number of respondents answered either “99 percent” or “1 percent” regardless of region. Some regions had very few respondents, and only Region 16 (Bristol Bay and Kodiak) had a significant number of respondents. Average estimates ranged from 5 percent for southcentral Alaska to 37 percent for the North Slope, but the number of respondents is too low and the standard deviations are too high for these data to be reliable.

**AGENCY ANNUAL REPORTS**

Federal agencies compile annual reports of their cultural resources activities. Although the reports can be an excellent source of updated data, their geographical coverage is limited and different management units may keep different statistics. The utility of the reports for generalizing to the larger region may also be limited because federal lands, especially in the national park and national forest systems, may be less likely to be looted than other lands (GAO 1987:26). Reports in some regions give an indication of looting severity, but these cannot be extrapolated to all regions in the state.

**NATIONAL HISTORIC LANDMARK CONDITION ASSESSMENTS**

The National Historic Landmark (NHL) program requires that the condition of landmarks be assessed every two years, and landmark status is listed on the program’s website (NPS 2005). A “satisfactory” status rating means that the landmark is not currently at risk from development, neglect, natural processes, vandalism, or looting. “Watch” or “threatened” status means that the landmark is currently at risk, and the risk is described. Past problems that have been corrected seem to be generally noted in the narrative. Because sites are regularly visited and narrative descriptions are provided on the website, condition assessments would seem to be a useful indicator of the proportion of sites that have been looted or vandalized. Unfortunately, there are relatively few NHL properties in Alaska, and most are historic structures. Although their condition is checked regularly, the scarcity and special status of the properties makes them an inadequate sample of known sites. The condition assessments do, however, provide some insight into different threats to archaeological sites. Table 2 summarizes the most recent NHL condition assessments.

Six of 11 historic-era archaeological landmarks in the state are listed as watch or threatened. In all but one case,
the threat is neglect, development, or natural processes (such as erosion). At one historic-era site (the Japanese occupation site on Kiska Island in the Aleutian Islands), ongoing looting is reported. Of the 16 prehistoric landmarks, four are threatened by development or natural processes and six have been looted. Two of the looted sites or archaeological districts are in north Alaska (the Ipiutak and Iyatayet sites), one is on the Alaska Peninsula (Amalik Bay Archaeological District), two are in northwest Alaska (Cape Krusenstern Archaeological District and the Wales site), and one is in southcentral Alaska (the Palugvik site).

There are too few national historic landmarks to make a meaningful comparison between regions. However, looting and vandalism rates at landmarks illustrate an important point: even those sites given the highest designation of national significance and visited frequently are not protected from looting and vandalism.

ARCHAEOLOGICAL SURVEY REPORTS

Archaeological survey reports provide another source of data about the proportion of archaeological sites that have been looted or vandalized. Surveys give site condition information for a number (often dozens) of sites. To offer a recent and representative estimate of looting and vandalism, a survey report should have been published in the last 20 years, cover at least 50 sites, and describe looting and vandalism in the site condition discussion.

However, survey reports may not offer a reliable representation of sites in a region. First, the sites discussed in a survey report (newly discovered or revisited) are probably not a random sample of all sites in a region. The sample is likely biased towards sites that are easily visible, and these sites are more vulnerable to looting and vandalism. The surveyed area may not contain sites that are representative of those in the region as a whole. There may be little comparability between, or even within, survey reports. Many reports do not discuss looting and vandalism. On large surveys with several crews working independently, some crews may report looting while others do not, and these differences may not be explained in the report. Not every region in Alaska has had a large survey with a published report describing looting activity. Despite these sampling problems, survey reports provide a data source that can be compared to Office of History and Archaeology records (which are discussed below).

Survey reports meeting the criteria for this project were available for a few of the eight regions. Although a large number of survey reports have been compiled (especially since the enactment of the 1966 National Historic Preservation Act), many reports only cover small geographic areas with one or two sites, are not generally available, or are outdated. Many of the large surveys in the state were completed in the 1960s or 1970s. Surprisingly, in most survey reports where more than a few sites are discussed, site condition is not mentioned even in passing. Although survey reports did not prove to be an adequate source of statewide data on looting activity, two examples of large, recent survey reports that give site condition demonstrate how this kind of information can be used to assess which kinds of sites are at risk for looting.

The report of a large recent survey, a 1989 investigation in Bering Land Bridge National Monument, is available for northwest Alaska (Schaaf 1989). The survey, conducted in 1985 and 1986, covered 9,700 ha. One hundred sixty-two new sites were located, and an additional 62 previously known sites were visited. Of these, seven sites had definite evidence of looting, and another three had possible looting (Schaaf 1989:191–206). These 10 sites represent 4.4 percent of the total, just slightly more than the 4.1 percent reported in the state database. Although many cite northwest Alaska as a heavily looted area, the report highlights some reasons why the total number of looted sites might seem low. Many of the sites recorded were surface lithic scatters, rock cairns, and historic reindeer herding and mining features. Looting is difficult to recognize at these types of sites, where digging is not necessary to recover artifacts. Other types of historic features, such as mining ditches, are not likely to be looted. Some northwest Alaska areas, including St. Lawrence Island, are

<table>
<thead>
<tr>
<th>Site Type</th>
<th>Looting Activity¹</th>
<th>No Looting Activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic Archaeological Sites and Districts</td>
<td>1 (9%)</td>
<td>10 (91%)</td>
<td>11</td>
</tr>
<tr>
<td>Prehistoric Sites and Districts</td>
<td>6 (38%)</td>
<td>10 (63%)</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>7 (26%)</td>
<td>20 (74%)</td>
<td>27</td>
</tr>
</tbody>
</table>

¹ Including properties that are not currently listed as Watch or Threatened but have been in the past due to looting or vandalism.
well-known for looting (Staley 1993), but the kinds of prehistoric sites disturbed in these areas are not necessarily representative of all sites in the region as a whole.

A series of survey reports produced by the Alutiiq Museum in Kodiak discuss sites in Bristol Bay and Kodiak (Steffian et al. 2004). The surveys were conducted each year from 1999 to 2004. One hundred forty sites were discovered or revisited, and 22 (16 percent) showed evidence of looting (Steffian et al. 2004). Subsidence from the 1964 earthquake dropped many coastal shell middens on Kodiak into precarious positions on seacliffs that are actively eroding; hence these sites are readily visible and vulnerable to looting. The proportion of looted sites in the Alutiiq Museum survey is almost triple the 5.3 percent reported in the state database. The difference may be because sites were selected for monitoring due to their proximity to commercial fishing set net locations, and set net and recreational areas with known or suspected looting were prioritized for study (Amy Steffian 2006, personal communication). Since site monitors would not likely be asked to visit cairns or historic can scatters, but instead to focus on prehistoric village or midden sites, the proportion of looted sites may be larger than if all site types had been monitored with comparable intensity. These sampling issues, though, probably do not account for all of the difference between the Office of History and Archaeology and survey report rates. It is likely that the state database underreports looting in the region.

Archaeological surveys have the potential to offer detailed, up-to-date information on site condition but unfortunately, most do not. Survey reports that do meet the criteria for use in this project offer a more thorough treatment of looting and vandalism than state databases. The survey reports discussed here give estimates of looting activity that differ in varying degrees from estimates derived from state databases. With so few survey reports meeting the criteria, however, no pattern could be discerned that would allow state records to be mathematically corrected using survey report data. Survey reports also do not reliably offer a representative sample of sites in a region. Although archaeological survey reports are a useful source of data on looting and vandalism, they cannot be used to derive an estimate of the proportion of looted sites in a region.

OFFICE OF HISTORY AND ARCHAEOLOGY RECORDS

In this paper, we refer to the Alaska state database, also known as the Alaska Heritage Resources Survey or AHRS. The following background on the history of the AHRS was kindly provided by Dave McMahan (2006, personal communication), deputy state historic preservation officer and state archaeologist. In 1970, the BLM and Alaska Methodist University began using the “Alaska Archaeological Index” to record sites encountered in the path of the Alaska oil pipeline. This inventory consisted of site records on 5 inch x 8 inch file cards. When the Alaska state historic preservation officer (SHPO) position was established in 1971, the AHRS began with 531 file cards. In 1985, the AHRS was computerized by Steve Klingler using dBase software. In 2002, the AHRS data were converted into an Oracle database table accessed through a secure web-based interface (Archaeological Database Maintenance System, or ADMS). The SHPO staff continue to develop the functionality of the database.

Currently, the AHRS site forms include spaces for “present condition” and “danger of destruction,” and these forms are compiled into the database. Looting is noted for many sites on the AHRS, providing estimates of the proportion of looted sites in each region (Table 3). There are two main problems with the state database records,

<table>
<thead>
<tr>
<th>Region</th>
<th>Sites</th>
<th>Looted Sites</th>
<th>% Looted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. North Slope</td>
<td>4,435</td>
<td>26</td>
<td>0.6</td>
</tr>
<tr>
<td>2. Northwest Alaska</td>
<td>2,213</td>
<td>90</td>
<td>4.1</td>
</tr>
<tr>
<td>3. Interior Alaska</td>
<td>6,953</td>
<td>43</td>
<td>0.6</td>
</tr>
<tr>
<td>4. Yukon-Kuskokwim Delta</td>
<td>1,450</td>
<td>19</td>
<td>1.3</td>
</tr>
<tr>
<td>5. Southcentral Alaska</td>
<td>5,878</td>
<td>144</td>
<td>2.5</td>
</tr>
<tr>
<td>6. Aleutian Islands and Lower Alaska Peninsula</td>
<td>1,640</td>
<td>59</td>
<td>4.2</td>
</tr>
<tr>
<td>7. Bristol Bay and Kodiak</td>
<td>3,197</td>
<td>184</td>
<td>5.3</td>
</tr>
<tr>
<td>8. Southeast Alaska</td>
<td>4,650</td>
<td>108</td>
<td>2.3</td>
</tr>
<tr>
<td>Total</td>
<td>30,416</td>
<td>673</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Table 3. Site data from Alaska Office of History and Archaeology files.
though. First, noting whether a site has been looted is not required, and looting was probably observed but not mentioned for many sites. Second, many records are outdated, since many sites have not been revisited since their initial recording. Estimates of the proportion of looted sites derived from the state database are probably far too low, but the database is still the most comprehensive available source. There is little reason to believe that the sample is biased in such a way that rates in different regions are not comparable.

The region with the highest estimated proportion of looted or vandalized sites is Kodiak Island/Bristol Bay, undoubtedly because of the visibility of sites on Kodiak (as discussed previously) and the Alutiiq Museum’s monitoring program in which they update state database records. In addition, the National Park Service cultural resources staff have conducted several reconnaissance surveys in the last 10 years in Lake Clark National Park and Preserve, Katmai National Park and Preserve, Aniakchak National Monument and Preserve, and the Alagnak Wild River, which together comprise a large proportion of land in the region. The Kodiak/Bristol Bay region, then, may have the most up-to-date site information. The next highest proportion of looted or vandalized sites is in the Aleutian Islands/lower Alaska Peninsula region, followed by northwest Alaska. These three regions form a group with significantly higher proportions of looted sites than the remaining regions. Three other regions—Yukon-Kuskokwim Delta, southcentral Alaska, and southeast Alaska—form a middle tier. The North Slope and interior Alaska have significantly lower proportions of looted sites than the other regions. There may be biases in the sample, but these cannot be reliably identified or quantified, so the estimates will be accepted for the purposes of this analysis. The AHRS data set is problematic but is the only source of information appropriate for regional-scale analysis.

IDENTIFYING CONTRIBUTING FACTORS TO LOOTING AND VANDALISM

Looting is associated with some, but not all factors. In this paper, we list factors that may contribute to looting and vandalism and assess which of these factors can be quantified at the regional level in Alaska. Quantifiable factors are then cross-tabulated with looting estimates to obtain a correlation coefficient. Statistically significant correlations are then discussed.

Conditions that contribute to looting and vandalism can be divided into three overlapping and related categories: cultural, economic, and geographical. Cultural factors relate to values and attitudes held by various groups. General public perceptions about sites, collectors, and archaeologists can affect looting (Fagan 1995; GAO 1987:23). If people believe that sites are important, archaeologists are benevolent professional scientists, and looters are greedy and destructive, they are more likely to support protection efforts and report looting. Conversely, if people generally feel that sites are unimportant or numerous, archaeologists are selfish snobs or greedy collectors, and looting is a wholesome family activity, they are unlikely to participate in protecting sites (Vitelli 1981). Public perception affects attitudes held by law enforcement personnel in two ways: first, officers are community members and are likely to share general public values and opinions; and second, the level of public support for protection efforts translates into legislation and funding that facilitate or hinder investigation and prosecution of looting and vandalism (Neumann 1995). Several interviewees mentioned that looting and vandalism are sometimes tied to other crimes, such as poaching or methamphetamine use. The rate of all crimes per capita and the rate of drug crimes per capita are cultural factors that may be correlated with looting and vandalism.

Economic factors discussed in the literature include local and national economic conditions, the value of artifacts, and the ease of bringing artifacts to market. Geographic factors can be divided into two categories: the geography of the past and the geography of the present. The geography of the past refers to the type and distribution of sites and their content. Coastal shell middens and rock shelters, for example, tend to be well preserved and often contain sought-after artifacts. The geography of the present refers to various modern geographic and sociopolitical factors, including population distribution, land ownership, archaeological presence, and development (such as roads or boat launch points). Vegetation and terrain also affect the visibility and accessibility of sites.

Dividing contributing factors into cultural, economic, and geographic categories is somewhat arbitrary in that many of the factors across categories are linked (e.g., socioeconomic conditions and the crime rate; site contents and the market for antiquities). The three types of factors work together to influence looting and vandalism behavior. A 1987 General Accounting Office (GAO) report, for example, listed three major factors and two minor factors that
influence looting and vandalism activity in the American Southwest (GAO 1987:23–29). Major factors were public attitudes, the probability of prosecution, and the prices offered for artifacts; minor factors were weather and economic conditions. The GAO (1987:23) concluded that “the public generally believes that archaeological sites are abundant and they do not understand the significance of individual sites or the need for site preservation.” Further, probability of detection and prosecution is low, and prices for artifacts are high. Seasonal good weather and economic downturns exacerbate the problem. Although the Southwest is different from Alaska in many ways, there are major and minor factors in Alaska looting as well. These factors can be identified in published and unpublished literature on looting and vandalism and also from responses to Bundy’s (2005) survey and interviews.

SURVEY AND INTERVIEW RESPONSES

Most of the published and unpublished literature about looting and vandalism in the United States relates to the American Southwest. Bundy’s (2005) survey/interview respondents, however, specifically addressed regions in Alaska. Their responses offer a different emphasis than the literature; respondents tended to focus more on geographic factors and less on cultural attitudes and law enforcement. Survey respondents overwhelmingly suggested that two factors contribute to the likelihood that a region will have a high proportion of looted or vandalized sites: visibility and accessibility. In a region with high visibility, many sites are visible on the surface of the ground or in erosional cuts such as sea cliffs and stream banks. Numerous roads and navigable waterways make a region highly accessible. Table 4 lists contributing factors cited by survey respondents.

PUBLISHED AND UNPUBLISHED LITERATURE

Much of the literature on site protection is focused on law enforcement: detecting and investigating violations of antiquities law, prosecuting offenders, and meting out sufficient punishment to deter recidivism. Only three of the respondents to Bundy’s (2005) survey, however, listed “lack of law enforcement” or “lack of punishment” as contributing factors (possibly because there has been so little enforcement in the state that it is difficult to assess its effectiveness). The GAO (1987:26) report emphasized the importance of land ownership, but only two survey respondents mentioned it. These differences may reflect disparity between Alaska and the Southwest. They may also reflect the occupation and interests of the authors and survey respondents. All of the survey respondents are professional field archaeologists, while many authors are attorneys, law enforcement officers, or tribal cultural resources managers. Archaeologists may be more attuned to factors involving physical site characteristics. Different sources cite various factors as the strongest contributors to looting and vandalism; quantifying and statistically comparing factors with looting severity will help assess which of these are in fact most strongly associated.

QUANTIFYING FACTORS CONTRIBUTING TO LOOTING AND VANDALISM

Some factors thought to be associated with looting and vandalism can be quantified and statistically compared to the estimate of looting severity. Others cannot be quantified even though they may be influential. Table 5 lists the factors derived from literature and survey responses and assesses whether the factor can be quantified and statistically compared.

Table 4. Factors contributing to looting and vandalism according to survey respondents.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number of Times Cited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visibility</td>
<td>16 (23%)</td>
</tr>
<tr>
<td>Accessibility</td>
<td>13 (19%)</td>
</tr>
<tr>
<td>Proximity to a Population Center</td>
<td>8 (12%)</td>
</tr>
<tr>
<td>Isolation</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Type of Artifacts</td>
<td>3 (4%)</td>
</tr>
<tr>
<td>Preservation</td>
<td>3 (4%)</td>
</tr>
<tr>
<td>Socioeconomic Conditions</td>
<td>3 (4%)</td>
</tr>
<tr>
<td>Type of Site</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Market for Antiquities</td>
<td>4 (6%)</td>
</tr>
<tr>
<td>Previous Disturbance to Sites</td>
<td>3 (4%)</td>
</tr>
<tr>
<td>Proximity to a Shoreline</td>
<td>3 (4%)</td>
</tr>
<tr>
<td>Archaeological Activity</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Availability of Published Guides to Area Sites</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Lack of Enforcement/Punishment</td>
<td>2 (3%)</td>
</tr>
<tr>
<td>Public Interest in Area Sites</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Random Opportunity</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Land Ownership</td>
<td>0</td>
</tr>
<tr>
<td>Few Archaeologists in Area</td>
<td>1 (1%)</td>
</tr>
<tr>
<td>Total Responsesa</td>
<td>69</td>
</tr>
</tbody>
</table>

* Responses outnumber respondents (n = 23) because some respondents cited multiple factors.
Potentially important factors that can be used in geostatistical analysis include accessibility, remoteness, land ownership, archaeological presence, and site density. Those that are not quantifiable or for which appropriate data do not exist include site visibility, site type, artifact type/preservation, public attitudes, law enforcement presence per square mile and per capita, the crime rate, and the state of the legal and illegal antiquities markets. Further, the co-occurrence of erosion with other types of site damage is beyond our ability to systematically incorporate.

Factors that can be quantified on the regional level are compared to the looting severity estimate by calculating the correlation coefficient, Pearson’s $r$. The correlation coefficient, derived through linear regression, is an estimate of how much variation in one variable can be explained by variation in another variable (Drennan 1996:215). For example, a correlation of $r = 0.5$ means that 50 percent of the variation in one variable can be explained by variation in the other variable. Values for $r$ range from $-1.0$ to $1.0$, with a negative value indicating a negative correlation and a positive value indicating a positive correlation. In a negative correlation, as one variable increases the other decreases considerably, and $r = 0.2$ is a weak positive correlation in which as one variable increases, the other increases slightly. Correlation does not imply causation.

For this project, the correlation coefficient indicates how much of the difference in the proportion of looted and vandalized sites between regions can be explained by differences in a given factor between regions. The $F$ statistic and associated $p$-value offer an estimate of significance and confidence for the correlation coefficient. $F$ is calculated based on $r^2$ and the number of cases, and the associated $p$ value is then found in a table. The $p$ value represents the likelihood that the results could have been random; $p = .25$ means that there is a 25 percent probability that the results are because of chance. Factors will be compared to looting severity, correlation will be expressed using $r$ to measure direction and intensity of the correlation, and $p$ will be used to measure the significance of the result. A correlation with a $p$ value of greater than 0.5, indicating greater than a 50 percent chance that the correlation was the result of random chance, will be rejected.

