

A HISTORY OF HUMAN LAND USE ON ST. MATTHEW ISLAND, ALASKA

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Abstract: St. Matthew Island, an often fog-bound, wind-swept island located in the middle of the Bering Sea, 370 km from the nearest populated Alaskan settlement, remains a largely unknown entity in terms of its history of human land use. Few cultural surveys have been conducted on the island to date. In 2002, the United States Fish & Wildlife Service sponsored an attempt to investigate the history of island land use. This paper reports on the results of this survey and its relationship to previous reconnaissance and testing efforts. Known prehistoric and historic land use activities are summarized and suggestions are made to assist future cultural resource survey efforts.

Keywords: Bering Sea, World War II, Thule, Fox trapping

INTRODUCTION

St. Matthew Island, located in the Bering Sea far from the Alaskan mainland, is uninhabited and seldom visited due to its relatively isolated position and lack of resources desired for development. St. Matthew is one of three islands that make up the Bering Sea Wildlife Refuge, managed by the U.S. Fish and Wildlife Service (USF&WS). The other two islands within this refuge are Hall and Pinnacle Islands. The St. Matthew group of islands is located approximately 300 km west of Nunivak Island, 370 km south of St. Lawrence Island, and 425 km north of the Pribilof Islands.

In order to obtain current data on the condition of the islands' flora and fauna, the USF&WS has been sending a team of biologists to St. Matthew and Hall islands about once every five years. The usual duration of each visit is ten days. In 1997, an archaeologist accompanied this team for the first time to begin to gather information on the history of early human land use on the island. This survey located a single prehistoric house and three historic sites, all located near the western end of the island. In 2002, the USF&WS sent another archaeologist and assistant to St. Matthew to continue collecting data on early island habitation. In order to build upon the results of the 1997 survey, which focused on the western end of the island, the 2002 survey team focused their attention on the Big Lake area of St. Matthew, close to the island's eastern end. This report summarizes the findings of the 2002 ten-day survey.

Prior to conducting the 2002 cultural survey, little information was readily available regarding the results of previous investigations within the Bering Sea National Wildlife Refuge. The results from earlier projects had not been widely disseminated. In attempting to compile information from historic and culturally-based reports, the author found that, invariably, each project failed to take into account the results of earlier projects and research opportunities were spent establishing similar databases rather than building upon earlier conclusions. In this paper, aside from presenting the results of the 2002 survey, I attempt to summarize earlier investigations within the St. Matthew Island group that pertain to earlier human land use activities, in addition to making recommendations that may help to focus future research attempts on the islands.

PHYSICAL DESCRIPTION

St. Matthew Island (Figure 1), known as Bear Island by whalers (Dall 1870:249), Gore Island (Harper's Weekly 1875:1) by Captain Cook (Maynard 1898:306), and Choris Island by other explorers (von Kotzebue 1821:294), measures approximately 51 km long by 6 km wide and comprises a total of 331 km² of land. The island's terrain is generally hilly with prominent peaks and a series of ridges rising over 305 m above sea level. Sea forming cliffs about the island ridges and provide nesting areas for a wide variety of sea birds. Elevation on the island ranges from sea level to over 457 m at Cape Upright.¹

¹An earlier reference (Frink et al. 2001:131) to the tallest peak on St. Matthew Island extending 2373 km above sea level is in error.