### Visibility
The visibility of archaeological sites in a region (i.e., the proportion of sites that are visible on the surface or through erosion) is a function of site type, vegetation cover, and geospatially compared to the estimated proportion of looted sites. Table 5. All factors potentially contributing to looting and vandalism.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Quantifiable?</th>
<th>Quantitative Data Available?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GEOGRAPHIC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visibility</td>
<td>Maybe</td>
<td>No. Site type, vegetation cover, or the two together could potentially be used as a proxy measure of visibility, but these data at the state-wide coverage level are not available.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Yes</td>
<td>Yes. GIS layers showing roads and rivers are available.</td>
</tr>
<tr>
<td>Remoteness</td>
<td>Yes</td>
<td>Yes. Population density can be used as a proxy measure of remoteness.</td>
</tr>
<tr>
<td>Land Ownership</td>
<td>Yes</td>
<td>Yes, but data are limited.</td>
</tr>
<tr>
<td>Type of Site</td>
<td>Yes</td>
<td>No. Site type, vegetation cover, or the two together could potentially be used as a proxy measure of visibility, but these data at the state-wide coverage level are not available.</td>
</tr>
<tr>
<td>Type of Artifacts/Preservation</td>
<td>No</td>
<td>No. Site type, vegetation cover, or the two together could potentially be used as a proxy measure of visibility, but these data at the state-wide coverage level are not available.</td>
</tr>
<tr>
<td>Site Density</td>
<td>Yes</td>
<td>Yes. The National Archaeological Database provides this information.</td>
</tr>
<tr>
<td>Archaeological Presence</td>
<td>Yes</td>
<td>Yes, the Society for American Archaeology maintains a member database.</td>
</tr>
<tr>
<td><strong>CULTURAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Attitudes</td>
<td>No</td>
<td>No. Site type, vegetation cover, or the two together could potentially be used as a proxy measure of visibility, but these data at the state-wide coverage level are not available.</td>
</tr>
<tr>
<td>Crime Rate</td>
<td>Yes</td>
<td>Yes, but data for Alaska are inadequate for this study.</td>
</tr>
<tr>
<td>Law Enforcement Presence</td>
<td>Yes</td>
<td>Yes, but data for Alaska are inadequate for this study.</td>
</tr>
<tr>
<td><strong>ECONOMIC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socioeconomic Conditions</td>
<td>Yes</td>
<td>Yes. Census records include numerous measures of income and other economic factors.</td>
</tr>
<tr>
<td>Market for Antiquities</td>
<td>No</td>
<td>No. Site type, vegetation cover, or the two together could potentially be used as a proxy measure of visibility, but these data at the state-wide coverage level are not available.</td>
</tr>
</tbody>
</table>
morphology. Any or all of these could be used as proxy measures of visibility, but data at the necessary scale are unavailable. In the AHRS, site type description is left to the researcher entering the data, and many only entered “site.” Vegetation cover is an important aspect of site visibility, and some data on vegetation are available. Datasets are often limited in geographic scope, though, and adjacent coverages may come from different sources (e.g., ground survey vs. remote sensing). A question on the survey conducted for Bundy’s (2005) research asked about site visibility. Although survey respondents considered visibility the most important factor determining whether a site is looted or vandalized, they were not comfortable estimating the proportion of sites in their region that are highly visible. Archaeological survey reports are a potential source of information on site visibility, but surveyed areas may not be representative of the region as a whole. Also, as discussed above, survey reports with detailed descriptions of site condition are comparatively rare. Although it is clearly an important factor, it is not possible to quantify the proportion of sites in a region that are visible on the surface and compare that to the proportion of looted sites.

ACCESSIBILITY

Accessibility, the proportion of a region that is accessible from a populated place, major highway, or major river, can be calculated in a geographic information systems (GIS) environment. GIS vector1 layers are available for populated places, highways, coastlines, and major rivers (defined as large, navigable waterways). Each vector layer can be turned into a raster, in this case with cells 1 km2 in size. A value can be assigned to each cell based on its distance from features. Populated places and highways have more traffic than rivers, and cells near those were assigned higher values. A cell within 10 km of a populated place was assigned an arbitrary value of two, and a cell between 11 and 20 km was assigned a value of four. The same value/distance scale was applied to highways. Values were halved for distance from major rivers and coastlines because water travel is available to far fewer people than road travel; cells within 10 km received a value of one and cells from 11 to 20 km received a value of two. Cell values for each region were then averaged to produce a regional accessibility score (Table 6). Accessibility was positively correlated with the proportion of looted and vandalized sites \( r = 0.35, p = .35 \). Although the correlation is not strong, it appears that as accessibility increases in Alaska, looting severity increases.

The accessibility layer used in Bundy’s (2005) analysis did not include value scores for land adjacent to saltwater shorelines. That research produced a weak negative correlation between looting severity and accessibility. The inclusion of coastal values here produced a positive correlation. If accessibility is calculated using only distance from the coast (i.e., without values for distance from roads, rivers, or populated places), an even stronger positive correlation emerges. Using only distance from the coast, \( r = 0.51 \) and \( p = 0.13 \). This reflects low looting severity scores in regions with a lower ratio of coastline to interior lands—the southcentral and interior regions—and high looting severity scores in regions with relatively more coastline. Correlation does not necessarily reflect causation, and accessibility may not be causing looting. Interior areas tend to have different types of sites than coastal areas. In fact, because distance from roads, rivers, and populated places was weakly negatively correlated with looting (Bundy 2005), while distance from the coast was positively correlated, it seems that access alone does not jeopardize sites.

<table>
<thead>
<tr>
<th>Region</th>
<th>Accessibility Score</th>
<th>Accessibility Score without Coastlines</th>
<th>Coastline Only Accessibility Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. North Slope</td>
<td>0.55</td>
<td>0.38</td>
<td>0.11</td>
</tr>
<tr>
<td>2. Northwest Alaska</td>
<td>0.81</td>
<td>0.41</td>
<td>0.37</td>
</tr>
<tr>
<td>3. Interior Alaska</td>
<td>1.12</td>
<td>1.12</td>
<td>0.00</td>
</tr>
<tr>
<td>4. Yukon-Kuskokwim Delta</td>
<td>1.24</td>
<td>0.89</td>
<td>0.40</td>
</tr>
<tr>
<td>5. Southcentral Alaska</td>
<td>1.53</td>
<td>1.24</td>
<td>0.28</td>
</tr>
<tr>
<td>6. Aleutian Islands and Lower Alaska Peninsula</td>
<td>2.58</td>
<td>0.51</td>
<td>1.94</td>
</tr>
<tr>
<td>7. Bristol Bay and Kodiak</td>
<td>1.18</td>
<td>0.55</td>
<td>0.79</td>
</tr>
<tr>
<td>8. Southeast Alaska</td>
<td>2.27</td>
<td>0.55</td>
<td>1.58</td>
</tr>
</tbody>
</table>

1 A vector layer is a collection of individual features. A raster layer is a collection of cells, each with a value. Examples of vector data sets include roads, buildings, or populated places. Examples of raster datasets include elevation, landcover, or average annual temperature.
REMTENESS

Remoteness, an expression of the degree to which a region is developed and contains major population centers, can be estimated using population density. The 2000 U.S. Census recorded population density by county, and these data were aggregated into the regions used in this project (Table 7). We recognize that this measure does not account for differences in remoteness during different seasons. Population density was not strongly correlated with the proportion of looted or vandalized sites ($r = -0.04, p = .92$). The correlation does not have a $p$ value less than 0.50 and must be rejected.

LAND OWNERSHIP

Land ownership in a region can be divided into categories in several ways. A simple scheme might categorize land as either government-owned or private; a complex one might put each landowner in a separate category. For the purposes of this project, it is necessary to assess which categories might affect the proportion of sites that have been looted or vandalized. Private ownership can be considered a single category, regardless of whether the owner is an individual, a group, or a corporation, because cultural resource laws offer the same protection (or lack thereof) to sites on all private lands. While some private lands may be less protected (large, poorly monitored tracts), it is impossible to assess different protection levels on private land.

Government ownership is a more complex issue. Sites on federal lands are probably less likely to be looted or vandalized than sites on private land, especially in Alaska where no legal protection is offered to sites on private land. The GAO (1987:26) report indicated that sites on federal lands are protected to varying degrees, depending on the land management agency. This variation probably exists on state lands as well, with sites on conservation-oriented lands, such as state parks, possibly more protected than those on other state properties. As one of our anonymous reviewers commented, however, the Alaska Historic Preservation Act has never been used to prosecute looting, and some “quasistate” agencies (University of Alaska, Mental Health Trust, Alaska Railroad) debate the applicability of this statute to their lands. Furthermore, land ownership in some areas of Alaska is complex, and not all users may know the land ownership status or be aware of site protection laws (Amy Steffian 2006, personal communication).

Despite these complications, land ownership for this project could be divided into six categories: private, federal conservation unit (national park land and U.S. Fish and Wildlife Service land), national forest, Bureau of Land Management, state park, and other state land. However, land ownership datasets with enough detail to compile all six categories do not exist for all regions. The limitations of available data meant that only two categories could be used: federal lands and nonfederal lands. In each region, the proportion of federal land in each category was calculated (Table 8). There was a statistically significant negative correlation ($r = -0.47, p = 0.26$) between the proportion of federal land and the proportion of looted or vandalized sites.
tion of federal land and looting severity, indicating that as the amount of land managed by the federal government increases, looting activity declines.

SITE TYPE AND CONTENTS

Survey responses and published literature indicate that looting activity is often directed at certain types of sites, either because they are easy to locate and access or because their contents are valuable on the antiquities market. Eroding shell middens, historic cabins and dumps, and prehistoric sites with surface depressions are easily visible. Rock shelters, shell middens, historic sites, wet sites, ivory-bearing sites, and sites containing stone tools made of sought-after lithic material are targeted because artifacts are rare, valuable, or well-preserved.

Limited data are available about site types. The AHRS contains a site description field, but the contents vary widely. A large prehistoric village, for example, might be described as a village site, a prehistoric village, house pits, or simply a site. Site descriptions do not usually address content, which is often unknown at the time of recording. Finally, a short description of site type may not contain information useful for assessing vulnerability to looting and vandalism. For example, the term “village site” does not indicate whether depressions or midden mounds are visible on the surface or in erosional exposures, and visibility likely enhances vulnerability to looting.

Site type and contents affect the likelihood that an individual site will be looted or vandalized. On the regional level, broad areas can be characterized by the type of sites that are common. A region with many shell middens, such as the Kodiak/Bristol Bay region, would probably have a higher proportion of looted sites than a region with artifact-poor sites that are difficult to locate, such as interior Alaska. Within a region, site type differences may mask the extent of the looting problem. The proportion of sites that are looted or vandalized in a region may be low overall, but very high for certain site types.

The Kodiak archipelago offers a unique opportunity to examine the effects of site type on estimates of looting activity. Many sites in the area have been recently visited and their records updated as part of archaeological surveys following the Exxon Valdez oil spill in 1989 (Haggarty et al. 1990), cultural resource work by Native corporations, and research and monitoring by the Alutiiq Museum and Archaeological Repository. There are 1,430 sites in five USGS quadrangles (Kodiak, Karluk, Afognak, Kaguyak, and Trinity Islands, excluding sites not in the Kodiak archipelago) in the AHRS for which site type could be determined. The sites can be roughly divided into 11 categories (Table 9). Counts are approximate because some sites are minimally described.

Ten percent of the sites in the Kodiak archipelago are listed as looted or vandalized in the state database. Seven of the 11 site types, however, have higher rates. Among burial areas, shipwrecks, aircraft crash sites, and prehistoric and historic sites, burial areas, shipwrecks, aircraft crash sites, and prehistoric and historic sites.

Table 9. Kodiak archipelago site types and looting estimates.

<table>
<thead>
<tr>
<th>Site Type</th>
<th>Number of Looted or Vandalized Sites</th>
<th>Percent of Sites Looted or Vandalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREHISTORIC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Artifact Scatter or Isolate</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>Burial Area</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Feature (e.g., cairn, petroglyph)</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Subsurface Site</td>
<td>517</td>
<td>53</td>
</tr>
<tr>
<td>Midden</td>
<td>208</td>
<td>40</td>
</tr>
<tr>
<td>HISTORIC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>432</td>
<td>11</td>
</tr>
<tr>
<td>Subsurface Site</td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td>Shipwreck/Aircraft</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Cemetery</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>PREHISTORIC AND HISTORIC OR DATE UNKNOWN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsurface Site</td>
<td>137</td>
<td>13</td>
</tr>
<tr>
<td>Midden</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>1,430</td>
<td>143</td>
</tr>
</tbody>
</table>

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historic or “date unknown” middens, around 40 percent are looted or vandalized. Many sites in the third group are abandoned historic-era villages or camps built on or near prehistoric sites. These are probably well-known locally and easy to find. Burial areas, shipwrecks, and aircraft are relatively rare site types, so their high rates of looting and vandalism are obscured in the regional estimate. The disturbances to prehistoric burial areas and historic cemeteries are particularly troubling in light of their significance to local communities. Historic structures, artifact scatters, isolates, and subsurface nonmidden sites are least likely to be looted, although removing artifacts from the first three types of sites is unlikely to leave evidence. The 432 historic structures are mostly military buildings and buildings on Woody Island. The low rate of reported looting for these structures depresses the rate for the archipelago as a whole. Overall, categorizing records by site type shows that looting and vandalism is underestimated for most site types and conceals the fact that some site types are in considerable jeopardy.

The process of reading each record and assigning site type is laborious and cannot be repeated for the entire state database; Kodiak was chosen as an example because it is likely to have the most updated records. Site type and contents across Alaska are likely strongly correlated with looting and vandalism, but data appropriate for comprehensive regional analysis are not available for comparison. Improving data on site type would greatly enhance our ability to understand which sites most need protection.

SITE DENSITY

Site density can be easily calculated by dividing the number of sites in a region by the area of the region. The number of sites can only include known sites, a sample of the population of all sites. All sites may be looted, regardless of whether they are recorded, so the relationship of known sites to all sites must be consistent for the comparison to be valid. The proportion of known sites may vary between areas because many places in Alaska have never been visited by archaeologists. Places with active survey and monitoring programs, such as the Kodiak archipelago, probably have relatively more known sites. However, regions are large, which may smooth differences between areas. Site density in all eight regions is shown in Table 10.

Site density ranges from 7.3 sites per 100 km squared to less than one. The highest site density is in the Aleutian Islands/lower Alaska Peninsula region and the lowest density is in the Yukon-Kuskokwim Delta region. The average number of sites per 259 km squared is 7.6. These numbers represent a combination of the actual distribution of sites and factors that influence the collection of site data, such as geography, population density, development, and the frequency of site monitoring. Site density was weakly positively correlated with looting severity ($r = 0.39, p = 0.35$).

**ARCHAEOLOGICAL PRESENCE**

The number of archaeologists working in an area may have an effect on the rate at which looting is reported. The Society for American Archaeology maintains a database of members that can be sorted by state (Table 11). Membership in the SAA is not required of professional archaeologists, and the membership represents a sample of all archaeologists. This may not be a random sample, and it is possible that it is biased geographically; that is, that archaeologists in one region are more or less likely to join than archaeologists in another region. The database lists home or office addresses, not field work locations. The sample, then, is biased towards Anchorage and Fairbanks, population centers that host the state’s two largest university campuses and many government and state offices. Archaeologists living for most of the year outside of their field work areas may provide less surveillance, though. The

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**Table 10. Site density by region.**

<table>
<thead>
<tr>
<th>Region</th>
<th>Sites</th>
<th>km²</th>
<th>Sites per 100 km²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. North Slope</td>
<td>4,105</td>
<td>231,593</td>
<td>1.8</td>
</tr>
<tr>
<td>2. Northwest Alaska</td>
<td>2,213</td>
<td>155,207</td>
<td>1.4</td>
</tr>
<tr>
<td>3. Interior Alaska</td>
<td>6,953</td>
<td>500,620</td>
<td>1.4</td>
</tr>
<tr>
<td>4. Yukon-Kuskokwim Delta</td>
<td>1,450</td>
<td>155,476</td>
<td>0.9</td>
</tr>
<tr>
<td>5. Southcentral Alaska</td>
<td>5,878</td>
<td>206,776</td>
<td>2.8</td>
</tr>
<tr>
<td>6. Aleutian Islands and Lower Alaska Peninsula</td>
<td>1,640</td>
<td>22,403</td>
<td>7.3</td>
</tr>
<tr>
<td>7. Bristol Bay and Kodiak</td>
<td>3,197</td>
<td>132,938</td>
<td>2.4</td>
</tr>
<tr>
<td>8. Southeast Alaska</td>
<td>4,650</td>
<td>88,352</td>
<td>5.3</td>
</tr>
</tbody>
</table>
Socioeconomic Conditions

Looting around the world is associated with poverty (e.g., Lindsay 2004; Renfrew 1993). In Alaska, anecdotal evidence indicates that looting activity is more severe in economically depressed areas. Ten percent of archaeologists surveyed for this project cited socioeconomic conditions or the market for antiquities as contributing factors to looting. Some researchers, however, note that the link between looting and poverty is assumed “without more than cursory investigation” (Kaiser 1993:347). Comparing economic measures with looting activity will help evaluate the accuracy of anecdotal reports.

The 2000 U.S. Census collected data about income, including a measure of median household income. Table 12 shows median household income in all regions. The North Slope has the highest median annual household income while the Yukon-Kuskokwim Delta has the lowest, and the average median income is $45,352. Income was very weakly and negatively correlated \((r = -0.06, p = 0.89)\). The negative correlation coefficient would suggest that as median annual income decreases, looting severity increases slightly. The high \(p\) values, however, indicate that these correlations should be rejected.

Crime Rate

Several archaeologists interviewed for this project mentioned that looting activity in some cases is linked with other crimes. The Federal Bureau of Investigation (2002) maintains crime rate statistics for many, but not all, U.S. cities and counties. The “crime index” is derived by adding together the number of reported offenses in seven catego-

<table>
<thead>
<tr>
<th>Region</th>
<th>Median Annual Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. North Slope</td>
<td>$63,173</td>
</tr>
<tr>
<td>2. Northwest Alaska</td>
<td>$43,240</td>
</tr>
<tr>
<td>3. Interior Alaska</td>
<td>$33,832</td>
</tr>
<tr>
<td>4. Yukon-Kuskokwim Delta</td>
<td>$32,943</td>
</tr>
<tr>
<td>5. Southcentral Alaska</td>
<td>$35,352</td>
</tr>
<tr>
<td>6. Aleutian Islands and Lower Alaska Peninsula</td>
<td>$39,914</td>
</tr>
<tr>
<td>7. Bristol Bay and Kodiak</td>
<td>$46,581</td>
</tr>
<tr>
<td>8. Southeast Alaska</td>
<td>$51,226</td>
</tr>
</tbody>
</table>
ries. The crime rate is derived by dividing the crime index by population.

All Alaska crime statistics used by the FBI are reported by the Alaska State Troopers (2002), who compile data by local agency. However, offenses reported to the state troopers rather than to a local agency are not compiled geographically. Because Alaska State Troopers provide the only law enforcement for many remote areas, the crime index for more rural regions in the state is artificially low and the data set is unacceptable for comparison to looting estimates.

**LAW ENFORCEMENT DENSITY AND SURVEILLANCE**

The FBI compiles statistics on law enforcement agencies across the nation, including the number of sworn officers (FBI 2002). To obtain the surveillance index, the number of officers can be normalized by population density to produce the number of officers per capita. For law enforcement density, the number of officers can be normalized by area to produce the number of officers per square kilometer. However, data on law enforcement officers employed by state and federal agencies do not indicate the location where the officers are stationed, and therefore cannot be included in this project because many places in Alaska have no local law enforcement and are served by the Alaska State Troopers. As with the crime rate, better geographic data are necessary to assess the effect of law enforcement on looting.

**THE ANTIQUITIES MARKET**

Many archaeologists feel that the market for antiquities is the root cause of looting and vandalism (e.g., Renfrew 1993). This stems from the belief that commercial looting, while practiced by relatively fewer people, is more damaging than hobby looting (where artifacts are taken for personal collections, not for immediate sale). Staley (1993:352) found that “economic conditions provide the primary motive” for looting (or “subsistence digging”) by residents of St. Lawrence Island communities. Ivory artifacts, the most sought-after pieces, can be sold to dealers through several different outlets, and some pieces command prices in the thousands of dollars (Hollowell 2004). Across the United States, antiquities dealers try to maintain high profits through “the encouragement of continued mining of known sources for objects of established salability” (Kaiser 1993:347). The high prices paid on the antiquities market and the vagaries of what becomes popular among dealers and collectors clearly drive a significant amount of looting in Alaska, but there is no way to quantify this activity on the regional level. This important factor cannot be included in geostatistical analysis.

**CORRELATIONS AND THEIR IMPLICATIONS FOR THE LOOTING PROBLEM IN ALASKA**

Three factors were significantly correlated with looting severity in Alaska: accessibility, site density, and federal land ownership. Table 13 summarizes the correlations and Fig. 2 shows maps of significant correlations. Of the three, federal land ownership was most strongly correlated with looting. The negative correlation means that as the proportion of federal land in a region increases, the proportion of looted sites decreases. The majority of federal land in Alaska is in the conservation system (national parks, national forests, and wildlife refuges), and apparently the land managers in these agencies are having some success protecting archaeological sites. It is also possible that the general public is more aware of limitations on removing things from conservation lands (GAO 1987:26).

The positive correlation between looting severity and accessibility fits expectations. The strong positive correlation between coastline areas and looting (together with the weak negative correlation between other accessible places and looting) likely indicates that looters target the kinds of sites found along the Alaska seacoast rather than indicating that accessibility alone contributes to looting. Many survey respondents cited accessibility as a contributing factor in looting and vandalism. In the Kodiak area, the experience of the Alutiiq Museum staff shows that areas with more boat and floatplane traffic and those near active villages, fish camps, lodges, and set net sites have more looting and vandalism (Amy Steffian 2006, personal

<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlation (r)</th>
<th>Significance (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Density</td>
<td>−0.04</td>
<td>0.92</td>
</tr>
<tr>
<td>Accessibility</td>
<td>0.29</td>
<td>0.35</td>
</tr>
<tr>
<td>Site Density</td>
<td>0.39</td>
<td>0.35</td>
</tr>
<tr>
<td>Income</td>
<td>−0.06</td>
<td>0.89</td>
</tr>
<tr>
<td>Federal Land Ownership</td>
<td>−0.47</td>
<td>0.26</td>
</tr>
<tr>
<td>Archaeological Presence</td>
<td>−0.24</td>
<td>0.57</td>
</tr>
</tbody>
</table>

*a Significant correlations are in bold.*
communication). While such locations are accessible to individuals with boats, they can simultaneously be fairly remote, away from regular monitoring by professional archaeologists or routine surveillance by law enforcement personnel.