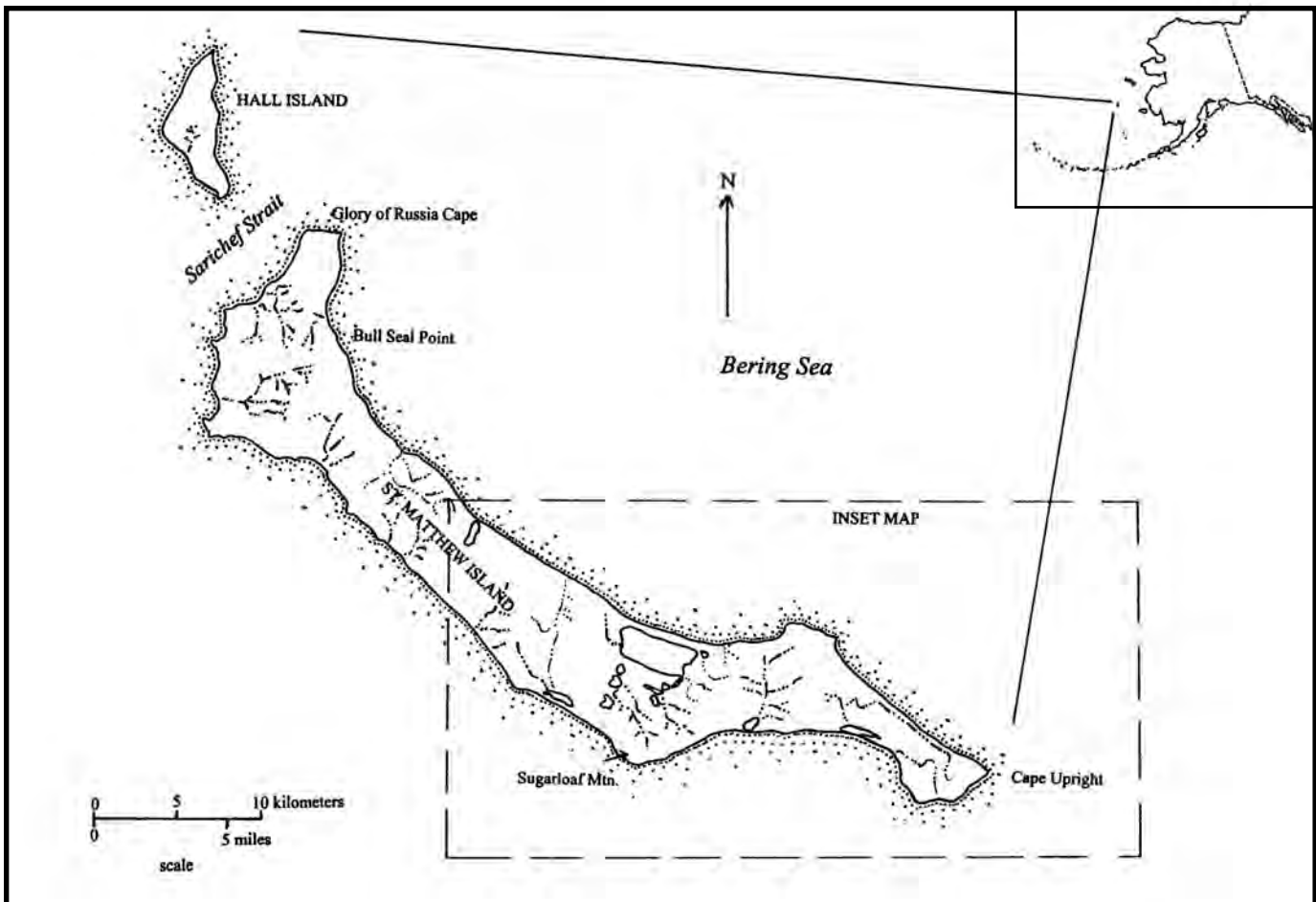


Figure 1: Project Area Map

St. Matthew Island is dissected by numerous valleys with many small streams, ponds and lakes. Vegetation is dominated by low growing tundra. The low growing tundra vegetation in the lowland areas is quite lush, but as elevation increases, the flora becomes sparse and is replaced by rock scree where lichens are the dominant species.

Island flora (Klein 1959; Rausch and Rausch 1968) is similar to that of many Bering Sea islands and contains many indigenous plants known to have been important to Native people on Nunivak Island and the Alaska mainland (see Griffin 2001). St. Matthew Island fauna included many species that were historically actively harvested in Alaska including terrestrial mammals such as polar bear, arctic fox, and an occasional red fox, in addition to marine mammals such as Steller sea lions, walrus, Larga seal, and several species of whale. Polar bear were once year-round residents of St. Matthew but disappeared in the 1890's from over-hunting (Hanna 1920).

Twenty-nine reindeer were introduced on St. Matthew in 1944 (Klein 1968) in order to establish an alternative food source for the military stationed on the island during World War II. The military personnel were re-

moved from St. Matthew in 1945 and the herd was left free to multiply, reaching 1,350 animals in 1957 and 6,000 in 1963. This rapid population increase reduced the available forage on the island, which, coupled with a severe winter, resulted in a crash in population to 42 animals during the winter of 1963-64. The last reindeer alive was seen in the mid-1980's.