Site density is positively correlated with looting in Alaska, meaning that as the density of sites increases, looting severity increases. This reflects relatively high site density in the Aleutian Islands and Bristol Bay/Kodiak regions, which had high looting severity (and a higher rate of site monitoring). Southeast Alaska also has high site density but a relatively low proportion of looted sites. This may be due to dense vegetation in the area, local cultural attitudes towards looting, under-reporting of looting, or other factors. The North Slope region, conversely, has lower site density but higher looting severity. This may be due to site contents (many northern sites contain sought-after ivory artifacts and preservation is often very good in the cold environment) or local cultural attitudes. Although site density is positively correlated with looting in the state as a whole, local factors are clearly important.

**DISCUSSION**

Given the problems with estimating looting activity and its contributing factors, the results of this analysis should be considered preliminary. When better data are available, statistical correlations can be tabulated again and the results interpreted with greater confidence. At a minimum, information on which sites have been looted or vandalized
needs to be updated. It would also be helpful to improve the quality of information about site type, a factor that cannot be quantified with current information but might provide significant insight into patterns of looting and vandalism. Better information on site type, when coupled with more reliable data on looting, would allow archaeologists to better assess which resources are most threatened and direct protection efforts and public attention there. For example, the public might not be concerned that 10 percent of all archaeological sites in an area are looted, but if it can be ascertained that 90 percent of cave sites in the same area have been looted, interest in protecting those sites may rise. Also, archaeologists could more effectively direct law enforcement officers and site monitors to the most endangered sites.

Improving data quality is problematic. The Office of History and Archaeology, the designated central repository for site information in the state of Alaska, is the best location to store data about looting and vandalism. However, there are several obstacles to updating state site data. First, the AHRS is generally used for purposes other than studying looting and vandalism. It is designed to help archaeologists involved in research or compliance identify sites in a specific area and find information on those sites, as well as allow them to efficiently add new site information. Flexibility is—and should be—prioritized over precision, with the idea that an archaeologist needing to know more about a site can go back to the original report. Including more information on site type and condition may not fit with the priorities of the office. Changing database structure after thousands of records have been added has the potential to create serious problems and would likely be very time-consuming. Second, information about site condition has not been required in site records. Finding information about site condition and retroactively adding it to records for tens of thousands of sites is not practical without additional staffing and funding, which may not be feasible.

Several solutions are possible. At the least, information on looting should be required of archaeologists submitting new or updated site forms. One option is to make site condition a mandatory field. Another option is to make a separate mandatory field for looting during the next database software update. In records after the update, the field would contain data; in previous records, it would have to be entered. The process of entering information (it could be limited to a simple yes or no) for thousands of sites would be aided by the fact that vandalism is already noted in the database; paper records would not have to be checked. Querying for records that contain the word “vandalism” in the site condition field and entering a “yes” into the new field for those records could be feasible. A third option is to track looting and site type somewhere other than the AHRS.

Changes to current methods of tracking looting and vandalism and site type require review of existing policies and a significant commitment of staff time. The resulting updated database would only be as good as the information in the paper records. The failure of archaeologists over the years to provide information on looting and vandalism cannot be rectified and thus databases will certainly underestimate looting. Updating the process would begin a new set of reliable records and offers the best information possible from older records. Database software itself must periodically be updated, and these intervals might prove to be an appropriate time to make changes. Although the process is imperfect, it will result in better data than are currently available. Mounting evidence that many archaeological sites are damaged may inspire archaeologists, local communities, and others to advocate for more comprehensive legal protection for archaeological sites. Other approaches are complementary to the statewide quantitative one we have taken here; Hollowell’s (2004) in-depth case study and more detailed surveys and monitoring of particular regions (e.g., Crowell 1985; Schaaf 1988; Steffian et al. 2004) provide models for future research and management efforts.

ACKNOWLEDGEMENTS

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ABSTRACT

As a result of the Exxon Valdez oil spill, state and federal agencies developed an archaeological site stewardship program to monitor and protect prehistoric and historic sites in the spill area. The program was patterned after programs in the Lower 48 and adapted to Alaska conditions. This paper describes the development of a program for Alaska and its implementation. Site stewards on Kodiak have documented previously unknown sites, and their regular monitoring patrols have resulted in a marked decline in looting and vandalism at sites. A successful stewardship program requires a commitment of time and resources by the sponsors and active engagement with the stewards.

KEYWORDS: archaeological site protection, Kodiak archipelago, avocational archaeology

BACKGROUND

Our prehistoric past excites a powerful attraction for people of all backgrounds. Archaeology and archaeologists often evoke a sense of adventure and curiosity in the general public. We are fascinated by the people who went before us. Statistics are hard to find, but heritage tourism in the U.S. attracts millions of people to cultural and historic sites and events. One estimate is that 21 percent of domestic travel includes a heritage aspect: people visiting museums, archaeological sites, or living history programs. However, even the most optimistic observers note an “ever-increasing traveling population places more and more pressure on cultural resources. Unless we find ways of developing, managing, and sustaining our cultural heritage, we may find that we have lost the resources which originally attracted the visitors” (State of Utah 2004a).

Protecting archaeological resources is a daunting problem for land managers. Especially in Alaska, land managers are spread thin over huge, often remote areas with difficult access. In many cases little is known about the number, nature, and condition of cultural resources. At the same time visitation to remote areas is increasing, and seemingly remote areas are readily reached by locally based or nonresident commercial and sport fishermen, hunters, wildlife watchers, and other adventure tourists.

Archaeological site stewardship involves the recruitment, training, and coordination of locally based private individuals or groups to monitor and protect cultural resources. It is an invaluable tool for land managers, but just as important, it involves local people in managing and
protecting resources they consider important in their own
backyards (Corbett and Reger 1994).

STEWARDSHIP PROGRAMS IN OTHER STATES

Currently eight states sponsor some form of archaeological
site stewardship program, usually directed in some way by
their state historic preservation offices (Table 1). The oldest
programs began in 1984 in Texas and Arizona, but most
seem to have started in the 1990s. The programs differ in
organization and emphasis, but all enlist members of the
public in the protection of heritage resources.

Stewardship can take a variety of forms. The most ba-
asic example is an agreement between a landowner and a
state historic preservation office. This was first developed
in Kentucy in 1986, and was patterned after the Nature
Conservancy’s Natural Areas Registry Program, designed
to protect natural areas (Henderson 1989). Landowner
registration is a voluntary agreement by the landowner to
do no harm to a site or sites on their property. In its most
basic form the agreement is made with the current land-
owner and expires when the property changes ownership.
In Kentucky, a paid coordinator contacts landowners and
works with them to develop the agreement. Sites accepted
into the Kentucy program are listed on the state’s Natural
Areas Registry.

Florida’s Bureau of Archaeological Research has three
variations on the stewardship theme (State of Florida
2005). A site stewardship agreement involves a commit-
ment by the state to provide guidance and assistance to
a landowner who agrees to notify the state if and when
a property is developed. Sites enrolled in the program
are listed on a stewardship registry. The Stewardship
Volunteer Program coordinates volunteers to work with
landowners in monitoring and maintaining sites on pri-
ivate lands. The Sitewatch Program enlists volunteers to
visit sites and report on the condition and any mainte-
nance or protection needs.

Virginia landowners may request their sites be des-
ignated as a state archaeological site or zone (Virginia
Department of Historic Resources 2001). This provides
a designated site with the same protections under the
Virginia Antiquities Act as sites on state lands. Owners
may also permanently protect a site by donating a preser-
vation easement to the Virginia Department of Historic
Resources. Programs in Washington (State of Washing-
ton 2005) and Utah (State of Utah 2004a, 2004b) are pat-
terned after the program in Virginia. In all of these states,
sites must meet the criteria for significance on the National
Register of Historic Places before they can be registered in
the program.

Programs in Alabama, California, Utah, Texas, and
Arizona have very different emphases. The Alabama Ar-
chaeological Society (2004) has had a stewardship program
since 1996. This professional society recruits members of
regional archaeological societies to contact and work with
landowners to protect archaeological sites on private lands.
Archaeological society members work with archaeologists
to protect and monitor sites. Landowners are recognized

Table 1. Summary of state stewardship programs.

<table>
<thead>
<tr>
<th>Sponsor/Coordinator</th>
<th>Alabama</th>
<th>Alaska</th>
<th>Arizona</th>
<th>California</th>
<th>Florida</th>
<th>Kentucky</th>
<th>Texas</th>
<th>Utah</th>
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<tr>
<td></td>
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<td>agency/private partnership</td>
<td>SHPO</td>
<td>professional society</td>
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<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
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<td>Volunteers/Avocational</td>
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<td>V</td>
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<td>V</td>
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<td>A</td>
<td>V</td>
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<td>Monitor Sites</td>
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<td></td>
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<tr>
<td>Conduct Outreach</td>
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<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabilize/Excavate/ Research</td>
<td>protect</td>
<td>Y</td>
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<td>maintain/repair</td>
<td>Y</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

THE ALASKA HERITAGE STEWARDSHIP PROGRAM
publicly in newsletters, or by listing in state registers, for preserving sites on their lands.

The Utah Division of State History is developing a network of volunteers to help land managers in site-protection activities. The state selects, trains, and links volunteers to sponsoring agencies and land managers. Program goals include documenting sites and reducing vandalism through monitoring. They also include a number of explicit outreach and educational efforts aimed at increasing public appreciation for culture and historic preservation and acceptance of historic preservation laws and regulations (State of Utah 2004b).

The Society for California Archaeology (SCA) established the California Archaeological Site Stewardship Program (CASSP) in 1999 (Society for California Archaeology 2004). The SCA recruits and trains stewards to work with land manager sponsors and holds informational and training workshops, usually in response to a request for assistance by a land manager. The workshops last two days and include field trips to area sites. In 2004, over 450 people attended the workshops and there were 135 active stewards monitoring 230 sites and districts. Most of the work is focused in southern California on Bureau of Land Management lands, but the program is aggressively expanding. In addition to monitoring sites, stewards help land managers with recording sites, excavations, and laboratory work. Stewards have also cleared brush and helped stabilize sites. One group is working with the archaeologist at China Lake Naval Air Weapons Station to establish a curation facility on the base. The SCA publishes the CASSP Newsletter quarterly (CASSP 2004). The society also hosts workshops, on such topics as lithic or historic artifact analysis and field trips to maintain stewards’ interest.

The Texas Archaeological Stewardship Network was formed in 1984 and is one of the oldest and best-established programs (Reger and Corbett 1999; Texas Historical Commission 2005). It relies on a network of locally based avocational archaeologists. Potential stewards are nominated by an advisory committee made up of professional and avocational archaeologists from universities, agencies, and amateur societies. They are selected from the membership of the many amateur societies in Texas and receive additional training to be stewards. The primary focus is to help private landowners document sites on their lands. Stewards also locate, record, and monitor sites. One major emphasis is documenting private artifact collections. Stewards conduct a number of outreach activities and help organize Texas Archaeology Month. They also help state archaeologists with surveys and excavations and carry out emergency excavations of threatened sites. Very recently a focused group of marine stewards formed to help protect Texas’ underwater resources. All the steward volunteers are encouraged to publish their work in regional and statewide journals.

Stewards in Texas are an integral part of the state’s cultural and historic resources management efforts. Until the early 1990s, the program was small and very loosely organized. By 1993 the number of stewards had grown, and a restructuring of the program using information from Arizona was anticipated. The 10 archaeologists employed by the Texas Historical Commission were getting more involved in coordination and direction, but as of 2003 state budget cuts caused the Historical Commission to suspend recruitment of stewards because the department could not provide the necessary support to the volunteers (Reger and Corbett 1999; Texas Historical Commission 2005).

The Arizona Site Steward Program was established in 1985. It is a highly structured program and has a hierarchical organization with a statewide coordinator in the State Historic Preservation Office (Arizona State Parks 2005). This coordinator works with a network of regional coordinators who supervise the individual stewards. The stewards primarily operate on public lands managed by federal, state, county, and municipal governments. In 1993, the Hopi Tribe also participated and efforts were underway to include private landowners as well (Corbett and Reger 1994; Reger and Corbett 1999).

Agency personnel identify sites warranting stewardship monitoring and provide the regional coordinator with documentation, including maps, photographs, and even excavation reports. The regional coordinator prepares a site kit for the stewards. The kits include information about the site as well as instructions on specific site-monitoring tasks. The packets even include detailed information on how to find and approach a site. The regional coordinators recruit stewards, provide the necessary training, and coordinate stewards’ activities in their regions. Elaborate precautions are taken to protect stewards from sometimes dangerous looters and to protect sensitive information about the sites.

The most basic steward activity is to periodically visit and monitor site conditions and report to the coordinator and land manager (Arizona State Parks 2005). Stewards
also work with archaeologists on excavations and restoration projects. They may assist in active preservation activities such as installing signs or stabilizing walls. Stewards also participate in public education and outreach.

In return for their time and effort, the stewardship program offers stewards training in site identification, artifact analysis, survey, regional and statewide prehistory, history, and Native cultures.

DEVELOPING A PROGRAM FOR ALASKA

In March 1989, the oil tanker Exxon Valdez ran aground on Bligh Reef in Prince William Sound. The tanker ruptured, spilling 11 million gallons (41.6 million liters) of oil into the waters of the sound. Eventually, the slick extended 740 linear km from Prince William Sound along the Alaska Peninsula past Kodiak to Chignik Bay. More than 2,100 km of coastline were oiled.

The oiled coastline had been occupied by a variety of prehistoric peoples and cultures for at least 7,000 years. The prehistoric inhabitants of this area oriented their lives to the sea and its abundant resources. Historic use also focused on the coast. Hundreds of archaeological and historic sites occur in the spill area. Rich as the known resources were, much of the area was unsurveyed and virtually unknown due to remoteness and inaccessibility.

As the Exxon company began responding to the disaster, officials were alerted to the presence and importance of cultural resources in the spill area. To comply with state and federal laws protecting cultural resources, Exxon created the Exxon Valdez Cultural Resource Program (Mobley et al. 1990:1). A total of 28 archaeologists plus laboratory staff were hired for cleanup work. The archaeologists comprised one of the core members of the three-person shoreline cleanup assessment teams (SCAT), along with an oil specialist and a biologist. The teams assessed the damage to each segment of shoreline and established cleanup protocols. They also monitored cleanup on sensitive segments and conducted post-cleanup damage assessments (Mobley et al. 1990:9, 95–96).

The Exxon program evaluated a number of potential direct and indirect impacts to cultural resources from the spill and associated cleanup (Mobley et al. 1990:101–114). Most of the potential threats were avoided or mitigated by the SCAT teams’ recommendations for treatment and by monitoring of sensitive areas (Mobley et al. 1990:121–123). During the first summer of cleanup, condition assessments were made on 204 sites. They found recent vandalism at 16 sites (8 percent) and inadvertent human impacts on 21 or 10 percent (Mobley et al. 1990:131). The following summer, 132 sites were inspected and/or monitored. There were 28 reported incidents but none were ultimately attributed to recent human actions (Haggarty et al. 1991:155).

The cultural resource program for the Exxon Valdez spill highlighted the vulnerability of cultural resources to both direct and indirect human impacts. The impacts come from increased access to sites and to increased awareness of their presence. Extensive and determined efforts by the cultural resource program effectively contained the impacts. However, the cleanup itself made the extent and nature of cultural resources known to thousands of people who were previously unaware of their existence. A stewardship program to monitor sites placed at increased risk by oil spill cleanup was proposed as one of several restoration projects to be funded by the Exxon Valdez Oil Spill (EVOS) restoration trust. The U.S. Fish and Wildlife Service (FWS) took the lead on developing the program in cooperation with the Alaska Office of History and Archaeology (OHA) (Corbett and Reger 1994). The Arizona and Texas programs were contacted, and they provided information and materials. Arizona provided the model but their guidelines were revamped for Alaska. In general the Alaska program was less formally structured and involved federal agencies to a greater extent as coordinators and trainers.

Pilot programs were planned for three areas: Homer (Kachemak Bay), Prince William Sound, and Kodiak. Unfortunately, the pilot program was not funded by the EVOS trustees, and the effort stalled for several years. Meanwhile, archaeologists from OHA, FWS, and the USDA Forest Service made contacts and attempted to establish programs as resources and opportunity allowed.

In Prince William Sound, the village of Tatitlek, the Chenega Village Corporation, and Chenega Bay IRA Council sought funding for a program that would involve members not only in monitoring but in damage assessment and restoration. The Chugach Alaska Corporation, an Alaska Native regional corporation, developed a similar small-scale effort. The Forest Service, while interested in the stewardship concept, was convinced that without paying stewards the program would not work. For a number of years stewards were provided with a daily stipend while performing monitoring. When funding priorities changed the program faded as well.

The FWS archaeologist met several times with interested people in Chignik Bay on the Alaska Peninsula. A
small-scale excavation in Chignik Bay in 1993 involved a few local people (Corbett 2002). Stronger interest in sites and artifacts was evident in Chignik Lake. One artifact collection was cataloged, and in 1995 the Chignik Lake School sponsored a small project involving children from fourth grade through high school excavating three pits in the schoolyard. The project artifacts remained in the community and the teachers incorporated the dig, analysis of the artifacts, and development of a display in the school lobby into their curricula. In both communities stewardship and archaeology were seen as potential social and economic assets to the communities (Corbett and Reger 1994). The Alaska Peninsula National Wildlife Refuge staff is interested in fostering a community archaeology effort in the Chignik area.

However, local economies in coastal Alaska are heavily reliant on commercial fishing. The years following the development work in 1995–96 were disastrous fishing seasons, and interest in stewardship plummeted as people saw their livelihoods evaporate. Several interested people left the area for work elsewhere. The main obstacle to reinvigorating the effort is the lack of a locally focused archaeologist to guide the effort and mentor stewards and students. The potential for developing a dynamic program in the Chignik Bay region is very strong.

In Kachemak Bay, at the mouth of Cook Inlet in southcentral Alaska, contact was made with several individuals who hoped to form a local amateur group that would incorporate stewardship as one of their activities. A list of potential stewards was drawn up and several sites were selected for possible monitoring (Reger and Corbett 1999). Archaeologists from OHA and FWS made several trips to meet potential stewards and visit sites. The OHA contact for this region retired in 2000, and the local coordinators were unable to devote as much time to the project as they had hoped. Sites were monitored through the 1990s but the effort seems to have lapsed.

SUCCESS AT LAST

In 1998, the FWS contacted the Alutiiq Museum and Archaeological Repository in Kodiak about a partnership to foster a stewardship program in the region. The museum staff enthusiastically agreed and outlined a three-part site protection program. The cornerstone was to continue and grow the nascent stewardship program with the setnetters in Uganik Bay. A secondary goal was to work with state and federal law enforcement officials to increase their recognition and appreciation for cultural resource crimes. Finally the museum hoped to provide information to the
Kodiak-based commercial fishing fleet (Reger and Corbett 1999; Steffian and Saltonstall, this volume)

Funding provided to FWS by the EVOS trustees in 1998 supported the museum in developing their program (see Steffian and Saltonstall, this volume). The museum contacted the Uganik Bay setnetters who had been working with the Fish and Wildlife Service. A recruiting open house and lecture was advertised locally and presented at the museum. Information packets were presented to potential stewards for recording their sites. During the summer a museum archaeologist visited several sites with stewards. During this initial effort five sites in Uganik Bay were visited and monitored.

EVOS funding for cultural resources restoration work ended in 1998. From 1999 through 2001, the Fish and Wildlife Service found funding to continue its support of the Alutiiq Museum partnership. In 2002, the museum submitted a Challenge Cost-Share proposal to the Fish and Wildlife Service for funding to expand the stewardship program in conjunction with regional reconnaissance surveys in lesser-known parts of the island. The proposal was funded, and stewardship has successfully competed for Challenge Cost-Share funds through 2005. Since this is an annual competition, with funding far from certain, both partners seek to identify more secure and stable funding sources to maintain the program.

The museum program has followed a standard pattern for the last six years. The stewardship program is advertised in the museum newsletter and the local newspaper, the Kodiak Mirror. An open house is held with a presentation on Kodiak archaeology. Stewards sign up for service and are presented with recording materials and disposable cameras. Most now use digital cameras of their own to record site information. The museum curator, Patrick Saltonstall, makes regular visits to work with the stewards as well as to conduct regional reconnaissance surveys to identify new sites.

At the end of the season, museum staff follow up with the stewards to collect their monitoring reports and photographs. Many stewards submit written reports but some provide detailed information verbally to the museum staff. The results of the season’s efforts are presented in a written report to the Fish and Wildlife Service, and articles are written for the museum newsletter (Steffian and Eufemio 2002, Steffian et al. 2003, 2004). In 2005, the program received a national write-up in a Fish and Wildlife Service newsletter.

As an adjunct to the monitoring of sites by the stewards, the museum staff has undertaken a program of site inventory in little-studied portions of Kodiak, particularly in the Kodiak National Wildlife Refuge. Surveys have been conducted on Ayakulik, Red, Sturgeon, and Uganik rivers, around Olga Bay, and around Red, Akalura, and Uganik lakes. In many cases local stewards have helped with transportation and with reporting on sites (Steffian et al. 2003, 2004). The Olga Bay area had long been of interest for monitoring, and in 2003 a locally based volunteer stepped forward. With assistance from the museum he has been monitoring sites, educating other area residents, and recruiting additional stewards.