In addition to mammals, the Bering Sea National Wildlife Refuge has a population of over one million sea-birds and six breeding land bird populations (DeGange and Sowls 1978:22). Four species of freshwater fish are also known to be available in island lakes and streams. St. Matthew Island offered many species of terrestrial and marine mammals, birds, fish, and indigenous plants that could have been utilized by humans that chose to visit the island. To date, evidence of land use prior to the island's "discovery" by the Russians in 1767 only includes the location of a single house pit on the western end of St. Matthew Island.

St. Matthew and Hall Islands were recognized by the United States government for their abundance of sea bird colonies and were set aside on February 27, 1909

(Executive Order 1037) by President Theodore Roosevelt as a bird refuge known as the Bering Sea Reservation (Hanna 1920:118). The refuge's name was changed to Bering Sea Refuge in 1940. In 1970, the reservation was added to the nation's wilderness system (Public Law 91-504) and is now referred to as the "Bering Sea Wilderness."

KNOWLEDGE OF ST. MATTHEW

Why wouldn't this island be ideal for human settlement? Its isolated location must be considered one of the chief factors against its popularity, with Nunivak Island being the closest inhabited land. Was St. Matthew's whereabouts generally known by prehistoric peoples? Frink (Frink et al. 2001:136) has reported that on a clear day, residents of Nunivak have seen St. Matthew and that Nuniwarmiut residents have old stories that reportedly document earlier visits to the island by Nunivak hunters. Efforts by the author to record any Nuniwarmiut stories relating to St. Matthew Island have been unsuccessful, to date. None of the Mekoryuk elders interviewed in 2002 can recall ever hearing stories that relate to knowledge of the existence of or past travels to St. Matthew. Contemporary fishermen, however, have reported seeing St. Matthew in the spring while fishing off the island's shores (Howard and Muriel Amos, personal communication August 4, 2002). Nunivak Island is approximately 305 km from St. Matthew Island. Visibility on the ocean is generally reported to be clear for about 37 km (i.e., view to horizon). Reported sightings of land located over eight times the normal range of human eye sight are difficult to account for and may represent mirages rather than actual island sightings.

The Nuniwarmiut, however, are not the only Natives to have reported seeing land much further than is usually believed possible. Veniaminov (1984:134-135) stated that the Aleuts of St. Paul reported seeing Unimak Island in clear weather in the spring time. Contemporary Aleut elders have reported similar spring sightings (Aquilina Bourdukovsky, personal communication July 18, 2002). St. Paul is located approximately 460 km north of Unimak Island. If we can assume that during the spring visibility on the ocean is greatly enhanced and that with proper weather conditions a human can see land located at extreme distances, where would early peoples likely have come to St. Matthew from? What portion of the island would they have chosen to settle? Once there, why didn't they choose to stay? Why haven't more sites dating to the prehistoric period been found on St. Matthew? These are all questions that were attempted to be answered by each of the island's previous cultural resource

surveys but remain unresolved. The following sections summarize the known history of human land use on St. Matthew Island, in addition to the aim, coverage, and results of previous island cultural surveys.

HISTORIC EXPLORATION

St. Matthew Island was first discovered by Lt. Synd of the Russian Navy during his explorations in the arctic from 1764-1768 (Coxe 1803:264). Captain Cook was next to reach St. Matthew when he noted the island on July 29, 1778 (Maynard 1898:306). Exploration of the island was to follow slowly, with a number of ships stopping off and making observations of the island's flora and fauna over time.

The earliest recorded historic occupation on St. Matthew was by the Russians and their Aleut fur hunters. Five Russians and seven Aleuts from St. Paul Island in the Pribilofs were reported to have passed the winter of 1810-1811 on St. Matthew, where they had been dropped off to collect polar bear furs. Four of the Russians are reported to have died of scurvy (Elliott 1886:465; 1898:191) or starved to death due to the disappearance of the sea mammal populations the hunters depended upon for survival (Dall 1870:248, 326).

Henry Elliott and Lieutenant W. Maynard visited St. Matthew in 1887, while reporting on the Pribilof Island seal rookeries, and cited finding the ruins of the huts which had been occupied by the earlier Russian/Aleut crew. There is some question whether these Russian-Aleut "huts" were built on St. Matthew Island, Hall Island, or both. Modern researchers (Klein 2002; Sows, personal communication, July 31, 2002) had earlier considered a large house-like depression located near the west end of St. Matthew to have been the site of the earlier Russian occupation. Hanna (1920) suggested that the remains of a Russian hut was identified by their party on Hall Island in 1916. Hanna (1920:121) reported that during the period of Russian occupation, a party of five men from St. Paul Island landed on Hall Island where they built a cabin. This party later had to leave the island due to marauding polar bears. It is likely that Hanna's account reflects that earlier reported by Elliott and Maynard.

HISTORIC USE OF ST. MATTHEW ISLAND

Fox Fur Harvesting

The primary attraction of the Arctic to the Russians was the availability of furs for the home market. While sea mammal fur (e.g., otters and seals) remained a pri-

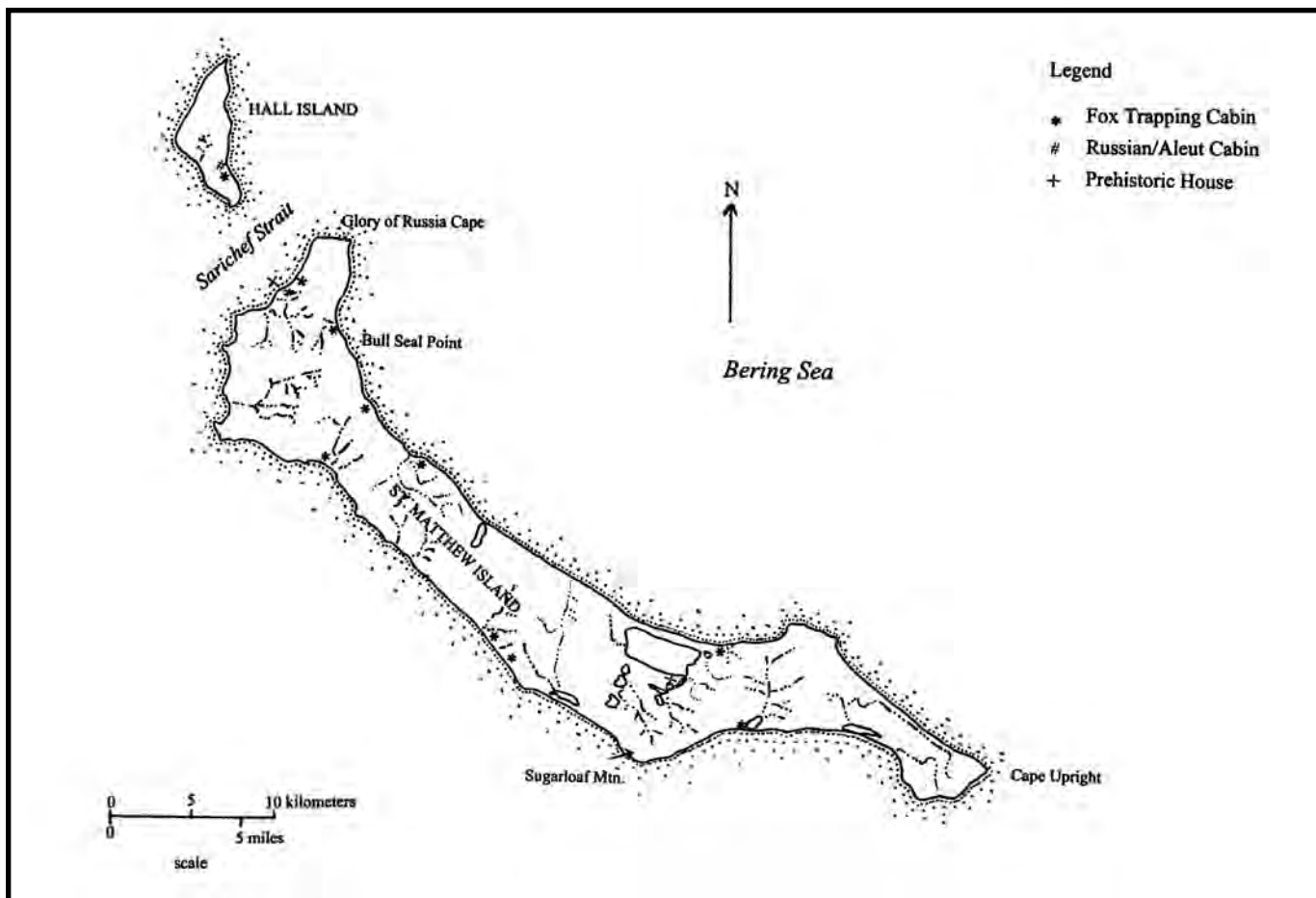


Figure 2: Location of Earlier Reported Cultural Sites

mary focus of most early Russian expeditions, the opportunity to harvest fox fur was also recognized. The Russians were the first people to introduce arctic foxes (*Vulpes lagopus*) to some areas of Alaska for the purposes of fur harvesting (ca. 1750); a practice that was encouraged by the United States after it acquired the Alaska Territory in 1867. Fox farming and trapping spread throughout the Aleutians and continued to grow rapidly in the early 1900s. In 1911, due to the overexploitation of particular fur-bearing species in the Arctic and their rapidly decreasing numbers, an effort was instituted to protect fur seals and sea otters. To assist in their protection, the Aleutian Islands Reservation was created. Fox farming escalated as a result of these restrictions, as an alternative to hunting sea otters (Janson 1985).

The rise in price for fox furs resulted in the consideration to introduce foxes on Alaskan islands in the Bering Sea, including Nunivak (Ivanoff 1933) and St. Matthew (Hanna 1920:121). The interest in St. Matthew appears to have not been developed due to the inability to provide an ample year-round food supply to foxes, which would have resulted in the foxes having to prey on resident bird species the island had been earlier set aside to protect. As clothing styles are known to change, the craze for fox

furs could not last, and during the 1930s a sharp decline in fur prices occurred. Fox farming in the Arctic largely collapsed during the Depression and never recovered.