**RESULTS OF STEWARDSHIP MONITORING IN KODIAK, 1999–2004**

In 1999, the program started with six families and individuals participating. Twenty-nine sites were monitored. By 2004, 33 stewards (families and individuals) had monitored 140 sites in six different areas of Kodiak. Multiple observations have been made at 45 sites (Table 2). Stewards have consistently collected information on site condition, including assessments of impacts due to erosion, animals, human vandalism, and modern use. They record whether the condition of a site is improving or deteriorating. In addition, stewards have helped the museum staff locate and record 76 previously unrecorded sites (Steffian et al. 2004:37–38).

With this information, FWS and the Alutiiq Museum can begin analyzing trends and take steps to address real issues in the management of the sites. For example, the steward information indicates that the greatest threat to archaeological sites in Kodiak is erosion. More than 55 percent of the sites monitored have been subject to some erosion. However, the stewards note that at 34 percent of the sites the erosion is proceeding at a stable rate, while at 43 percent it has slowed or stopped. Only 22 percent of

<table>
<thead>
<tr>
<th>Year</th>
<th># Stewards</th>
<th>Sites Monitored</th>
<th>Areas Monitored</th>
<th>New Sites Found</th>
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<td>1999</td>
<td>6</td>
<td>29</td>
<td>4</td>
<td>12</td>
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<td>8</td>
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<td>9</td>
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<td>5</td>
<td>14</td>
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</table>
the sites show increased rates of erosion. Their information also shows geographical variation in rates of erosion as well as other kinds of damage. All of this precise and detailed information can be used to direct scarce resources to real and documented problems.

Interestingly, while the threat of vandalism and looting was the catalyst for development of the program, the stewards’ information places this threat in third place after erosion (55 percent) and animal activity (27 percent), with a 17 percent sample incidence. However, their information on looting activities is providing detailed information to allow response to that threat as well. The museum has noted a positive correlation between erosion and looting (Steffian et al. 2003:15). As program developers had hoped, the presence of active site monitoring seems to have slowed the incidence of vandalism to zero in Uganik Bay, the heart of the stewardship effort. Most of the vandalism reported in 2004 was at sites that were newly located and added to the program that year.

In 2004, the Alutiiq Museum was under contract to the Bureau of Indian Affairs to excavate a Native allotment prior to its sale. During the fieldwork several stewards in Uganik Bay were able to visit and tour the site and some were able to participate in the actual excavations.

OTHER LOCAL SUCCESSES

Lands on the Aliulik Peninsula in southwestern Kodiak were purchased by FWS from the Akhiok/Kaguyak Village Corporation in 1995 as part of an EVOS habitat restoration project (U.S. Fish and Wildlife Service 2005:Appendix H). After this acquisition Andy Runyan, a long-time hunting guide, approached FWS about monitoring sites in southeastern Kodiak. His hunting camp in Kiavak Bay is immediately adjacent to one of the most significant sites in Alaska archaeology—Old Kiavak. Since Clark’s (1997) work at the site concluded in 1963, there had been no reported work at the site. Runyan drew a sketch map of the site and made a verbal report on site condition, which was followed with photographic documentation. In consultation with the FWS archaeologist he collected exposed artifacts to prevent their unauthorized collection by hunters or fishermen visiting the area. He made regular reports on site condition until his untimely death in a car accident in 2004.

In 2003, John Nichols of False Pass reported an eroding site on Unimak Island at the end of the Alaska Peninsula. During a visit to the Fish and Wildlife Service regional office, Nichols offered to patrol the coast of the island in his private plane and report on site conditions. He signed on as a Fish and Wildlife volunteer and received a special use permit from the refuge to allow access to the sites by plane. He provided locations and descriptions of 18 previously unrecorded sites on Unimak Island. When human remains began eroding from a prehistoric site, the Fish and Wildlife Service opened consultations with the community of False Pass to develop a strategy for recovery and protection. Nichols was empowered by the community to regularly patrol the site and recover exposed remains for reburial. Nichols moved away from False Pass in early 2005 for economic reasons, an issue that will be discussed later.

WHAT’S NEXT FOR KODIAK?

The Kodiak program is well established with a solid core of dedicated and energetic stewards. The effort remains dynamic, evolving to better address local needs and conditions. Recently the museum coordinators have begun to address a new range of stewardship issues. The first is to expand the existing stewardship program into a greater number of regions with identified sites at risk. This effort began in earnest when the museum was contacted by an Olga Bay fisherman who wanted to participate in the program. In 2005, sites were monitored and the local coordinator recruited additional stewards. In 2006, a steward from Afognak Island joined the effort. Other areas needing stewards are Moser Bay and Viekoda Bay, both located near population centers on Kodiak.

Another critical need is to reach out to residents of rural communities on Kodiak Island. The communities of Larson Bay and Karluk own large areas of land with abundant historic and prehistoric resources. In addition, residents of these communities own private lands along the outer coast and in Uyak Bay. Many of these parcels include archaeological sites.

The stewardship effort on Kodiak is beginning to face issues common to every maturing volunteer effort. The first is maintaining the interest of the existing core of stewards. This dedicated group has been monitoring and documenting sites for six years. It is time for the sponsoring entities, especially the Fish and Wildlife Service, to provide additional opportunities and incentives or risk losing stewards, along with their local support.

Related to this is the need to respond to the information collected by the stewards. With the information they have provided, the Fish and Wildlife Service can
identify problem areas and take steps to address specific problems. While the gathering of the information in itself is an invaluable service, a lack of action to address identified problems could be interpreted as agency indifference. Discussions with the staff of the Alutiiq Museum in the fall of 2005 have begun to identify potential projects to stabilize sites or mitigate the impacts of erosion in the most affected areas. Mitigation and stabilization projects will make every effort to incorporate existing stewards as fully as they are willing and able to be involved. Active fieldwork could maintain stewards’ interest as well as assist in recruiting new stewards or involving members of local communities in more active site-preservation efforts.

**DISCUSSION**

All efforts to date have readily identified energetic, interested people willing to participate in a stewardship program. The effort has attracted the interest of a number of landowning agencies. Where stewardship efforts have persisted for awhile, the benefits to the landowner and cultural resources have been obvious. Nevertheless, stewardship has not enjoyed widespread success across Alaska, for three interrelated reasons.

The fortunes of Alaska’s fishing economy had an unexpected effect on stewardship in three pilot communities. When salmon runs are large and prices are high, people stay in their rural communities and have the time and resources to devote to stewardship. When runs falter or prices are low, people move away from the area to make a living. This simple fact partially accounts for the derailed effort in the Chignik area and effectively stopped it cold in False Pass. Even in Kodiak, the number of stewards has fluctuated due to the changing fortunes of the fishermen who form the backbone of the effort. Interestingly, during a couple of years when the fish runs on Kodiak were smaller than expected, the stewards who remained had more time to devote to stewardship and their activity actually intensified. Many more sites were located, documented, and monitored during poor fishing years in 2002 and 2003 than when the runs were strong and people could spend more time working.

A second limiting factor is the intense seasonality of stewardship monitoring in Alaska. Especially with setnetters in Kodiak, many participants live elsewhere for most of the year. Their active stewardship is limited to a few short months in summer. Even where stewards remain close to the region they are monitoring, winters are not conducive to archaeological fieldwork. One challenge for coordinators and sponsors at that time of year is to recontact stewards and rekindle their interest.

However, the biggest hurdle is that participating land managers have been unable to provide the support necessary to sustain stewards’ interest. The program is working in Kodiak because of strong support by the Alutiiq Museum, the locally based coordinator and mentor. The museum is a particularly strong influence because of the knowledge and experience of the staff and their dedication to protecting the cultural treasures of the archipelago. This institution enjoys strong support from a wide range of constituents on the island.

Stewardship worked well in the Kenai area when there was a reliable locally based steward coordinator or sponsor. This coordinator had good solid backup from the OHA until the contact there retired. For about five years this program enjoyed good success and posted some tangible achievements.

The two other long-term successes involved individuals in False Pass and Kodiak. Both were highly motivated and intensely interested in the history and resources of their respective areas. Their motivation and energy made it easy for the Fish and Wildlife Service archaeologist to maintain contact and sustain their interest with only a modest investment of time. This situation may work on a small scale with exceptional individuals but is clearly not sufficient to develop a statewide program.

The key to a successful stewardship program is a core of motivated, capable, interested stewards. But the stewards cannot effectively maintain a program without locally based hands-on mentoring from the benefiting agencies.

They also need the encouragement and ferment of idea exchange between different locales—a newsletter to tie various efforts together and expand a community of stewards. One obvious need is for active coordination on a statewide level, based out of the Office of History and Archaeology.

The challenge is huge and the resources scarce, but these pilot efforts make it clear—stewardship works. Stewardship provides land managers with tangible, measurable benefits in resource protection and in building relationships with members of the public.
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Texas Historical Commission

U.S. Fish and Wildlife Service

Virginia Department of Historic Resources

FOR MORE INFORMATION


National Park Service

Stewards Network News, newsletter of the Texas Historical Commission Stewardship Program, Office of the State Archaeologist. P.O. Box 12276, Austin, TX 78711.
ARCHAEOLOGY AND THE ALUTIIQ MUSEUM

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ABSTRACT

Although archaeology is not a traditional Native way of studying the past, Native peoples are increasingly embracing the management of archaeological sites as ways to access, preserve, share, and celebrate their heritages. This paper examines public education as a component of resource management at the Alutiiq Museum, an Alaska Native culture center and repository. It describes two collaborative programs—Community Archaeology and Site Stewardship—that involve volunteers in the documentation of archaeological sites. These programs illustrate how public participation in resource management can effectively preserve the past while enhancing respect for Native traditions and promoting dignity among Native people.

KEYWORDS: public education, site stewardship, Kodiak Island

NATIVE PEOPLE, ARCHAEOLOGY, AND CULTURAL RESOURCE MANAGEMENT

Archaeology is a destructive science. Studying history by excavating materials from the past requires dismantling cultural deposits—the very sources of that history. Ironically, the unique story held in each archaeological site can only be understood by taking it apart. Most archaeologists solemnly recognize their responsibility to mitigate this destruction: to carefully recover and record the information preserved in the settlements they study. And many scientists have devised truly ingenious methods for enlivening the past, squeezing astonishing information from soils, rocks, charcoal samples, animal bones, and the remains of structures.

Until recently, however, few archaeologists recognized the need to mitigate the destructive forces that archaeological investigation can have on the indigenous societies whose history they study. The disturbance of ancestral settlements and graves, handling of culturally sensitive objects, removal of cultural materials to distant museums, and inaccessibility of the information unearthed by such studies are all sources of lasting anger, frustration, and grief for Native people (Deloria 2000; Fine-Dare 2002; Pullar 1994; White Deer 2000). Paradoxically, a practice designed to preserve history has its own well-documented record of separating people from the stories it seeks to share. To Native Americans, archaeology can be as spiritually destructive as it is physically destructive.

Like many regions with an intense history of archaeological inquiry, the Kodiak archipelago has experienced its share of conflicts generated by archaeological field research. The first academic excavation in the 1930s disturbed many
Alutiiq graves and removed hundreds of ancestral remains and cultural objects (see Heizer 1956; Hrdlička 1944), an action that eventually led to one of the first major repatriations in the United States (Bray and Killion 1994; Thomas 2000:260). Alutiiq people, however, have reached beyond this intensely troubling experience and adapted both archaeological research and cultural resource management to meet their needs (Steffian 2001:129). On Kodiak, the heritage movement developed hand in hand with archaeological research (Knecht 2001; Pullar 1992), and the cultural renaissance currently underway continues to be closely tied to the study of prehistory and the management of the region’s wealth of prehistoric sites.

To peoples who have experienced the imperialism of past archaeological practice (Fine-Dare 2002), who have seldom been encouraged to study archaeology (Echo-Hawk 2000:3), and who were denied the opportunity to participate in the development of most antiquities laws (Fine-Dare 2002:70–84; White Deer 2000:9), this may seem an odd if not objectionable choice. However, a growing number of tribal governments are embracing archaeology and cultural resource management (Thomas 2000:254; White Deer 2000:13). They are training their own archaeologists, maintaining tribal historic preservation offices, leading field research, caring for collections, and working in collaboration with archaeologists (Dongoske et al. 2000; Ferguson 2000; Thomas 2000:266). Like Alutiiqs, these people are faced with both pragmatic and spiritual issues that make cultural resource management an important pursuit, particularly when it is conducted in culturally meaningful ways.

First, as populations grow and economic development races forward, traces of the past are increasingly discovered, threatened, and unearthed. Although state and federal laws provide some protections for these materials, this protection may come in the form of funds for research and recovery. Under Section 106 of the National Historic Preservation Act of 1966, for example, when construction projects involving federal funds or permits have the potential to negatively impact significant cultural deposits, developers can negotiate to pay for archaeological inquiry rather than alter construction plans. Thus, the stewardship of archaeological sites often generates objects and information that require care.

Second, because Native American artifacts can be sold for great profit (a point driven home by flea markets, e-Bay, and television programs like The Antiques Road Show), and because it is impossible to monitor the millions of archaeological sites that hold these materials, site looting is a vast problem (White Deer 2000:14). Ancient deposits are continually pillaged for artifacts, a situation fueled by the ease with which antiquities can be bought and sold.

In the 40 years since the passage of the National Historic Preservation Act, Native communities have found themselves responding with increasing frequency to situations that threaten ancestral settlements and the materials they hold (Ferguson 2000). Establishing tribal cultural resource management programs, developing tribal museums, and forming meaningful collaborations with archaeologists are an increasingly common response to this circumstance (Dongoske et al. 2000). By governing, funding, and participating in archaeology, Native people ensure that decisions about the care of prehistoric resources directly benefit Native communities and are made and implemented with cultural sensitivity. They can also endow their members with a powerful sense of identity by using research to meet their own economic, political, and educational goals.

Overarching the practical aspects of tribal archaeology programs are deeper social and spiritual issues. Native people often seek ways to revitalize cultural traditions eroded by western conquest and restore a sense of dignity to communities plagued by social problems. Examining their history is a foundation for many of these efforts. Many Native people, including Alutiiq elders, argue that knowing who you are is essential to securing a healthy future (Crowell 2001:3). Although archaeology is not a traditional Native way of exploring the past, it offers a unique opportunity in the modern world to know and experience history. As Sven Haakanson, Jr., executive director of the Alutiiq Museum in Kodiak notes (2003, personal communication), “having oral traditions and the actual objects that correlate with them offers a unique and deeper sense of the objects.” This is something the Alutiiq people have realized. Archaeological research provides a pathway into another time, opens dialogues about the past, and unites people with very different backgrounds towards a common goal. There is nothing quite like a month spent in an excavation unit to teach you about the surrounding environment, enhance your knowledge of those who made a living from that setting, and deepen your respect for different ways of life.

Field work can also be a spiritually moving experience, particularly for those with an ancestral connection to the finds. We once watched an Alutiiq teenager uncover a net weight—a ubiquitous stone tool that seldom generates
more than a casual look from Kodiak’s seasoned excavators. The young woman immediately recognized that she was the first person to touch this object in 1,500 years. It was as if an ancestor had handed her the tool. Her emotional reaction illustrated the power of archaeological research to do more than record history. Such experiences are why museums maintain living history programs, and there is no reason why archaeological projects can’t be designed to have the same broadening impact. Archaeology is much more than an academic discipline. As the history of anthropological research in America has shown, archaeology is a practice with profound social consequences (Thomas 2000). When done by or in collaboration with Native peoples, and with the realization that the study of human history is but one of this science’s potential functions, those consequences can be exceptionally positive.

This paper investigates the links between archaeology, cultural resource management, heritage preservation, and public education in the Kodiak archipelago. It describes two educational programs—Community Archaeology and Site Stewardship—created and led by the Alutiiq Museum and Archaeological Repository. At this Alaska Native cultural center in the City of Kodiak,1 archaeology contributes to heritage preservation in many ways. However, the discussion below focuses on educational programs that involve museum patrons in field work. Both programs reflect the widening role of archaeology in America and illustrate how cultural, academic, and management goals can be jointly pursued to great mutual benefit. By focusing on threatened sites, involving the public in research, and uniting research results with the community whose heritage they most closely reflect, these programs promote understanding. They dismantle old stereotypes of both Native people and archaeologists, generate respect for heritage, and inspire cultural exploration while preserving pieces of a remarkable history.

These two programs have not only given light to the rich history of Kodiak, but given power back to Natives and non-Natives in protecting and understanding the importance of cultural preservation for everyone. (Dr. Sven Haakanson, Jr., executive director, Alutiiq Museum, 2003, personal communication)

KODIAK’S ARCHAEOLOGICAL RESOURCES

The Kodiak archipelago is home to some of Alaska’s richest archaeological resources. There are more than 1,300 known sites in the region (Alaska Office of History and Archaeology 2005). These deposits represent about 4 percent of all the known sites in Alaska, in an area that makes up just one half of one percent of the state’s land mass. Large prehistoric populations, a reliance on maritime resources, and a persistently cool, damp climate combined to create this wealth of sites, which have been identified through extensive surveys. In addition to the stone tools commonly found in ancient settlements, Kodiak sites contain organic materials and cultural features (Knecht 1995). Bone, ivory, wood, and fiber objects occur in association with the remains of sod houses, stone tent rings, smoke pits, and storage features documenting more than 7,500 years of Native history.

These sites chronicle the development of Kodiak’s indigenous societies from small bands of mobile hunting, fishing, and gathering people to large, permanent, coastal communities led by a wealthy elite class (Fitzhugh 2003). As such, Kodiak’s sites contain information on some of the seminal questions in both Alaska prehistory and study of the world’s nonagricultural societies: the development of surplus production, origins of settled village life, and evolution of social inequality.

Kodiak’s sites also represent one of the best sources of information on Alutiiq heritage. Due to an early and profoundly disruptive period of western colonization, Alutiiq traditions are poorly known. Conquest of the archipelago by Russian fur traders led to the loss of political sovereignty, a catastrophic decline in the Native population, and massive cultural change. When anthropologists arrived in the region in the 1930s (Hrdlička 1944), the Alutiiq people were participating fully in a western economic system and many traditional practices had changed. As such, there is limited documentation of precontact lifestyles and no traditional monograph on Kodiak Alutiiq culture. The only written records are the accounts of Russian explorers and clergymen. Today, the words of Alutiiq elders, collections of ethnographic specimens in distant museums, and archaeological data provide the best records of classical Alutiiq society (Crowell et al. 2001). For Kodiak Alutiiqs,

1 The presence of a Native-governed archaeological repository in Kodiak is itself a testament to the power of archaeological research. The existence of prehistoric Alutiiq collections in need of professional storage was one of the major forces in the creation of this organization, and many of its exhibits and programs make use of objects and information derived from archaeological research (Knecht 2002).
the archaeological record is a library—a store of immensely valuable information. Each site offers a glimpse into the past and is an irreplaceable gift to the present (Fig. 1).

Like Kodiak’s current residents, past people settled the region’s protected shores and major rivers. Thus, most sites are located along major waterways and easily accessed by boat or float plane. Moreover, many sites are easy to spot. Deep pits created for semisubterranean sod houses, dramatic accumulations of shellfish remains, and lush vegetation all announce the location of past villages. Unfortunately, these easily accessed, conspicuous, well-preserved sites are increasingly threatened by human activity. As the region’s population increases, tourism brings more visitors to the island, and antiquities markets flourish, Alutiiq heritage is being lost to vandalism, recreation, and development. Artifact digging has long been a favorite pastime in the Kodiak region (Fig. 2; see also Chaffin et al. 1983:10–13). Many of Kodiak’s old families have artifact collections proudly displayed on mantles and coffee tables or decoratively glued to canvas covered boards. For Alutiiq people, collecting artifacts was one way to connect with their little-discussed heritage. For others it was recreation. Commercial fishermen, for example, reminisce about exploring the coastline and digging for artifacts between salmon openers. Site looting is also one of the lesser-known impacts of the Exxon Valdez oil spill. Clean-up crews sopping up the oil borne by currents to Kodiak’s shores discovered and dug in eroding sites (Mobley et al. 1990:140–143; Pontti and Saltonstall 1999).

In recent years, site disturbance has been exacerbated by the increasing number of people accessing remote regions. As ecotourism and wilderness recreation gain...
economic importance, sport hunting, fishing, and wildlife viewing are bringing more visitors to the archipelago. With additional tourism comes additional disturbance, both accidental and intentional. Fishermen wear trails along riverbanks, furthering the erosion of ancient fish camps. Campers dig latrines and leave refuse that attracts digging bears (Steffian and Saltonstall 2004:135). Hunters ride powerful off-road vehicles into the wilderness, cutting deep scars into the landscape. In addition to enhancing erosion, their tire tracks slash through, churn, and expose archaeological deposits (Fig. 3; VanDaele 2003).