Given the high price of fox furs in the Arctic from the early 1900s to 1930, it is no surprise that people began to exploit native populations of foxes on the Alaskan mainland and offshore islands. Historic efforts to harvest foxes on St. Matthew are known to have been conducted by residents of Nome. Historic accounts (Beals 1944; Hanna 1920:121) mention the construction and use of numerous trappers' cabins on the island. David Klein (2002), while studying the island's introduced reindeer population, recorded the location of numerous fox trapping related structures on the island (Figure 2). Many of these represented substantial cabins used by trappers while others appeared to consist of temporary, small structures only large enough for a man to sleep in while checking a trap line. The differentiation between structure types was not referenced by Klein at the time of recordation.

U.S. MILITARY OCCUPATION

Alaska's offshore islands played a major role in U.S. defense during World War II. After the attack on Pearl

Harbor in December of 1941, the Japanese considered the U.S. Navy to be seriously crippled. On June 3, 1942 the Japanese began their offensive on the Aleutian Islands with an attack at Dutch Harbor and the establishment of military bases on Kiska, Agattu, and Attu (U.S. Coast Guard 1946a:65-69). In response, the U.S. military began operations in Alaska to remove the Japanese occupation in the Aleutians, defend the United States from further foreign attacks, and help U.S. Armed Forces in coordinating the War in the Pacific against the Japanese. These efforts involved the island of St. Matthew in two ways, the establishment of a weather station in 1942, and a Loran-A navigation station in 1943.

Army Intelligence Weather Station

Following the Japanese attacks in the Aleutian Islands, the U.S. military sought quickly to establish a presence on Alaska's offshore islands. With war threatening the country, the military needed to find a way to gain advanced information of any imminent attack. The weather in the Bering Sea was often quite severe with heavy fog and strong gales. The U.S. Army Intelligence decided to send small groups of men to several strategic island locations to establish weather stations that could operate as an early warning system of weather conditions and approaching enemy forces. Such a group was sent to St. Matthew Island on September 15, 1942, under sealed orders (Rhode 1987:84).



Figure 3: Army Weather Station, ca. 1943. (Photo by Ben Schlegel; courtesy of Elaine Rhode)

Ten men were sent to St. Matthew's southern coastline where they established a weather station east of Sugarloaf Mountain. This station consisted of "two Quonset huts, radio transmitters, weather instruments, food for a year, 40 tons of coal and one .30 caliber machine gun" (Rhode 1987:84) (Figure 3). The station's equipment and supplies were off-loaded on the beach near the proposed site location; however, on the night of their arrival, high seas carried much of the coal out to sea before

it could be moved to higher ground (Schlegel 2002). The remaining equipment was moved approximately ½ mile inland with construction of the camp being completed on October 4th. The station's radio transmitter was first operational on October 7th, where it continued to serve the military as an early warning system until the fall of 1943.