Purposeful vandalism has escalated too. With the gradual downturn of Alaska’s fishing industry, residents have learned the economic value of artifacts. Some are simply collecting objects exposed by massive recent erosion and selling them to visitors, collectors, art dealers, and retailers or trading them for services like medical treatment. Others are more pernicious, targeting sites with preserved organic materials for systematic looting. At sites in Uyak Bay and on Chirikof Island (Saltonstall and Steffian 2005:19), looters left behind homemade sifting screens, illustrating the intensity of their recovery efforts and a technique learned from archaeologists.

One particularly distressing result of site looting is the disturbance of graves. The Alutiiq people buried their dead in their villages. Thus, the same deposits that produce the woodcarvings (Fig. 4), ivory figurines, and bone weaponry covered by collectors are likely to hold human remains. Looters take some of these remains. Others they disturb, expose, and leave behind (Mobley et al. 1990:140–143). When well-meaning citizens observe human remains in the wilderness, they call the Alaska State Troopers, who must collect the remains for review by the state medical examiner unless they can be determined to be prehistoric.2 Thus, burials are not only disturbed, but their contents—or some portion—are removed to distant laboratories.

Protecting and managing these resources continues to be difficult (Fine-Dare 2002:83–84). While federal laws like the Archaeological Resource Protection Act of 1979 provide theoretical protection for the hundreds of sites that lie on federal and Native lands in the archipelago, enforcing these laws in a roadless wilderness area the size of the state of Connecticut is both immensely expensive and challenging. Moreover, the location of the sites that need monitoring is not always known. Despite the wealth of recorded archaeological deposits, large areas of

Figure 3. Off road vehicle tracks cut through Zaimka Mound, a settlement dating from 7,300 to 3,800 years ago. Photo by Amy Steffian, 1998.

Figure 4. A prehistoric wooden doll from the Malina Creek Site (courtesy Afognak Joint Venture collection) illustrates the treasures found in Kodiak’s sites. Photo by Richard Knecht, 1993.

2 The Alaska State Troopers now work with Alutiiq Museum archaeologists to identify prehistoric human remains in the field. Archaeologists accompany troopers responding to reports of human remains in remote regions. If an archaeologist can determine that the remains are prehistoric, the troopers will leave them in place.
the archipelago have never been systematically surveyed, and every new survey reveals significant numbers of settlements (Steffian and Saltstonstall 2004). Thus, even for those who have a genuine interest in actively managing the sites on their lands, the task is daunting. Escalating site destruction and a need for new management approaches led the Alutiiq Museum to consider how public education and community collaborations might help.

**RESOURCE MANAGEMENT THROUGH EDUCATION**

As a professional repository, the Alutiiq Museum cares for archaeological materials excavated around Kodiak during the past seven decades. The facilities include a laboratory and a climate-controlled collections storage room designed to support existing collections and sustain research fueling the Alutiiq heritage movement (Knecht 2002; Pullar 1992). In the museum’s early years, staff members salvaged objects from a badly eroding wet site (Steffian and Knecht 1998), completed some small archaeological contracts, and helped one of our supporting Alutiiq corporations with Dig Afognak, an ecotourism program that involves archaeological field research (Woodhouse-Beyer 2001). The museum was involved in archaeological research and resource management, but usually in response to a request for assistance rather than as a planned effort with clearly established goals.

However, the growing number of amateur collections brought to the museum, upsetting accounts of vandalism, and intense community interest in archaeology forced us to consider the long-standing problem of site preservation. The museum began to recognize a need to take an active role in saving sites and the information they hold and involving the Kodiak community in this work. Ruth Dawson, chair of the Alutiiq Heritage Foundation, the museum’s governing board, expressed this sentiment in a letter to the editor of the *Kodiak Daily Mirror* in November 1998. In response to the sale of Alaskan artifacts in local gift shops she wrote:

> Kodiak has many remarkable archaeological sites and the artifacts they hold are a non-renewable resource. The way we treat them today will forever determine the knowledge available to future generations. Let’s work together to keep this knowledge safe. Please do not collect, buy, sell, or trade artifacts. The tools of our ancestors should be treated with the greatest respect, not traded for profit.

They should be cared for in museums and culture centers, where our entire community can benefit from their information, beauty, and spiritual power. (Dawson 1998)

During the museum’s first strategic planning sessions, board and staff members affirmed that caring for Alutiiq heritage depended on preserving its records, whether they were objects in the museum or sites on the landscape. The team of Native leaders, educators, tradition bearers, and archaeologists further recognized that collaborating with land managers to care for archaeological deposits was an important function of the museum and that this work could promote the museum’s broader educational and social goals: increasing knowledge of Alutiiq heritage and generating pride in Native ancestry. The Community Archaeology and Site Stewardship programs evolved from this desire to advance community-wide stewardship of archaeological resources as part of the museum’s educational mission.

**COMMUNITY ARCHAEOLOGY**

In the spring of 1997, the Kodiak Island Borough was in the midst of building a multimillion dollar fisheries research center in the city of Kodiak when soil testing at the construction site uncovered evidence of a prehistoric settlement. Following the guidelines of the National Historic Preservation Act, archaeologists from the Alutiiq Museum were hired to survey the area, evaluate the significance of the cultural materials, and determine the effects of the proposed construction. It was quickly evident that the planned project would irreparably damage a rare Early Kachemak deposit, which represented a little-known era of Kodiak prehistory and was eligible for nomination to the National Register of Historic Places.

The Kodiak Island Borough land manager and Alutiiq Museum archaeologists faced a dilemma. On the one hand, the site needed to be preserved. Federal law mandated either changing construction plans or implementing some form of data recovery. On the other hand, construction of this important community-supported facility was in its advanced stages, significant changes to the project design were not possible, and there was very limited funding for any additional environmental work. Following federal law, the Alutiiq community and museum archaeologists could have pressed the borough into a costly excavation contract.
Instead, the museum chose to turn a potentially contentious situation into an opportunity for public education.

The Alutiiq Museum agreed to conduct a salvage excavation under a modestly funded contract. Following a model that had worked successfully in previous academic projects (cf. Knecht 2002), a small team of professional archaeologists would lead community volunteers in an excavation. The project would be widely publicized to attract attention to the value of Alutiiq heritage and the issues of site preservation. The borough would provide extensive technical assistance: permitting, an on-site water system for screening, site preparation, and backfilling. The resulting collection would be curated at the Alutiiq Museum where it would be available for study and interpretation.

The field excavation lasted just ten days, followed by a month of lab work. In this short time, three paid archaeologists supervised over 40 volunteers, who gave over 1,000 hours of their time to salvage information and artifacts from the Blisky site (Steffian et al. 1998). Together, they excavated roughly 25 cubic meters of deposit, recorded three unique structures, recovered more than 3,500 artifacts, and processed all these materials in the museum’s laboratory. In a small fishing community, where summer is a season of intense work, this outpouring of support far exceeded expectations. Participants included an accountant, geologists, photographers, travel agents, state troopers, housewives, reporters, biologists, fishermen, a borough assembly member, teachers, tourists, and a great variety of students. The goodwill generated by this effort was priceless: of far greater value than a fully funded contract. The community and its political leaders witnessed the museum’s commitment to public service and the museum had the opportunity to provide an intensive hands-on educational experience to a large group of community members, Native and non-Native alike. Moreover, the museum preserved a rare assemblage of cultural materials and generated new information on Alutiiq heritage: fuel for exhibits, presentations, publications, and educational programming.

Over the following winter, as staff members completed a project display, wrote a technical report, and prepared presentations for both the community and academic meetings, the museum realized that our work with the borough could serve as a model for an annual public program. We had the facilities, the equipment, and the expertise to lead field research and a community clearly willing to assist. Moreover, we were painfully aware of the destruction occurring at sites in our immediate surroundings. Why not design a long-term research project that would address important questions of Alutiiq history while helping land managers care for threatened sites, educating the public, building the museum’s collections, and creating an opportunity for cultural exploration? Our board of directors supported the idea enthusiastically.

In the spring of 1998, we began planning for another excavation, which we called Community Archaeology. We focused on Zaimka Mound, a site on lands owned by Leisnoi, Inc., that was being torn apart by off-road vehicles. The deposit contained materials from the same Early Kachemak tradition as found at the Blisky site, but in a different setting. This gave us the opportunity to learn more about regional patterns of settlement and subsistence at a turning point in Alutiiq history: the dawn of intensive salmon fishing and settled village life. This second excavation proved to be even more popular. In 20 days of fieldwork, we attracted 70 volunteers who gave more than 2,300 hours of their time to recover more than 8,000 artifacts and move roughly 60 cubic meters of deposit (Fig. 5). The volunteer effort continued through the winter, as excavators became lab technicians washing, sorting, and labeling the finds.

Community Archaeology in 1998 formed the foundation for future years of the program, now in its eleventh year. The museum now investigates a threatened site through this month-long excavation every summer. Archaeologists choose a deposit near the city of Kodiak for both its ability to contribute to our research design and for its condition. The program begins formally in early summer with an orientation meeting for volunteer participants. We invite community members to attend a lecture introducing Kodiak archaeology, Alutiiq prehistory, site preservation issues, and the upcoming excavation, and pair this lecture with a gallery display of photos, artifacts, and results from the previous year’s project.

Patrons then sign up to participate in the excavation. We limit the crew to 20 people per day—including at least three archaeologists—and all participants must be 14 or older. No previous excavation experience is required. We ask only that first-time excavators spend one full day at the site, so they can receive a half day of training and then put their new skills to work. After this initial day, volunteer excavators can attend for either a half or full day.

3 Leisnoi, Inc., is an Alaska Native village corporation formed under the Alaska Native Claims Settlement Act of 1971.
The museum provides all the excavation equipment for the program, but participants must bring their own boots, rain gear, bug spray, water, and bag lunch. The excavation proceeds for up to four weeks with two weeks of lab work, involving the community in nearly every aspect of data recovery and processing. During the winter, museum archaeologists write up the results of the field work in technical reports, conference papers, journal articles, and popular publications. Project photographs and results are also added to the museum’s web site (www.alutiiqmuseum.org) to provide broad public access to the knowledge gained through the program.

To enhance the educational experience of the program, the museum created an independent study program with both the Kodiak Island Borough School District and the University of Alaska’s Kodiak College, so that students can participate for high school or college credit. The high school program is free. College students pay registration fees at Kodiak College and then give the museum $50 per credit hour. These fees help to offset the costs of expendable supplies needed for the project. Finally, the museum creates paid internships for students with donations from Alutiiq corporations and grant funding from the local school district (Fig. 6).

Friday started off being very exciting, first of all because of the good weather and second of all because Tracy found a beautiful, completely finished stone lamp. And on Friday I began to recognize different artifacts and layers on the ground so I didn’t have to ask Amy as many questions as I did before. On Friday I finished off two squares and was able to find an uncountable number of net sinkers, a cobble stone scraper, and two ulu fragments. After the long exciting day I wrapped up by going to the museum and storing artifacts. (Tarran Panamarioff, field journal, June 25, 1999)

Finally, when the excavation begins, all participants receive an educational packet that includes information on Alutiiq heritage, Kodiak archaeology, and the laws that protect archaeological sites to enhance their educational experience. In some years, we produce these packets with grant money from local organizations like the U.S. Coast

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4 The Community Archaeology project costs roughly $40,000 per year. Most of this funding comes from gifts and donations of in-kind support.
Guard Officer’s Spouses Association, extending the participation of our community in heritage education and resource preservation.

This enormously popular program, at the center of the museum’s public outreach efforts, fulfills many goals. It helps to preserve unique pieces of Native history, promotes respect for Alutiiq traditions, and expands the museum’s audience by giving people the rare and exciting opportunity to participate in archaeology. Moreover, the program promotes public awareness of the need to protect sites while enlisting the support of community organizations in this effort. People who have a positive outlet for their interest in antiquities seldom vandalize sites and often become major supporters of preservation efforts and the museum.

Although the Alutiiq Museum is not a land-managing agency, with no archaeological resources of its own to shepherd, the program helps the museum build ties with local land owners and managers to complete essential work.

Our three-year partnership with the U.S. Coast Guard (USCG) to study the Outlet site—a massive prehistoric fishing camp now encompassed in an antenna field—is an example. Erosion into the adjacent Buskin River and the installation and maintenance of antenna equipment were ongoing threats to this large, valuable site. By excavating portions of the deposit, we helped the USCG meet federal site stewardship responsibilities, form stronger ties with the Native community, obtain information for planning future uses of its antenna field, and provide an exceptional educational opportunity for its staff while meeting our own preservation, education, and research objectives. Like the Kodiak Island Borough, the USCG simply didn’t have the funds to support more than perfunctory archaeological investigation. Yet they recognized the importance of this work and were willing to help by combining resources.

In 2000, Community Archaeology received national attention. It was one of three Alutiiq Museum programs recognized with the National Award for Museum Service. Given annually by the Federal Institute for Museum and Library Services, this award honors three American museums that have made an outstanding effort to form community collaborations for education. Receiving the award from President Clinton and First Lady Hillary Rodham Clinton at a White House ceremony (Fig. 7) greatly reinforced the value of our small organization’s efforts to participate in resource management.

On the surface, Community Archaeology is about resource management and heritage education, but at a deeper level, it is also about building dignity. Working
with others—land managers, educators, students, and volunteers—helps our culturally specific museum prove the value of heritage education to people of all backgrounds. We believe that the best way to increase pride in Alutiiq youth and elevate perceptions of Native people is to involve all people in the exploration of Alutiiq history. We aim to enlighten and preserve through inclusion. Each collaboration is a chance to tear down stereotypes and to create positive opportunities for exploring cultural diversity. With every scrape of a trowel, Community Archaeology achieves this goal.

SITE STEWARDSHIP

Archaeological excavation is an expensive, labor-intensive, time-consuming process that focuses on just one site. Thus, while the Community Archaeology program makes a big educational splash, it addresses the problem of site management and attrition on only one deposit at a time. The program focuses extensive resources on one of hundreds of sites in need of documentation. Site Stewardship, a smaller, less visible museum program, approaches the issue of site preservation and public education from a broader scale.

In the wake of the Exxon Valdez oil spill, U.S. Fish and Wildlife Service (FWS) archaeologist Debbie Corbett needed to monitor site conditions on FWS lands in the Kodiak National Wildlife Refuge. The largest landowner in the archipelago, the FWS manages thousands of wilderness hectares with many hundreds of archaeological deposits. In addition to protecting sites, Corbett wanted to track rates of site destruction. She wanted to know what portion of the sites under FWS management was unstable, what were the major agents of site disturbance, and if oil spill clean up efforts had exacerbated site vandalism. The museum essentially trains these volunteers to recognize sites and artifacts and to complete noninvasive recording. Then, each volunteer makes an appointment to spend an hour with a museum archaeologist and the Kodiak site inventory, identifying sites to monitor near their rural home. At this meeting they receive a packet of supplies that includes educational handouts about Kodiak archaeology, Alutiiq prehistory, and site preservation; a disposable camera; a set of blank waterproof recording forms; a completed example of a recording form; a museum pencil; and a stamped, museum-addressed envelope to return the materials at the end of the summer. During the summer, project participants visit the sites and record basic information on conditions: the degree of erosion, any evidence of modern use, animal activity and recreational digging. Museum archaeologists visit some of the set netters each summer to help with site documentation and look for additional sites in the vicinity. Then, in the fall, the museum staff contact each set netter to retrieve their records. Finally, the museum compiles the data and writes a report on the project for the FWS.
A major concern at the onset of the project was that training volunteers to recognize sites and disclosing site locations might promote vandalism. We did not want to further arm recreational diggers. However, after eight years of the program, the accumulated results strongly suggest otherwise. Thirty-three volunteers have monitored the condition of 200 archaeological sites in 13 regions of the archipelago. A study of their observations indicates that vandalism is decreasing in the areas most heavily monitored (Steffian and Saltonstall 2004). In short, the stewardship program is reducing an illegal, highly destructive, and avoidable type of disturbance. This is a very positive, somewhat unexpected result. While we expected to document vandalism and hoped to find patterns in its location to assist land managers, we didn’t anticipate the program’s broader effect. The presence of stewards in the refuge and their commitment to site preservation, the widespread promotion of the project and its goals by the Alutiiq Museum, and the museum’s broad efforts to educate the Kodiak community about the value of archaeological resources seem to be reducing recreational digging.

An important part of this project has been reconnaissance-level surveys. The FWS has hired museum archaeologists to conduct site surveys on Afognak Island (Ponnti and Saltonstall 1999; Saltonstall and Steffian 2005), in Kivak Bay (Saltonstall 2000; Steffian and Saltonstall 1999), in Olga Bay (Steffian and Saltonstall 2003), on Chirikof Island (Saltonstall and Steffian 2005), and along the banks of the Uganik, Ayakulik, and Red rivers (Steffian and Saltonstall 2004)—all areas with limited previous survey coverage. This work represents a serious effort to assess vandalism in known problem areas, establish a baseline of information on site conditions in areas where recreation is escalating, document sites in regions that have not been surveyed, and develop information that can be used in future years of the Site Stewardship program. Like Community Archaeology, this research produces information for displays, programs, and publications while documenting patterns of Alutiiq prehistory. It also relies heavily on community collaboration to achieve its objectives. Site Stewardship is another example of education through inclusion, of creating respectful, trusting relationships around resource management and heritage preservation.

FUTURE DIRECTIONS

The archaeological programs described here are still underway, still evolving. Like community needs, these programs are not static. We will alter them as new challenges in resource management and community education arise. Where will the future lead? There are many possibilities.

At the broadest level, we hope our efforts to use public education as a resource management tool will serve as a model. We have been approached by others wishing to replicate aspects of our programs, and we are happy to share what we have learned. We have advised National Park Service archaeologists leading Yup’ik high school students in salvage excavations in western Alaska and shared program information with a museum in Texas that is using archaeology to study the painful legacy of slavery in America. While archaeology is not always an appropriate tool for public education, we believe that it has many positive applications that can be pursued in cooperation with academic research.

Another logical step is more intensive, farther-reaching collaborations to preserve cultural resources through public education. With help from the FWS and the Alaska Office of History and Archaeology, we distributed information on laws protecting archaeological sites and potential consequences of vandalism to Alaska’s entire fishing fleet. In the spring of 2006, every fisheries permit holder received a statement about looting be included in the information that must be posted in every fishing vessel.

Finally, there may be opportunities for economic development tied to archaeological research. The Dig Afognak program, an ecotourism program developed by the Afognak Native Corporation (Woodhouse-Beyer 2001), is one example of how the exploration of Native heritage and wilderness experiences can be combined to create unique and meaningful opportunities for tourism. Some of Kodiak’s other Alutiiq corporations have expressed an interest in working with the museum to develop such programs. Survey projects, site testing programs, and full-scale excavations of threatened sites on Native lands could be expanded to include tourists and generate economic opportunities for rural communities beyond the languishing fishing and timber industries. Here again, archaeology and cultural resource management may have applications far beyond—but not in opposition to—their fundamental goal of preserving human history.
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THE UNIVERSITY OF ALASKA MUSEUM AND
THE CURATION CRISIS IN ALASKA ARCHAEOLOGY

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ABSTRACT

The University of Alaska Museum in Fairbanks is the principal repository for archaeological collections from state and federal lands throughout Alaska. These collections serve as a significant public resource for individuals, organizations, and communities, serving interests that range from research and teaching on a wide array of anthropological and paleoenvironmental topics to heritage preservation and heritage tourism. The past three decades have seen dramatic growth in the volume of archaeological collections deposited at the museum and in the subsequent use of these collections in sponsored research, cultural resource management, and a variety of exhibition and other educational activities. Since the 1970s, there have also been major advances in our understanding of how to best ensure the long-term physical preservation of museum collections. As a consequence, the standards for what constitutes best practices in archaeological curation have risen. Mirroring trends across the nation, the growth in collections and higher standards for care have led to what has been termed a “curation crisis” in archaeology, in which growing demands exceed available resources of physical space, staff time, and funding. This paper discusses these trends with respect to the University of Alaska Museum of the North and provides an overview of some of the steps we have taken to ensure that the archaeological collections continue to be a major public resource in the future.

Keywords: archaeological repository, preventive conservation, archaeological collections

INTRODUCTION

The University of Alaska Museum (UAM) is the principal repository for archaeological collections from state and federal lands throughout Alaska. With the exception of the National Park Service, which has chosen to house collections in its own archaeological repository in Anchorage, UAM curates collections belonging to all federal agencies with land management responsibilities in Alaska. This includes collections made before 1959 when Alaska was still a territory, as well as those owned by the Bureau of Land Management, U.S. Army, U.S. Air Force, Army Corps of Engineers, U.S. Coast Guard, U.S. Fish and Wildlife Service, and U.S. Forest Service. The museum also maintains small comparative collections of archaeological material from several of the lower 48 states, Canada, and Greenland, obtained through exchange with other institutions at a time when this practice was fairly common. Smaller, local museums around the state such as the Alutiiq Museum and Archaeological Repository (Kodiak) and the Museum of the Aleutians (Unalaska) also curate federal collections from within their respective regions.

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The University of Alaska Museum of the North’s archaeological collections are closely intertwined with the history of Alaska archaeology. The collections had their start with Otto Geist’s work on St. Lawrence Island in the early 1930s and they continue to grow. In the intervening years, and in particular since the 1970s, there have been major advances in the fields of museology and materials science concerning how to best care for collections to ensure their long-term preservation. At the same time, changes in federal policy (e.g., 36 CFR Part 79, promulgated in 1990) have raised the standards for what practices are considered acceptable and have thus increased the resources required to care for each object in the collection. The combination of continued collections growth and the need for greater resources to care for existing collections is not unique to Alaska and has led to what many term a “curation crisis” in archaeology (Childs 2004; Ford 1977; Lindsay et al. 1979; Marquardt et al. 1982; Sullivan and Childs 2003). To address this crisis, UAM has made some significant changes over the past five years in our policies and procedures that affect how the museum functions as an archaeological repository. This paper traces the origins of the curation crisis in Alaska and discusses the measures UAM has put into practice to ensure that the archaeological collections we curate continue to be a significant and accessible public cultural resource.

THE OLD NEW MUSEUM

In the late 1970s, when the state coffers were flush with oil money, the University of Alaska completed construction of a new museum facility at its Fairbanks campus. Museum collections previously housed elsewhere on and off campus were brought to the new museum on West Ridge (formerly known as Rainey Ridge). In addition to exhibit galleries, laboratories, and office space, the new facility included approximately 112 m³ of secure storage space for the archaeological collection. Environmental controls ensured that the temperature remained at about 20°C and relative humidity at 45 percent throughout the year, in keeping with what had come to be recognized as best practice to ensure the long-term preservation of the collections. The University of Alaska Museum was among the first museums in the country to employ Spacesaver high-density compacting mobile storage as a way to maximize the use of space in the collections storage area. Use of such storage furniture has since become standard in many museums and libraries throughout the nation.

As the pace of research-driven and federally mandated archaeological investigations increased throughout the 1970s, the museum’s collections grew rapidly. Collections sometimes arrived uncataloged and were typically still housed in the boxes and bags they were placed in at the time of excavation. During this period, there were no specific guidelines in place for how archaeological collections should be packaged before being deposited at the museum, nor did the museum charge repository fees. However, until 1990, the museum was heavily involved in cultural resource management (CRM) activities that employed graduate and undergraduate students and generated overhead dollars used to fund the care and management of the archaeological collections as a whole. In addition to numerous rural airport surveys, some of the more notable CRM projects included a survey of the Susitna River (Dixon 1985), testing of the Amaknak Bridge site on Unalaska (Bacon 1977), and survey and testing near Tok and Gakona as part of the Over-the-Horizon Backscatter Radar project (Sheppard et al. 1991), among others.

RUNNING OUT OF SPACE

With the rise in research and CRM-driven activities that began in the 1970s, the number of archaeological collections coming to the museum for curation grew rapidly. At the same time, the growing emphasis on recovering and recording as much data as possible meant that, in addition to actual artifacts and field notes, faunal remains, soil samples, and a variety of other material began to be deposited as well. The increase in archaeological activity statewide and in the range of materials being curated meant that the collections soon expanded beyond the space available in the compact mobile storage area. By the late 1990s, the volume of the archaeological collections housed at UAM had grown to over 181 m³, exceeding what the facility had been designed to hold by over 60 percent.

1 In an unpublished manuscript recounting her time at the university and her trip with her husband Wendell down the Yukon River to Hooper Bay to conduct her linguistic research and his excavations at Nukleet. Helen Oswalt describes many enjoyable evenings spent with Louis and Betts Giddings in their cabin on Rainey Ridge. Rainey Ridge, named because that is where Froelich Rainey built a cabin and lived while on the University of Alaska faculty, is now called West Ridge. The cabin where the Giddings family lived in 1949–50 is now known as the Rainey-Skarland Cabin and is managed by UAF’s Anthropology Department.
Under similar circumstances, several repositories around the country stopped accepting new collections. However, despite the growing shortage of space, UAM continued to issue accession numbers, agreeing to take additional new collections at no charge. Unfortunately, the sheer volume of the collections being housed began to affect the museum’s ability to make those collections available for study. Boxes of artifacts and documentation were stored on shelves along aisles and in corridors not intended to house collections. An office originally used by graduate students and visiting researchers doing collections-based research was converted to handle the overflow and keep the museum in compliance with state fire codes and the Americans with Disabilities Act. The museum was beginning to fail in part of its role as a repository because the lack of storage space had begun to compromise the museum’s ability to make the collections available to the public for study.

GRADUAL DETERIORATION

The need for adequate storage space in which to house new collections is the most obvious part of the curation crisis. However, advances in the fields of museology and materials science have led to the realization that past practices, including how collections were treated at the time of excavation and how they have been packaged and stored since coming to the museum are also a major part of the current crisis (Canadian Conservation Institute 1992; Rose and de Torres 1992; Rose et al. 1992). Simply put, things made from organic materials will deteriorate over time unless prevented from doing so by the environment in which they are stored. In some cases, fragile organic artifacts were never adequately stabilized after being removed from the frozen or anoxic environments that preserved them. Left untreated, these objects will deteriorate on their own, and many of them are doing so. In other cases, the materials and methods originally used by the excavators or subsequently used by museum staff to help preserve objects are instead actively contributing to their deterioration. Because these factors affect the existing collections, this part of the crisis cannot simply be resolved with additional storage space or a change in how new collections are handled. Instead, a systematic, collection-wide effort is required to address them. Such deterioration is not limited to UAM; it probably affects collections in every other museum and repository around the world. To the extent that this deterioration gradually undermines the integrity and utility of the collections, it affects everyone, including the agencies legally responsible for the collections, who have an interest in Alaska’s cultural resources. In the section that follows, I detail the history of the collections and some of the factors that are contributing to their continued deterioration.

ORIGINS OF THE COLLECTIONS

To understand why the collections are deteriorating, it is necessary to understand their history and, in particular, how they have been treated since excavation. The UAM archaeological collection had its genesis in the 1930s when the university’s president, Charles Bunnell, assigned Otto Geist, an industrious if not always meticulous excavator and collector, the task of acquiring objects that would form a university museum collection. Geist concentrated his early efforts on the great prehistoric middens of St. Lawrence Island, competing for specimens with the Smithsonian Institution’s Henry B. Collins, who was excavating stratified middens in an effort to establish a basic cultural sequence for Bering Strait (Collins 1931, 1932, 1935, 1937). Geist worked on St. Lawrence Island in 1927, 1931–35, 1937, and 1939, amassing a collection of wood, bone, antler, ivory, baleen, ceramic, stone, and metal artifacts that today occupies 31 m³ within the UAM collections storage area. Much of that collection remains undescribed and has only been published in the most cursory form (e.g., Geist and Rainey 1936).

Geist’s material from St. Lawrence Island is the largest part of UAM’s archaeological holdings in volumetric terms. Those collections have now been out of the ground for over 70 years. Some have been treated with unknown chemicals, while others have gone untreated. During much of the intervening time, they were stored in an unheated Quonset hut off campus. The material from St. Lawrence Island is among the most fragile and vulnerable of UAM’s archaeological collections, and it is also the least well studied. Many of the crates Geist used to ship the collections to Fairbanks at the end of each season were only opened for the first time in 1979–80.

2 Geist also collected human remains and associated funerary objects during his work on St. Lawrence Island. That material is housed separately and is not included in the figures for space listed here.
There are also other large collections at the museum. Next in line in terms of volume is material from various sites on Amchitka owned by the U.S. Fish and Wildlife Service (14 m³); the collection from the Croxton site (Gerlach and Hall 1988), which is owned by BLM (7.6 m³); and the collections from early Fairbanks generated by Northern Land Use Research during the Barnette Street expansion project (2.7 m³). The Trans-Alaska Pipeline Survey (TAPS) collections (Cook 1977) currently occupy 4.6 m³; other TAPS collections are out on long-overdue loan. Castle Hill, the large Russian period site in Sitka excavated by the Alaska Office of History and Archaeology (OHA) as part of an Alaska Department of Transportation-sponsored mitigation project in the late 1990s, has also been accessioned but not yet deposited. Staff from the Alaska Office of History and Archaeology continue to consolidate this important collection, preparing to deposit it at UAM. They estimate that the material from Castle Hill will eventually occupy approximately 4.25 m³ in the collections storage space (Dave McMahan 2005, personal communication).

The museum now houses somewhere in the neighborhood of one million archaeological specimens. The exact number is unknown because many collections have accession-level rather than specimen-level catalog information. As of February 2008, we have 260,726 specimen-based records in the archaeology database, and that number is steadily growing as we continue to work through the old collections, rehousing them and transferring data from individual bags, scraps of paper, coin envelopes, catalog sheets, and field notes into the database as part of a sustained program of preventive conservation. These activities are discussed in greater detail below.

**MISTAKES SEEN ONLY IN HINDSIGHT**

Advances in the standards for how archaeological collections and associated documentation are handled, labeled, packaged, and stored have occurred since the museum was founded and in particular since 1970. These advances stem from the recognition that the ways artifacts and documentation are stored and handled has a direct impact on their prospects for long-term preservation (Fig. 1). While this relationship might seem self-evident, its implications for collections management are not without irony. In addition to the more obvious sources of damage, such as mishandling and flooding, the very measures intended to protect and preserve objects in the past may be actively contributing to their ongoing deterioration. Such damage tends to be gradual and to go mostly unnoticed, but it is also pervasive and largely irreversible. Paper such as toilet tissue used to wrap and cushion fragile organic objects, and the boxes intended to protect them, often turn out to be acidic and slowly erode the surface of the objects. Coin envelopes and paper bags used in the field or laboratory to record information about the objects they contain are also acidic and deteriorate over time, causing the loss of the very information they were intended to preserve. In the

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3 This number reflects items that would be given a unique catalog number. Thus flake lots and faunal lots, while often consisting of tens or hundreds of individual items, are each counted as a single specimen in this estimate.
past, it was common practice to use "white-out" and clear fingernail polish when labeling artifacts. Such labels are not chemically stable; over time they become opaque and unreadable or they detach from the object altogether (Fig. 2). Such cases are not uncommon in the museum. When this happens, the time and effort invested in carefully excavating and recording sites and placing a unique catalog number on each object so that it can be associated with specific information in the field notes is wasted. When the ability to associate individual artifacts or samples in the collection with the information about them in the field notes is lost, the scientific value of the collection is severely compromised.

None of the developments that caused the curation crisis were rapid or dramatic. No one came in to work one morning to discover that we had run out of space overnight. The deterioration of individual objects is both gradual and subtle; looked at from one week to the next, change is virtually imperceptible. However, by the year 2000 the curation crisis had clearly reached Alaska. The museum was out of space in which to house additional collections. Conservation assessments conducted in 1983, 1987, 1992, and 1997 had indicated that problems of overcrowding and inappropriate materials were contributing to the deterioration of existing collections.

SOLUTIONS TO THE CURATION CRISIS

MUSEUM EXPANSION

It was clear to anyone who visited UAM’s collections storage area during the 1990s that the museum was running out of room. The need for more space, then, was the most obvious symptom of the curation crisis. When the old UAM opened in 1980, that building was intended to be the first part of a two-phase project. The second phase, which was to include additional gallery, laboratory, classroom, and collections-storage space, was expected to break ground a few years later. When Alaska’s oil-driven economy collapsed in the late 1980s, construction of phase II had not begun, and those plans were put on hold. In 2002, after an ambitious fundraising campaign that brought together state and federal funding sources with significant support from private donors and corporate sponsors, the university finally broke ground on phase II. That facility, termed here the New UAM, was completed in 2006, more than 20 years after it was originally expected to come online.

As part of the facility expansion, much of the existing space has been renovated, and the space used to store archaeological collections experienced a net increase of approximately 105 m³. A major grant from the National Endowment for the Humanities’ Preservation and Access program has funded the purchase of another set of compact mobile storage furniture for the museum’s anthropological collections. In addition, the expansion includes state-of-the-art classroom facilities for university courses that make use of museum specimens and dedicated space for visiting researchers and students who wish to use the museum’s collections. With the addition of new space, the museum is better positioned than ever before to make the collections available as a public resource.

Figure 2. Black ink was used to record this object’s catalog number on a base layer of white “paint.” The two substances were then sealed with a coat of lacquer or varnish, probably in the 1940s or 50s. The paint has detached and the sealer has since cracked and fallen away, taking part of the catalog number with it. When the artifact becomes disassociated from its catalog number, the basis for relating it to context and association recorded in maps and notes is irretrievably lost. Photo by Chris Houlette.

4 Grant no. PH-50018-03.
CHANGES IN COLLECTIONS MANAGEMENT

The purpose of an archaeological repository, as envisioned in the Regulations for Curation of Federally-Owned and Administered Archaeological Collections (36 CFR 79), is to care for and preserve collections to ensure that they remain a public resource in the future. For practical purposes, if the museum is to preserve the cultural materials it curates and prevent the loss of information about them contained in their associated documentation, then there is a lot of work to do. These activities, termed “preventive conservation” in museological circles, fall to the collections manager and the student assistants he trains and supervises.

The museum expansion included additional collections storage space that will alleviate part of the current crisis in curating Alaska’s cultural resources. However, the need for more space is only the most obvious part of that crisis. Additional space does not address the problem of deferred maintenance; a significant investment in preventive conservation is needed to halt the gradual deterioration of the collection. Nearly all of the museum’s archaeological collections need to be rehoused in archivally appropriate containers, and the information on their existing containers must be captured and recorded. We have begun to work through a backlog of collections amassed over a period of 70-plus years, stabilizing them one artifact at a time through conservation and rehousing and capturing all associated information (Fig. 3). We are also photographing many of the objects as we go, documenting their condition and developing tools for making information about the collections more readily available online.

PARTNERING FOR PRESERVATION

Preventive conservation is both time-consuming and labor-and material-intensive. The $200 allocated for archaeology from the museum’s annual state appropriation does not begin to provide funds to care for collections owned by the state of Alaska, let alone those owned by the federal government. Since 2002, two federal agencies have provided support for the maintenance of the collections they own, and we are hopeful that support from other agencies will be found in coming years. The Fish and Wildlife Service has provided funds to rehouse collections from the Porcupine River and Anangula.

The Bureau of Land Management has provided matching funds through a Challenge Cost Share agreement to rehouse and record those collections we currently house from the Trans-Alaska Pipeline Survey and the Tangle Lakes Archaeological District. The Preservation and Access grant from the National Endowment of Humanities is funding work on the state-owned collections at UAM, and the museum was also awarded a grant from the Save America’s Treasures program in 2005 to perform preventive conservation on the collections Geist made on St. Lawrence Island in 1934–35.5 Museum staff train and supervise student assistants who perform this work, and we have typically been able to employ eight students per semester. Once all this work is completed, the collections involved will be appropriately housed for long-term preservation, and information about them will be captured and made much more accessible electronically. The efforts to upgrade the storage conditions of the

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5 Grant no. ST-00-05-0005-05.
collections at UAM will make them a much more useful and useable resource for researchers, managers, and other people interested in Alaska’s cultural resources. The efforts to rehouse the collections and prevent the loss of information associated with them are important because there have been significant advances in analytical techniques, including radiocarbon dating, stable isotope chemistry, and genetic analyses using ancient DNA since most of the collections housed at UAM were excavated. Many of those collections have never been analyzed, and nearly all continue to hold scientific potential and relevance for modern and emerging research problems.

The current program of preventive conservation is intended to mitigate and, in some cases, reverse damage that has occurred to the collections over decades. It is important to emphasize that these activities are very much akin to building maintenance in that they must be performed periodically. Objects must be checked occasionally, and electronic records must be upgraded and migrated to current data standards and technology if they are to remain useful and accessible. Costs associated with these activities are therefore recurring, even though funds to curate a particular collection are typically provided on a one-time basis.

**Changes to Permitting, Provisional Curation Requests, and Curation Guidelines**

For many years in Alaska, the state permitting process for archaeology required applicants to specify a repository for any collections they expected to generate but included no provisions to ensure that the repository was aware of the collection or had agreed to curate it. In practical terms, this occasionally meant that a phone call saying that boxes of archaeological material were on their way to the museum was our first indication that a particular collection existed and that we were expected to curate it. This situation worked to the detriment of efforts to effectively curate Alaska’s cultural resources. There was no mechanism to ensure that archivally appropriate practices for labeling and packaging artifacts were followed. In the absence of such practices, despite our best intentions as archaeologists, the labels and packages can themselves lead to the deterioration of collections. As a result, nearly all archaeological collections deposited at UAM now require preventive conservation if they are to remain a viable resource over the long term.

In 2002, following an assessment of curatorial practices and museum resources, UAM requested that the state historic preservation officer change the permitting process so that the institution designated as a repository on the permit application was given an opportunity to agree or decline to accept a collection before a permit was issued. At the same time, UAM also implemented a process requiring principal investigators to make a provisional request for curation before we would agree to accept individual collections. The provisional curation request allows staff to assess the appropriateness of each collection and our ability to curate it effectively in the face of limited resources. Significantly, as a condition of the curation agreement, investigators were also required for the first time to follow a set of curation guidelines that detailed standards for how collections would be labeled and packaged before coming to the museum. The purpose of this change was to ensure that archivally appropriate techniques and materials are used so that the collections do not gradually degrade once they are deposited with the museum.

**Repository Fees**

Perhaps the most controversial change in curation policies at UAM has been the decision to impose repository fees for collections excavated after 2002. Currently, UAM charges $450 per cubic foot of archaeological material and associated documentation, as well as an hourly rate for work required to bring newly accessioned collections into line with the standards outlined in the curation guidelines. This move followed a national trend begun in the 1970s toward charging repository fees as a way to help recoup the costs of curation. To put the UAM fee structure into a broader context, a survey of repositories around the nation in 2002 indicated that fees ranged from no charge to $1,500 per cubic foot (Childs and Kinsey 2003). Reactions to the decision to charge repository fees varied widely within Alaska’s archaeological community, with some members expressing grudging support for the idea and surprise that a fee structure had not been instituted earlier. Other individuals accused the museum of trying to put an end to research and trying to give itself an unfair advantage in competing for contract work.

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6 The curation guidelines are available at http://www.uaf.edu/museum/depts/archaeo/forms/Guidelines.pdf. They were developed to reflect current knowledge about best practices in museology.
The decision to impose repository fees was one born of necessity. Over the past five years, the annual state appropriation has covered between 23 percent and 27 percent of the cost of running the museum as a whole. As part of this allocation, the museum’s archaeology department receives about $200 of unrestricted funds in a typical year. This allocation is not sufficient to cover the cost of shipping loans, let alone to purchase laboratory supplies or perform even the most basic preventive conservation. Repository fees do not pay staff salaries; they are used to purchase supplies and pay student assistants working on collection management. In other words, repository fees are used to help ensure that the collections curated at UAM remain a viable and accessible resource for years to come. Because researchers and agencies issuing permits were not told they would have to bear some of the costs of curating their collections, the museum will continue to accept and curate collections excavated before 2002 without charge. The decision to do so is intended to keep the specter of unanticipated curation costs from deterring researchers who would otherwise deposit their collections at UAM. Our ability to continue to accept collections of course depends on the availability of appropriate space.

TYPE COLLECTIONS AND SAMPLING PROTOCOLS FOR HISTORIC ARTIFACTS

The secure, environmentally controlled space available for curating the museum’s collections is limited in size and unlikely to increase again any time soon. These limitations have forced the curatorial staff in all departments to carefully evaluate our continued ability to care for all of our collections and to make some strategic decisions regarding what sorts of new collections we will agree to curate. The area where UAM’s archaeological collections have seen the greatest volumetric growth since 1990 is in the collections that come from historic-period sites. The growth in interest in Alaska’s historic-period cultural resources among researchers and resource managers alike has led to a significant increase in collection-generating activities.

Archaeological sites from the historic period typically have large numbers of mass-produced objects such as bottles and cans. Unlike the artifacts from prehistoric sites that are unique because they are individually produced, these objects tend to be highly redundant. We call this the “Campbell’s soup can dilemma,” a problem best expressed by the question, “Does the collection’s capacity to support research, teaching, outreach, or resource management benefit from the addition of this soup can when we already have an identical but better-preserved example in the collection?” One way that the museum is working to balance the desire to curate all Alaska archaeological collections with the real-world limitations on space and other resources is by collaborating with the Bureau of Land Management to develop and curate a type collection of cans found in Alaska archaeological sites. Thanks in large part to the efforts of Robin Mills (BLM) and Steve Lanford (BLM seasonal employee and long-time museum volunteer), the museum now curates a collection of over 200 unique, well-preserved cans. This collection will continue to grow as new types are discovered and collected.

The decision to limit what sorts of material we can curate is not ideal. We recognize that we risk failing to curate material that might someday be of considerable scientific interest as analytical techniques continue to evolve. However, it is a pragmatic decision intended to strike a balance between the idealized desire to curate absolutely everything and the realities of available space and other resources. As a result, I believe the museum is now in a much better position to care for existing collections, to accept and care for new collections in the future, and to ensure that these collections realize their full potential as a public resource.