Provisions for the camp were sparse and local subsistence resources were relied upon to supplement the crew's diet. Dolly Varden trout were caught in the local stream and lake and became a regular part of their diet. In addition to local fish, hair/ringed seals (*Phoca hispida*) were taken from the beach and eiders were killed in the island's interior (Rhode 1987:85; Schlegel 2002). Once winter set in, the island remained cut-off from the mainland and daily life at the weather station focused around taking daily weather readings and maintaining life at the station. Weather observers had a wet-bulb cyclometer, maximum/minimum thermometer, and hand-held anemometer (wind velocity) that were all recorded with data relayed every six hours to Anchorage. In addition to a .30 caliber machine gun, the men had 1903 Springfield rifles to use for protection (Rhode 1987:86). By examining historic photographs taken by Sgt. Ben Schlegel during the 1942-1943 camp occupation, a number of machine gun emplacements are known to have been constructed at the site. These include emplacements along the sand dunes to the south of camp, on the tundra directly below (east) of the camp, and on higher ground to the west of camp.

Replacements for the original crew arrived on St. Matthew in June 1943, with this second crew only remaining at the weather station until late fall, when the Army decided to consolidate their quarters with a Coast Guard Navigation station that had been established in June of that year, nine miles to the west. The weather station was totally abandoned by the U.S. military by late 1943, with only sporadic visits to the station by the Coast Guard over the next two years to pick up equipment that had been left behind by the Army.

U.S. Coast Guard Loran-A Station

The Coast Guard constructed a Loran-A station on St. Matthew Island in June 1943. Loran, derived from **L**ong **R**ange Navigation, is a system whereby a vessel, with special charts, may determine its position in all weather even at a great distance from shore (Willoughby 1980:150). This navigation system was reliable up to 1290 km from the transmitting station during the daytime and 2250 km at night. In order for such a system to work effectively, ground stations needed to be located appro-



Figure 4: Coast Guard Loran A Station, ca. 1963. (Photo courtesy of Dr. David Klein)

privately to cover the area needing to be served. Two shore stations (a master and slave station) operated as a Loran “pair” which would establish a set of lines over a portion of the earth. Designed during the early days of World War II, the establishment of a Bering Sea chain initiated its use in the Pacific.

The Bering Sea chain consisted of transmitting (slave) stations on St. Matthew and Umnak Islands, a double master station on St. Paul Island, and a monitoring station at Cape Sarichef on Unimak Island (U.S. Coast Guard 1942c:23). The St. Matthew station was designated Site P-3 (Unit #5, code name “Mike”) (U.S. Coast Guard 1946b:125; Willoughby 1980:158). Construction materials and crew left Dutch Harbor on June 17, 1943 aboard the cutter *Clover* and proceeded to St. Matthew Island to establish the “slave” station along the island’s southwest coast, within 0.4 km of a suitable beach landing. The Coast Guard’s Loran-A station on St. Matthew was situated on a 15 m bluff (Figure 4) overlooking the Bering Sea (U.S. Coast Guard 1946c:29).

The St. Matthew Island Loran site was covered with ice and snow when the construction crew first arrived. From the landing area to the construction site, a trail had to be established that would permit vehicles to transport supplies over volcanic sands that were two to three feet

deep. One small tractor had been furnished to the construction crew to facilitate this move; however, the tractor proved too small for the task and was constantly bogged down in the sand (U.S. Coast Guard 1946c:31). A larger tractor had to be shipped in to complete the station’s construction. Area tundra was found to be 45 cm to 2.4 m thick and unstable when frozen. In order to set up the six Quonset huts and generators over 600 sacks of cement had to be used in their foundations (U.S. Coast Guard 1946c:31). The St. Matthew station started testing on September 11, 1943, with intermittent transmissions from the completed Bering Sea Loran chain in operation by late September, 10-hour daily service by October 18, 1943, and 24-hour service on July 10, 1944.

The exact date of the St. Matthew Loran-A station’s abandonment is unknown but it is thought to have been abandoned after the end of World War II (Rhode 1987:87). Coast Guard correspondence states that it was decommissioned by 1947 (Yhusin 1947). After the conclusion of the war, the Navy Department requested that the three tracts of land used for Loran ground stations in the Bering Sea (i.e., St. Matthew, St. Paul and Umnak islands) be retained since they were still required by the government in view of the proposed permanent Loran station relocations in the Aleutians (Reed-Hill 1947; Richmond 1947). With such a plan in mind, equipment was left on the is-

land for possible later use. Historic photographs reveal that the camp remained largely intact in 1963 with several structures still standing as late as 1977.

MANAGEMENT OF ISLAND FLORA AND FAUNA

Aside from the above mentioned projects, the USF&WS has sponsored or been directly involved in coordinating numerous periodic visits to St Matthew and Hall Islands in order to conduct surveys of the islands' bird and mammal populations and local flora. Robert Rausch and his wife Virginia participated in one of the earlier such studies. In 1954, the Rauschs' spent six weeks on St. Matthew searching for evidence of parasitic disease in the island's vole population, in addition to collecting other data on the island's flora and fauna (Rausch and Rausch 1968). The Rauschs were taken to St. Matthew Island by the US Coast Guard who helped them to construct a cabin near the island's shoreline near Big Lake. This cabin was later used by other island survey crews in 1957 and 1963 (Klein 2002). In 1982 this hut had been partially destroyed by the rising level of the ocean's tide, with no evidence of its existence found in 2002.

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

To date, archaeological investigations on St. Matthew Island have been extremely limited. The first informal cultural resource investigation on the island occurred in 1957 when David Klein conducted limited testing of a house-like depression located on the north end of St. Matthew Island. Dr. Klein, then a biologist with the USF&WS, conducted the testing as a favor for archaeologist Frederick Hadleigh-West from the University of Alaska Fairbanks. Prior to Klein's arrival to the island, West had been informed of the existence of a possible house depression located near the island's western end. Klein (2002) excavated a 45 cm wide x 45 cm deep trench across the house feature where he discovered what appeared to be a stone-lined floor upon which he is said to have recovered the remains of a seal oil lamp, numerous other pottery shards and a polar bear tooth. The recovered material was later given to West who deposited the artifacts in the University of Alaska Fairbanks Museum (collection #UA-63-61). While recently viewing the artifacts comprised within this collection, no bear tooth was found but worked whale bone and a possible hammerstone were located. Pottery shards (n=57) exhibited a heavy gravel temper.

In 1963 Francis Faye accompanied Klein to St. Matthew where they discovered the remains of a wooden house on Hall Island believed to be the remains of a Russian dwelling. The structure was thought to have measured 4.6 m x 6.1 m and to have been made from timber brought to the island by boat (i.e., not driftwood) (Klein 2002). This house site is located on top of a dry ridge along a point of land above the only beach access area on the island. In 1982 and 2002, USF&WS biologists are known to have pitched their tents in the general vicinity of this structure.

In addition to the above remains, in 1985 Klein found a peculiar feature near a small lake, behind (south of) Big Lake. Klein originally believed that this feature might be left from a previous island habitation (Klein 1987b). He later tested this area but found no cultural deposits, and now thinks the feature may be of natural origin (Klein 2002). It is unclear what degree of "testing" was conducted at this site, however, and no examples of similar features have been seen on St. Matthew Island to date.

It is interesting to note that Klein, a biologist, is responsible for providing the most detailed notes on man-made features on St. Matthew. Aside from noting the possibility of prehistoric sites on the island, Klein visited the World War II era weather and Loran stations during his cross-island treks, as well as noting the location of numerous fox trapping related structures. Historic photographs provide views of three of the old trapper cabins (cf. Griffin 2002). Klein (2002) noted that only one weather station Quonset hut was still standing at the Army's weather station installation in 1957.

The first professional cultural resource investigation on St. Matthew occurred in 1976 and was led by E. James Dixon (1976). The 1976 survey was conducted in order to identify prehistoric archaeological remains that may date to the period of the Bering Land Bridge. The survey team focused its efforts on the eastern half of the island (Figure 5), while paying close attention to areas likely to reveal evidence of previous human use or occupation. Approximately 59 test probes (size unknown) were excavated with a trowel during their island survey in hopes of identifying evidence of Pleistocene deposits suitable for archaeological preservation. No evidence of prehistoric human occupation of the island was discovered. The crew did comment that pebbles of jasper and agate were commonly seen on the island's northern beach, although no large outcrops of workable stone material were identified.