FUTURE ACTIVITIES

Writing this article has provided an opportunity to share information about some of the progress we have made over the past four years. With the assistance of various partners and some changes in curatorial practices, the museum has begun to make real progress in halting the gradual deterioration of its existing archaeological collections. Changes in policies and procedures will also help ensure that new collections have been cared for so as to maximize their
long-term preservation before they arrive at the museum. Writing this paper has also provided an opportunity to reflect on some of the things that still need to be done to ensure that Alaska's museum collections continue to be an important public resource for years to come. The balance of this paper outlines some of those challenges and the ways we might go about meeting them.

ORPHANED COLLECTIONS

One part of the curation crisis that has not been touched on in this paper is the number of archaeological collections for which no provisions for long-term curation have been made. There are literally hundreds of collections excavated over the past several decades in Alaska that are no longer being actively analyzed, but which, for a variety of reasons, have not been placed in a museum or other appropriate repository. Some sit on shelves and under tables in university or agency offices, while others are boxed and stored in basements, attics, and garages. Many such collections were produced by individuals who have since retired or left the field, or by contract firms now defunct. Some have even been accessioned at UAM but have never actually been physically deposited there. The museum periodically receives requests to borrow or study these collections and has even been accused of mismanaging them because they are not available. With the recent expansion to our collections storage space, the museum is now in a position to accept them. We, collectively, need to find ways to ensure that collections that are no longer being actively studied are placed in repositories that meet or exceed federal guidelines.

In addition to the collections that have never been deposited, other collections have been sent out on loan, never to be returned or to return with some or all of the diagnostic pieces missing. Naturally, it is generally the more interesting or significant collections that people wish to borrow, so it is these collections that have shown the greatest attrition. We are currently exploring ways to recover material sent out on loan with both the Alaska Office of History and Archaeology and the various federal agencies that own collections. We have also made the decision to loan collections only to institutions rather than individuals. At the same time, resolving the problems of orphaned collections and lapsed loans is not simply a matter of obtaining the physical return of this material. Such collections will also require substantial resources for preventive conservation and curation as they come in.

These collections are part of the intellectual foundations for our understanding of Alaska’s past, and they have considerable unrealized potential to contribute to continued analytical efforts on a wide array of topics. The discipline as a whole benefits when we ensure the preservation of existing collections and maximize access to them (Marino 2004). UAM regularly hosts visitors from Europe, Russia, Japan, and North America who come to the museum to conduct collections-based research. Students also use these collections for research, including research for graduate theses at the University of Alaska, University of Colorado, University of Paris, and other institutions. Unfortunately, there are a number of state and federal collections that visiting researchers express interest in that are not available for study because they remain in private hands. As individuals interested in that past, we must recognize that our offices, laboratories, garages, and basements are not appropriate facilities for the long-term storage of fragile, publicly owned, and scientifically important collections.

One goal of this paper is to prompt some thoughtful discussion within the archaeological community about how cultural resources are and should be curated. It is no longer acceptable to behave as though collections from state land are state property and are therefore solely the state’s responsibility. The same is true for collections from federal and private land. Broader currents within the discipline (e.g., Childs 2004) suggest we are moving toward a time when the fate of collections is viewed, in ethical if not strictly legal terms, as part of our collective responsibility.

Where does responsibility for these orphaned collections lie, and what more might we do to ensure their long-term preservation? Where will the necessary resources come from? Should there be institutional responsibility for collections made as part of sponsored research? What about collections generated by management activities or federally mandated site mitigation? Should responsibility for a collection transfer between institutions or agencies when individuals responsible for them change jobs? Should an employer such as a university or federal agency be responsible for collections when individuals who possess them retire? Archaeologists who generate and use collections should ask themselves a couple of additional questions. Am I aware of orphaned collections in danger of passing from the public domain? How am I currently curating the collections and associated documentation in my care, and what provisions have I made for their long-term care?
ACKNOWLEDGEMENTS

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REPORT

CULTURAL MATERIALS RECOVERED FROM ICE PATCHES IN THE DENALI HIGHWAY REGION, CENTRAL ALASKA, 2003–2005

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ABSTRACT

The Alaska Office of History and Archaeology conducted ice patch surveys in the Denali Highway region of central Alaska for three seasons. Prehistoric organic and lithic hunting artifacts and fauna had melted from the ice patches and were subsequently recovered. These items include arrow shafts, barbed antler points, lithic projectile points, and what is likely a stick for setting ground squirrel snares. Organic artifacts recovered from this survey date within the last thousand years. Lithic projectile points recovered from ice patches suggest that prehistoric hunters have been hunting caribou on ice patches in the Denali Highway region for at least the last half of the Holocene.

KEYWORDS: atlatl, bow and arrow, gopher stick, mountain archaeology

INTRODUCTION

Ice patches with caribou (Rangifer tarandus) dung and cultural material were first noted by the scientific community in August of 1997, when a Canadian biologist noticed a layer of caribou dung on a permanent ice patch while sheep hunting in the Kusawa Lake area of the southern Yukon Territory (Kuzyk et al. 1999). This caught his attention because caribou do not presently occupy the area. Researchers visiting a month later recovered sections of a wooden shaft with sinew twisted around one end on the edge of the ice patch. The shaft, part of a longer atlatl dart, was radiocarbon dated to 2887–3306 cal bc1 (Kuzyk et al. 1999:216). Subsequent ice patch finds included both atlatl darts and arrows, fragments of a bow, and more perishable items including a stitched hide moccasin (CTFN et al. 2005; Hare et al. 2004a, Hare et al. 2004b). To date, more than 240 artifacts have been recovered from melting ice patches and glaciers in northwestern North America.

In 2003, the Alaska Office of History and Archaeology (OHA) developed a research design for identifying and assessing cultural resources in the northern section of the Tangle Lakes Archaeological District in southcentral Alaska (VanderHoek 2003). Archaeological survey and monitoring of regional ice patches was instituted as one component of a larger management plan (VanderHoek 2007a). The purpose of this paper is to report on the artifact assemblage recovered from ice patches in the Denali Highway region during the 2003, 2004, and 2005 field seasons and discuss the significance of the finds in relation to the prehistory of the region.

1 All radiocarbon dates calibrated via Calib 5.0, IntCal04, Reimer et al. 2004.
to the artifact assemblages collected from ice patches in other regions.

The OHA regional ice patch survey centered around two clusters of ice patches in the Amphitheater Mountains that were previously identified as locations with the most promise for producing cultural material (see VanderHoek et al., this volume). The first cluster of ice patches is located at the western end of the Amphitheater Mountains near Basalt Lake. The second cluster is located on a high mountain ridge in the central Amphitheater Mountains near the Delta River falls.

**THE BASALT LAKE ICE PATCHES**

The Basalt Lake ice patches (BLIPs) are all found within approximately 1 km of Basalt Lake on the northeastern edge of the Maclaren River valley. They consist of four separate locales that were visited in August of 2003 and 2004. The discovery of several artifacts (Table 3) on and around the ice patches resulted in continued survey and monitoring in subsequent years. Basalt Lake ice patch 1 (BLIP 1), the largest ice patch in the region, was the first ice patch where cultural material was found.

**BASALT LAKE ICE PATCH 1 (XMH-1081)**

BLIP 1 has produced the most cultural material of the ice patches visited to date as part of this project. Artifacts recovered from BLIP 1 include fragments of at least two arrow shafts, a unilaterally barbed antler point, a thick piece of rolled birch bark, and a variety of faunal material (mainly caribou bones, antler, and antler velvet; Table 2).

One arrow shaft, collected in three sections, is virtually complete, having an antler point, two pieces of feather fletching, and sinew lashing in association (Fig. 1). The three sections of shaft, when refit, measure approximately 52 cm in length. The breaks are very clean and square, which suggests post-depositional shearing while frozen in the ice. Multiple faint markings, possibly of ocher, were visible on the pieces when recovered but have since faded. The proximal section of shaft, with the nock on one end, is 148 mm long. The nock groove itself is shaped like a “W” in cross-section, with straight, flat inside walls and deeper cut sides rising to a shallow peak in the bottom center. The complete shaft tapers from the larger distal, or socket, end (9.7 mm in diameter) to the smaller proximal, or nock, end (5.8 mm in diameter). The distal section of shaft was split in order to insert the antler point’s conical base. It had also been wrapped several times around with sinew lashing. The fragment of sinew that survived consists of two thin strands twisted together. Wrap marks on the distal-most 25 mm of shaft show the location of the former sinew lashing (Fig. 2).

The arrow shaft is made from a spruce stave that was split from a section of log. Weathering has raised the grain of the wood, making it distinctly visible on the outside and ends of the shafts. Detailed description of arrows made by the Ahtna are absent in the literature, but the

<table>
<thead>
<tr>
<th>Site #/Name</th>
<th>Lab#</th>
<th>Sample # (OHA)</th>
<th>Item Material Type</th>
<th>Taxon Technique</th>
<th>Conventional C-14 Age</th>
<th>Calibrated Age Range AD (2 sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XMH-1081 (BLIP #1)</td>
<td>Beta-185014</td>
<td>XMH-1081A</td>
<td>Arrow Shaft</td>
<td>Wood</td>
<td>AMS</td>
<td>60±30</td>
</tr>
<tr>
<td>XMH-1082 (BLIP #2)</td>
<td>Beta-201470</td>
<td>XMH-1082A2004</td>
<td>Antler Point</td>
<td>Antler</td>
<td>Rangifer AMS (ext. count)</td>
<td>1010±40</td>
</tr>
<tr>
<td>XMH-1166 (BLIP #3)</td>
<td>Beta-185015</td>
<td>XMH-1166A</td>
<td>Chopped Antler</td>
<td>Antler</td>
<td>Rangifer AMS</td>
<td>950±40</td>
</tr>
<tr>
<td>XMH-1191 (BLIP #4)</td>
<td>Beta-201471</td>
<td>XMH-1191A2004</td>
<td>Arrow (?) Shaft frag.</td>
<td>Wood</td>
<td>Picea AMS</td>
<td>1000±40</td>
</tr>
</tbody>
</table>

Table 1. Radiocarbon dates for organic items recovered from OHA activities in the Denali Highway region, 2003–2005. All items were recovered from the surface of existing or fossil ice patches. Radiocarbon dates calibrated via Calib 5.0, IntCal04 (Reimer et al. 2004).
Table 2. Fauna from Denali Highway ice patches.

<table>
<thead>
<tr>
<th>Location</th>
<th>AHRS #</th>
<th>Material</th>
<th>Description</th>
<th>Animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Skull fragment (maxilla)</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Rear left maxilla with 3 molars</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Skull fragment</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Distal-medial right tibia frag</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Rib</td>
<td>caribou?</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Longbone fragment</td>
<td>caribou?</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bones</td>
<td>Proximal left ulna and radius</td>
<td>sm.caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bones</td>
<td>Two lower mandibles (right and left)</td>
<td>marmot</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bones</td>
<td>Eight rib fragments</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Cervical vertebra</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Thoracic vertebra</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Velvet</td>
<td>Long thin strips</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Antler</td>
<td>Three pieces</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Distal left metacarpal</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Hoof</td>
<td>Weathered hoof fragment</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone/Ant.</td>
<td>Skull fragment with left antler intact</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Right maxilla fragment with molars</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone</td>
<td>Left metacarpal</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bone/Ant.</td>
<td>Right max. with teeth and small broken tine</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 1</td>
<td>XMH-1081</td>
<td>Bones</td>
<td>Right metacarpal, two carpals, four ankle bones including one right lunate</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 2</td>
<td>XMH-1082</td>
<td>Bone</td>
<td>Rib</td>
<td>med. mammal</td>
</tr>
<tr>
<td>BLIP 2</td>
<td>XMH-1082</td>
<td>Bone/Ant.</td>
<td>Skull fragment with left antler intact</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 2</td>
<td>XMH-1082</td>
<td>Bone</td>
<td>Small mammal rib</td>
<td>unknown</td>
</tr>
<tr>
<td>BLIP 2</td>
<td>XMH-1082</td>
<td>Bone</td>
<td>Astragilus</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 2</td>
<td>XMH-1082</td>
<td>Bones</td>
<td>Three metapodial and joint bones</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 3</td>
<td>XMH-1166</td>
<td>Bone</td>
<td>Right scapula</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 3</td>
<td>XMH-1166</td>
<td>Bone</td>
<td>Left mandible with teeth</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 3</td>
<td>XMH-1166</td>
<td>Bone</td>
<td>Rib</td>
<td>caribou?</td>
</tr>
<tr>
<td>BLIP 3</td>
<td>XMH-1166</td>
<td>Bone</td>
<td>Gnawed</td>
<td>caribou?</td>
</tr>
<tr>
<td>BLIP 3</td>
<td>XMH-1166</td>
<td>Bone/Ant.</td>
<td>Skull fragment with right antler intact</td>
<td>caribou</td>
</tr>
<tr>
<td>BLIP 4</td>
<td>XMH-1191</td>
<td>Bone</td>
<td>Proximal left tibia</td>
<td>sm.caribou</td>
</tr>
<tr>
<td>DRIP 2</td>
<td></td>
<td>Bone</td>
<td>Distal left femur</td>
<td>caribou</td>
</tr>
<tr>
<td>DRIP 2</td>
<td></td>
<td>Antler</td>
<td>Broken tine with velvet</td>
<td>caribou</td>
</tr>
<tr>
<td>DRIP 3</td>
<td></td>
<td>Bone</td>
<td>Right mandible with out teeth</td>
<td>caribou</td>
</tr>
<tr>
<td>DRIP 3</td>
<td></td>
<td>Bones</td>
<td>Two thoracic vertebrae</td>
<td>caribou</td>
</tr>
<tr>
<td>DRIP 3</td>
<td></td>
<td>Bone/Ant.</td>
<td>Two small antlers w/ skull attachments &amp; foramen magnum</td>
<td>caribou</td>
</tr>
<tr>
<td>DRIP 4</td>
<td></td>
<td>Bone</td>
<td>Right rib fragment</td>
<td>caribou</td>
</tr>
</tbody>
</table>
neighboring Upper Tanana were known to have favored spruce for arrows (Hosley 1981:535). Of the seven Yukon ice patch arrows that have been identified to wood species, over 50 percent were made of spruce; birch and pine were used as well. Similar to the BLIP 1 shaft, the Yukon shafts were split and shaped from a stave rather than a natural sapling (Hare et al. 2004a; Hare et al. 2004b).

A sample of wood from the interior of the medial section of arrow shaft was submitted to Beta Analytic Inc. for radiocarbon dating. The sample date has three two-sigma (calibrated) intercepts: AD 1952–1956, AD 1812–1919, and AD 1694–1727 (Beta-185014; Table 1). The fact that the wooden arrow has an antler point and sinew lashing implies that it is not modern. Therefore, the arrow shaft is likely between 100 and 300 years old.

The barbed antler point of the arrow (Fig. 3) was found within 2 m of the arrow shaft. The point is 151.1 mm long and finely crafted, with five barbs along one side and a conical base for insertion into the arrow shaft. The distal end is grooved in order to seat a metal, bone, or antler end blade. A metal detector was used at BLIP 1 in 2003 to search for a possible copper or iron point, but no metal artifacts were found.

Archaeological sites in the Copper River region have produced copper arrow points and end blades, presumably designed to arm the tip of an antler point (Hanson 1999;
stains in the grooved tip of the point from BLIP 1 suggests that an organic end blade may have been used.

Two feathers were also found in association with the BLIP 1 arrow shaft and point (Fig. 4). Both were identified as the right halves of a vane that had been split down the center and trimmed across the body and along the quill of the feather. The species of bird from which the fletchings were made has not been positively identified, but they are thought to most closely resemble those of an eagle (Carla Dove 2004, written communication). This identification matches feathers identified from Yukon ice patches, where species used for fletching included eagle, gyrfalcon, white-tailed ptarmigan, short-eared owl, duck, and northern flicker (CTFN et al. 2005:10; Dove et al. 2005).

Figure 3. Barbed antler point from Basalt Lake ice patch 1. Note grooved tip for insertion of end blade. Photo by J. D. McMahan.

Figure 4. Possible eagle feather fletching associated with the BLIP 1 arrow shaft. Photo by J. D. McMahan.
Seven shaft segments were found tightly clustered in the lichen-free zone of BLIP 1. The segments are all made of spruce and range from 26 mm to 119 mm in length. Six of the segments refit to form two sections of shaft approximately 120 mm and 180 mm in length. They all have clean square breaks, again suggesting shearing by ice movement after deposition. The segments range from 3.9 mm to 7.7 mm in diameter and are heavily weathered, presumably representing one or more arrow shafts.

In addition to the previously discussed material, one other item of particular interest was also found at BLIP 1. The item is a section of rolled birch bark weighing 3.1 grams. After being soaked in distilled water, the birch bark was soft enough to unroll. The bark measures 141 mm in length and 98.7 mm in width. It is not apparent what it was destined for: possibly as fire starter, a grease pan, or part of a birch-bark basket similar to the one found near an ice patch in the Wrangell Mountains (Dixon et al. 2005). The absence of paper birch in the region today indicates that it must have been transported from a considerable distance. The birch bark has not been submitted for radiocarbon dating.

BASALT LAKE ICE PATCH 2 (XMH-1082)

Basalt Lake ice patch 2 (BLIP 2) is located across a valley almost 2 km southeast of BLIP 1. A nearly complete barbed antler point measuring 270 mm long was discovered among the rocks and caribou dung near the remaining ice (Fig. 5). The point is heavily weathered, which suggests that it was periodically exposed to the elements during high-melt years.

The antler point has four barbs incised along one edge. It appears to have been self-armed because unlike the BLIP 1 antler point, its distal end had been sharpened instead of slotted for an end blade. Although the tip is broken, the distal end is quite thin in comparison to the width (10 mm wide and 2.1 mm thick). Material obtained from the internal portion of the point was AMS radiocarbon dated to AD 901–1155 (Beta-201470; Table 1).

BASALT LAKE ICE PATCH 3 (XMH-1166)

Basalt Lake ice patch 3 (BLIP 3) is located in a northeast-southwest trending depression about 100 m northeast of BLIP 1. Two artifacts were recovered at BLIP 3: a cut section of caribou antler and a roll of birch bark. The antler section measures 59 cm long and has the weathered remains of the palm still intact (VanderHoek 2007b:Figure 26). The other end shows clear evidence of chopping around approximately half its circumference. Archaeological evidence from the Yukon indicates the “chop-and-snap” or “groove-and-snap” method was commonly employed for cutting around the antler beam and either separating the antler from the skull or cutting off a section of beam for further use (Morrison 1986:116). The cut sections of beam were subsequently made into arrow points or other tools. The antler was AMS radiocarbon dated to AD 1016–1179 (Beta-185015; Table 1).

Figure 5. Barbed antler point in situ at Basalt Lake ice patch 2. Point is 27 cm long. Photo by J. E. Bittner.
The birch bark roll measures 281 mm in length and 142 mm in width when unrolled. It weighs 45 g and is considerably larger than the one recovered from BLIP 1. Again, the purpose of the bark is unknown; however, similar to the BLIP 1 specimen, its large size indicates that it was probably not deposited by natural processes. The BLIP 3 birch bark has not been dated.

**BASALT LAKE ICE PATCH 4 (XMH-I191)**

Basalt Lake ice patch 4 (BLIP 4) is one of several fossil ice patches located along the upper northwestern edge of the promontory south of BLIP 2. The area was first surveyed in 2004, with BLIP 4 being the only ice patch to produce cultural remains. The artifact assemblage recovered from BLIP 4 consists of four artifacts: one broken and two complete lithic projectile points and a fragment of wooden shaft (Fig. 6).

Both of the complete points were edge-ground in preparation for hafting. The first point (Fig. 6:1) is made from fine-grained basalt with small “snowflake” phenocrysts. It is 56.4 mm long from proximal to distal end and 26.4 mm wide at the midpoint of the long axis. The thickness at the midpoint of the long axis is 6.5 mm. The base of the point is straight and appears to have been reworked from a break that occurred across the width of the artifact. The edges are straight and parallel for roughly two-thirds of the artifact’s length before converging at the distal end.

The second complete point (Fig. 6:3) is made from very fine-grained black chert. It is 65.1 mm long from proximal to distal end and 22.4 mm wide at the midpoint of the long axis. The thickness at the midpoint of the long axis is 7.6 mm. The base of the point is slightly convex, and the edges gently expand for roughly three-quarters of the artifact’s length before they shoulder and converge at the distal end.

The broken point (Fig. 6:2) is made from coarse-grained milky gray chert or chalcedony. The distal fragment is 63.1 mm long from the proximal to the distal end and 29.5 mm wide at the midpoint of the long axis. The thickness at the midpoint of the long axis is 7.8 mm. The edges are straight and parallel before they converge at the distal end. Similar to the basalt point, the break occurred across the width of the point, and when the two points are overlaid they are nearly identical in both outline and cross-section.

The wood fragment (Fig. 6:4) is a 21.7 cm long section of spruce shaft. It is similar to the other shaft sections recovered from the Basalt Lake ice patches in that it was made from a stave. The shaft is split in half along its length, and the remaining circumference at its thickest point measures 10.7 mm in diameter. A section of the shaft was AMS radiocarbon dated to AD 975–1155 (Beta-201471; Table 1).

Although the Tangle Lakes are a well-known source area for tool-quality argillite, the projectile points recovered from BLIP 4 are made from three different lithic materials that are, for the most part, considered exotic for the region. Furthermore, the two complete points are substantially different in morphology. The basalt point is short, wide, and only slightly biconvex or lenticular in cross-section. The

Figure 6. Lithic points (1–3) and shaft fragment (4) recovered from Basalt Lake ice patch 4. Centimeter scale at bottom. Photo by R. Tedor.
### Table 3. Cultural materials from Denali Highway ice patches.

<table>
<thead>
<tr>
<th>AHRS #</th>
<th>UA Catalog #</th>
<th>Location</th>
<th>Material</th>
<th>Artifact</th>
<th>Wt</th>
<th>L</th>
<th>W 1</th>
<th>W 2</th>
<th>T 1</th>
<th>T 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>XMH-01081</td>
<td>UA2004-148-1</td>
<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
<td>2 g</td>
<td>148 mm</td>
<td>5.87 mm</td>
<td>8.3 mm</td>
<td>5.5 mm</td>
<td>8.1 mm</td>
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<td>UA2004-148-2</td>
<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
<td>8.8 g</td>
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<td>8.25 mm</td>
<td>9.54 mm</td>
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<td>UA2004-148-3</td>
<td>BLIP 1</td>
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<td>BLIP 1</td>
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<td>UA2004-148-4C</td>
<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
<td>0.2 g</td>
<td>37.7 mm</td>
<td>5.9 mm</td>
<td>6.7 mm</td>
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<td>6.5 mm</td>
</tr>
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<td>UA2004-148-4D</td>
<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
<td>0.2 g</td>
<td>36.7 mm</td>
<td>6.2 mm</td>
<td>6.2 mm</td>
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<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
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<td>6.3 mm</td>
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<td>BLIP 1</td>
<td>Wood</td>
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<td>BLIP 1</td>
<td>Wood</td>
<td>Shaft</td>
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<td>BLIP 1</td>
<td>Antler</td>
<td>Arrow point</td>
<td>7.09 g</td>
<td>151.1 mm</td>
<td>4.3 mm</td>
<td>11.1 mm</td>
<td>5.3 mm</td>
<td>6.23 mm</td>
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<td>UA2004-148-6</td>
<td>BLIP 1</td>
<td>Wood</td>
<td>Birch bark</td>
<td>3.1 g</td>
<td>141 mm</td>
<td>72.1 mm</td>
<td>98.7 mm</td>
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<td>UA2004-148-7</td>
<td>BLIP 1</td>
<td>Feather</td>
<td>Fletching</td>
<td>&lt;0.1 g</td>
<td>124.6 mm</td>
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<td>23 mm</td>
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<td>1.7 mm</td>
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<td>BLIP 1</td>
<td>Feather</td>
<td>Fletching</td>
<td>&lt;0.1 g</td>
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<td>BLIP 2</td>
<td>Antler</td>
<td>Arrow point</td>
<td>14 g</td>
<td>270 mm</td>
<td>7.8 mm</td>
<td>11.4 mm</td>
<td>2.1 mm</td>
<td>6.8 mm</td>
</tr>
<tr>
<td>XMH-01166</td>
<td>UA2004-150-1</td>
<td>BLIP 3</td>
<td>Antler</td>
<td>Worked</td>
<td>421 g</td>
<td>590 mm</td>
<td>45.2 mm</td>
<td>51.1 mm</td>
<td>33.4 mm</td>
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<td>UA2004-150-2</td>
<td>BLIP 3</td>
<td>Wood</td>
<td>Birch bark</td>
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<td>281.4 mm</td>
<td>114.7 mm</td>
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<td>4.8 mm</td>
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<td>UA2004-153-4</td>
<td>BLIP 4</td>
<td>Wood</td>
<td>Shaft</td>
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<td>217 mm</td>
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<td>BLIP 4</td>
<td>Lithic</td>
<td>Proj. Point</td>
<td>11.1 g</td>
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<td>26.4 mm*</td>
<td>6.5 mm*</td>
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<td>22.4 mm*</td>
<td>7.6 mm*</td>
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<td>7.8 mm*</td>
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<td>UA2004-154-1</td>
<td>DRIP 5</td>
<td>Wood</td>
<td>“Gopher stick”</td>
<td>241 g</td>
<td>755 mm</td>
<td>18.3 mm</td>
<td>33 mm</td>
<td>11.6 mm</td>
<td>22 mm</td>
</tr>
</tbody>
</table>

**MEASUREMENT NOTES:**

- **Wt:** Weight in grams
- **L:** Maximum length from distal to proximal end along the long axis
- **W 1:** Minimum width [width at narrowest point on the artifact]
- **W 2:** Maximum width [width at widest point on the artifact]
- **T 1:** Minimum thickness [at thinnest point on the artifact]
- **T 2:** Maximum thickness [at thickest point on the artifact]
- * indicates measurement taken at the midpoint of the length (L)
chert point, on the other hand, is long, narrow, and moderately convex in cross-section. While there are no dates directly associated with the projectiles, the morphological differences between them may imply that the points are from separate time periods.

THE DELTA RIVER ICE PATCHES

The Delta River ice patches (DRIPs) are located on the northern end of a north–south trending ridge of the Amphitheater Mountains, west of Long Tangle Lake and the Delta River Falls. They were initially visited in August 2004 as part of continuing efforts to identify ice patches containing cultural materials. This cluster was not revisited during the 2005 field season because it was a low-melt summer. As such, there was little chance of finding artifacts recently exposed from the ice. Of the five locales that make up the DRIPs, only one (DRIP 5) produced cultural material.

DELTA RIVER ICE PATCH 5 (XMH-1192)

DRIP 5 is located on the northern tier of a flat-topped peak that is roughly 2.5 km west of Lower Tangle Lake. The single artifact recovered from DRIP 5 is a 75.5 cm long wooden object made from a large spruce stave (Fig. 7). The proximal end of the artifact (Fig. 8) is 3.3 cm wide and worked to a rounded point. The stave tapers toward the distal end, which is marked by a deep notch in one side (Fig. 9). At least 25 growth rings are visible along the side of the stave. An examination of the ends of the stave show these rings are almost flat, indicating that it was split from the outer rings of a sizeable log. Material obtained from a hole drilled into the core of the stave yielded an AMS date of AD 1437–1634 (Beta-201472; Table 1).

The artifact was originally identified in the field as a possible atlatl due to its similarity in size and shape to terrestrial atlatls used throughout the Holocene in the western U.S. However, its age is much younger than atlatl-related technology found in the Yukon, where ice patch data show the transition from atlatl and dart to bow and arrow taking place approximately AD 700 (Hare et al. 2004b). Further analysis revealed considerable wear or damage on the point at the proximal end of the stave, as if it had been repeatedly

Figure 7. Wooden stave recovered from Delta River ice patch 5. Object, 75.5 cm long, may be a “gopher stick” for setting ground squirrel snares. Scanned image by Boreal Imagery.

2 The discovery of an item identified as a dart dating to cal AD 1450–1635 found melting from glacial ice near the Kwāday Ḍân T’ī’chí (“long ago person found”) discovery (Beattie et al. 2000:138) in northwestern British Columbia, and a possible dart shaft from the Wrangell Mountains dating to cal AD 1270–1389 (Dixon et al. 2005:137, Table 1), raise the possibility that atlatl and dart use continued in some regions to a much later date.
thrust into the soil (Fig. 8). This evidence suggested that the implement may have been used as a digging stick, though inspection of the area revealed that there were no pieces of rock or soil embedded in the wood.

The recent radiocarbon date on the DRIP 5 stave, as well as the notched side and battered end, support the hypothesis that the artifact is something other than an atlatl. Ethnographic evidence suggests the artifact may be a “gopher stick,” similar to those used by Southern Tutchone women to set ground squirrel snares (Beattie et al. 2000:138; Johnson and Raup 1964:194; McClellan 1975:158). A wooden stave used for setting ground squirrel snares in the Kluane Lake region of the Yukon is illustrated by Johnson and Raup (1964: Fig. 53e). The Yukon stave is morphologically similar to the DRIP 5 stave, having a pointed handle at one end and hook at the other, but it is slimmer and considerably longer (116.8 cm).3 The ground squirrel snare described by Johnson and Raup is a loop made of split eagle feather quill attached to a strip of tanned moose hide and a short, slim stick that is used as a toggle. The authors explained how the snare was installed:

3 Another possible gopher stick is discussed in Beattie et al. 2000:138.
To set the snare two short sticks are collected. A wooden hook [the “gopher stick”] ... is then pushed through the earth over a gopher burrow a few inches from the opening. The moose hide string is placed in the hook and it is drawn back to the surface. A nearby sapling is bent over and held while the moose hide string is tied to the end. The two sticks are placed inside the burrow, one on each side of the string. As the tension is released the toggle lashed to the noose is guided to these sticks. Also the loop is caught with the trigger. The noose is then held in position by the tension of the sapling. (Johnson and Raup 1964:194)

Ahtna excursions into the high country (including the Tangle Lakes region) in the fall often included the trapping of ground squirrels along with hunting, fishing, and berry picking (Reckord 1983a:29–30). Ground squirrels were reportedly roasted around a fire and their rendered fat was collected and stored in birch bark pans and baskets as well as wooden trays. Blueberries were then mixed with the squirrel grease to produce a traditional delicacy called tseles caadze (Reckord 1983b:33).

Ground squirrel and marmot burrows were commonly observed by OHA personnel during surveys in the Amphitheater Mountains, including at the foot of several ice patches. The area surrounding ice patches is ideal to construct burrows for several reasons. First, the moist environment from snow melt (as well as nutrients derived from decomposing caribou dung and vegetation) fosters abundant plant growth throughout the summer (Skoog 1968:148–149). Second, nivation processes in conjunction with decaying organic remains creates enough soft sediment to construct burrows in the predominantly rocky substrate. The location of small mammal burrows in close proximity to the ice patches would have provided hunting groups with the opportunity to employ a multipurpose foraging strategy on trips to the high country.

The fact that the wooden stave was found on top of a mountain roughly 760 m above the nearest lake implies that it was not related to fishing activities. The battered end and recent radiocarbon date also indicate that it is probably not related to atlatl and dart technology. There are enough morphological similarities between the DRIP 5 stave and the Kluane Lake specimen to support the interpretation that it was probably used as a “gopher stick” for setting ground squirrel snares. However, its shorter length, more robust nature, and location on an ice patch suggest additional uses such as for self-arrest on the ice patch or to dig a hollow in the snow in which to store caribou meat (Hare et al. 2004b:262).

### MACLAREN GLACIER ICE PATCH

James W. Whitney, anthropology curator for the University of Alaska Museum of the North, discovered an ice patch artifact from the Denali Highway region in 2005. The discovery was made, not in the field but in the museum’s collections where he came across a self-armed,4 barbed antler arrow point (Fig. 10) similar to the one discovered at BLIP 2 in 2003. Museum records indicate that it was found on the edge of a “snowfield” west of Maclaren Glacier in 1957. The point is 273 mm long, 11.7 mm wide, and 7.3 mm thick, with five barbs along one edge and a conical tang (James W. Whitney 2005, written communication).

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4 Arrow tip is pointed, not grooved for insertion of end blade.

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**Figure 10.** Barbed antler point found on ice patch west of Maclaren Glacier in 1957. Point is 27.3 cm long. University of Alaska Museum Archaeological Collection.
FAUNAL EVIDENCE FROM ICE PATCHES

Faunal remains recovered from the Yukon ice patches are predominantly those of caribou, but elements of other large mammals such as wood bison, moose, sheep, elk, and goat have also been found (Farnell et al. 2004:254). Small mammals are represented by the remains of lemming, vole, and ground squirrel (CTFN et al. 2005:3). No butchering marks have been reported on any of the Yukon fauna.

The identified faunal remains recovered from the Wrangell Mountain ice patches consist of sheep, caribou, fox, and vole (Dixon et al. 2005:136). The assemblage also includes the unidentified remains of several species of birds, small-and-medium sized mammals, and a small fish. As in the Yukon collection, there has been no evidence of butchering reported on any of the Wrangell fauna.

Almost all of the fauna collected from the Amphitheater Mountain ice patches (Table 2) are from caribou. Remains from other species include a marmot mandible from BLIP 1, a rib from an unidentified small mammal collected from a fossil ice patch near BLIP 2, and the wing of an unidentified bird from DRIP 3 that was not collected. No evidence of human butchering was identified on any of the Amphitheater Mountain ice patch faunal remains. Samples of caribou dung were collected for possible radiocarbon dating and biological sampling.

Although the collection is relatively small, a wide variety of caribou body parts are represented. The recovered remains appear to display some patterning. Ribs, vertebra, and lower leg bones are often well represented and intact. Large long bones, on the other hand, are underrepresented, fragmentary, and often display spiral fractures. Caribou skull components (e.g., crania and mandibles) were one of the more common elements found on the ice patches, and indicate a minimum of five individuals. This faunal assemblage is somewhat suggestive of human predation, where body parts associated with high meat utility are carried off site and parts with low meat utility are left on site.

One type of material that initially puzzled researchers was organic fragments that resembled strips of animal hide or intestine. Closer inspection and discussion with Canadian researchers (P. Gregory Hare 2003, personal communication) revealed that these were strips of velvet shed from caribou antlers. Although none of the velvet recovered from the Amphitheater Mountain ice patches has been dated, it is remarkable that this fragile material survived in the ice.

Two antler tines were collected from the DRIPs in 2004. Canadian researchers have suggested that the antler tines they collected were associated with human activity (Hare et al. 2004b:268–269). No sign of human use or modification is evident on the DRIP tines. The slightly spongy outer surface of the tines suggests that they may have snapped off while covered with velvet. One of the tines, collected from DRIP 2, has velvet still attached. Caribou bulls are known to frequent ice patches in the high country in late summer and begin scraping the velvet off their antlers in late August (Batin 1995:61–64). A considerable amount of shed velvet was observed on the Amphitheater Mountains ice patches, and it seems reasonable that tines are occasionally snapped off on the rocks, ice, and snow as the caribou attempt to scrape the velvet off their antlers.

Evidence of nonhuman predation and scavenging was noted in the form of bear, wolf, and fox tracks and scat observed at the base of BLIP 1. This suggests natural deposition, predation, and opportunistic scavenging may be factors in the formation of ice patch faunal assemblages. Caribou bones and antler recovered from ice patches in the Amphitheater Mountains commonly display gnaw marks from a variety of species. Therefore, the question of animal versus human predation of caribou on ice patches appears difficult to determine without finding faunal remains with unquestionable weapon or butchering marks.

DISCUSSION

Archaeological evidence from the Yukon ice patches indicates that hunters have been ambushing caribou at ice patches throughout most of the Holocene. The earliest dated artifact recovered from an ice patch is a dart shaft fragment dated to 7194–7568 cal BC (Hare et al. 2004b:262, Table 2). The next oldest artifact is a slotted antler point dated to 6071–6236 cal BC (Hare et al. 2004b:268, Table 4). This point, armed with microblades along both edges, would have likely tipped the end of a dart. The early Holocene date associated with the point suggests that it was constructed by the microblade-making people of the Denali Complex, who probably used tools like this to hunt caribou in the Tangle Lakes region as well.

Atlatl dart shaft fragments are the most common artifact found in Yukon ice patches (CTFN et al. 2005:8). Most Yukon darts show evidence of being armed with bifacially flaked lithic points, although five examples appear to have incorporated some bone or antler components
Lithic points recovered from ice patches show a broad range of styles, including side-notched, stemmed, leaf-shaped, and lanceolate (Hare et al. 2004b:264–265, Fig. 6).

The relatively large size of the lithic projectile points found at BLIP 4 indicates that hunters were using atlatl and dart technology to hunt caribou on Alaska ice patches. One of the BLIP 4 dart points (Fig. 6:3) closely resembles a hafted stone point found on an ice patch in the Wrangell Mountains. This point was attached with sinew to a wooden foreshaft that dates to approximately 2600–2900 BP (Dixon et al. 2005:139, Fig. 6a). The morphology of the other two points recovered from BLIP 4 is similar to several of the hafted points recovered from the Yukon ice patches that are associated with dates between approximately 2,000 and 4,000 years ago (CTFN et al. 2002, 2005).

Examples of dart and arrow shafts from the Yukon ice patches show a distinct transition from dart to arrow technology between roughly AD 700 and 800. The oldest unambiguous evidence of bow and arrow use comes from fragments of a maple bow dated to cal AD 644–876 (1300±60 14C yrs BP). Incidentally, this date overlaps with a dart shaft dated to cal AD 656–890 (1260±60 14C yrs BP; Hare et al. 2004b). The youngest Yukon dart shaft and all later arrows were armed with antler instead of lithic points, showing a transition at this time in both weapon systems and in choice of arrow point materials for hunting on ice patches.

The one exception to this otherwise clear atlatl-to-bow transition in the artifacts from the Yukon ice patches is an arrow dating to approximately 1500 BC. This anomalous item is identified as an arrow by its distinct U-shaped nock, yet is much longer than other arrows (100 cm, versus 73 cm for the next longest arrow and 58 cm for the median length of shafts in the collection). It was found in association with a stemmed lanceolate lithic point. The design of this arrow (greater length, distally heavier, and armed with a lanceolate lithic point) suggests that someone familiar with dart construction may have been trying to scale down a dart to function as an arrow.

Bow and arrow technology is believed to have been present along the coast of northern and western Alaska at 1500 BC, but not used at this time in the southern Interior. This anomalous arrow technology dates to approximately the same time as a period of climatic and ecological perturbations, including the eruption of the Hayes Volcano, located 350 km southwest of Basalt Lake in upper Cook Inlet (Bégué et al. 1991; Riehle et al. 1990; Riehle 1994). The northeast-trending ash plume of the 1500 BC Hayes eruption covered thousands of square kilometers (Riehle 1994) and must have had a significant ecological effect in central Alaska. Mount Hayes is just one of a number of large volcanic eruptions that occurred in the eastern Aleutian arc during the middle of the fourth millennium BP (Riehle et al. 1998). The ecological effects of these eruptions are poorly understood, but it seems reasonable to presume that there were significant biological and cultural effects felt across Alaska and the Yukon (Bowers and Thorson 1981; VanderHoeck and Nelson 2007), possibly causing the movement of people and ideas across the region.

WEATHERING OF MATERIALS IN ICE PATCHES

It is clear that ice patches help preserve the materials entombed within them. The difference in preservation of items found on ice patches is normally attributed to the length of time the item has been exposed to the elements after melting out of the ice (Monahan 2004). Of course, items that have melted out of ice patches are not necessarily exposed to the air from that time forward. Items freed from ice are exposed, usually in late summer, until they are covered with snow later that fall. If the winter’s snow accumulation exceeds the next summer’s ablation (melting and evaporation), the item may remain reburied in snow, which turns to ice over time. More robust items (like the wooden stave recovered in 2004) may have been exposed and reburied with snow and ice many times before they were recovered by researchers. Fragile items like sinew and hide are not likely to survive more than a few seasons, since repeated exposure and burial can destroy even the most robust artifacts.

Artifacts recovered from ice patches are commonly in a fragile state and need to be carefully conserved. Physical stabilization in the field can be attempted by careful immobilization in rigid containers. Drying of the items during transport can be prevented by wrapping the artifacts

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5 An antler projectile point dating to AD 465–499 was recently recovered from an ice patch, or cirque, in the Wrangell Mountains (Dixon et al. 2005). If this is an arrow point, as it appears, it suggests the transition to bow and arrow in the Wrangell Mountains may have preceded that in the Yukon by several hundred years.
with cellophane or placing them in plastic storage bags until they return from the field. Long-term curation of plant and animal remains may necessitate freezer storage (Monahan 2004).

Canadian conservators believe exposure to the elements causes an overall external weathering of the wooden shafts. Severe weathering commonly results in a reduction of the shafts’ diameter. Canadian ice patch artifact collections curated by the Yukon Heritage Resources Unit show atlatl darts (evident by the dimple in the proximal end, instead of the notch cut for an arrow nock) that have shrunk to as small a diameter as our smallest arrow segment (~4 mm in diameter). The reduction in diameter highlights not only the process of how artifacts degrade after melting out of ice patches but also how different projectile systems (atlatl dart versus arrow) may not be discernable by simply measuring shaft diameters.

CONCLUSION

Artifacts recovered by this project include a barbed antler point, a wooden shaft fragment, and a chopped section of antler that all date to approximately AD 1000. A wooden stave identified as an implement for setting ground squirrel snares dates to approximately AD 1500. While these dates demonstrate significant antiquity, it is important to reiterate the similarity between the lithic projectile points recovered from BLIP 4 and the points recovered from the Wrangell Mountains and the Yukon, which date to several thousand years earlier. These tentative typologic associations imply that the Amphitheater Mountain ice patches may have been hunting destinations for earlier groups in the area. It is therefore reasonable to suspect that continuing research will eventually push the chronology of ice patch use in the region back at least several thousand years.

Ice patches are valuable sources of archaeological, paleontological, and paleoenvironmental data. They are geomorphic features that provided predictable and reliable locations for hunters to ambush game. They are unique in the sense that they preserve fragile organic materials that are only occasionally found in frozen or wet sites. Unfortunately, the same environmental factors that have caused these materials to emerge from the ice are also causing their destruction. As such, ice patches should be seen as a vanishing resource that requires urgent attention from arctic researchers.

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