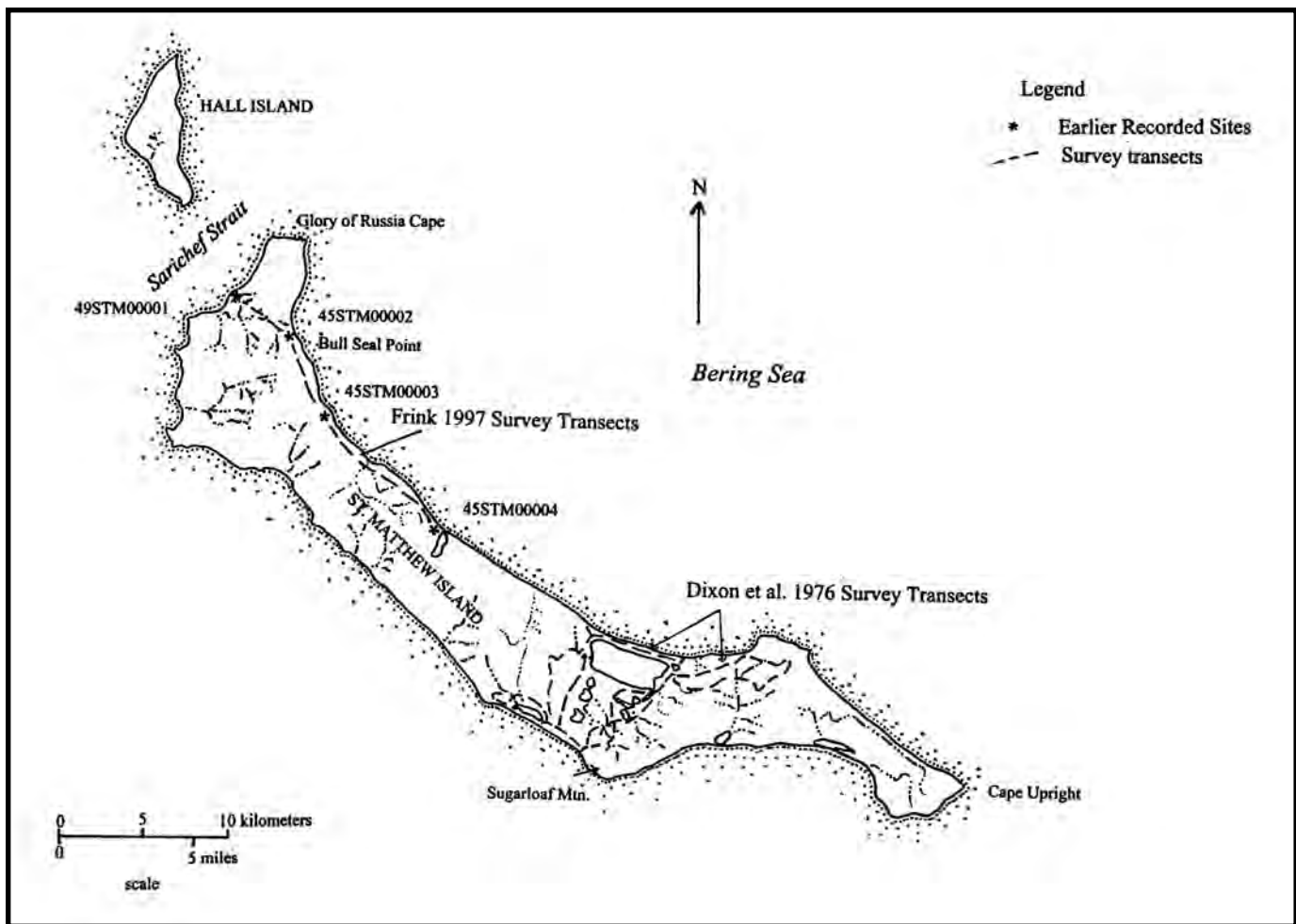


Figure 5: Previous Survey Transects and Recorded Archaeological Sites on St. Matthew Island

Dixon found one possible archaeological site near the southern end of a beach near Sugarloaf Mountain. This site consisted of a log protruding from the bank with a piece of baleen lying on top of its upper surface. The frozen bank made test excavation of the area impossible at the time of discovery. The baleen was later ^{14}C dated to 1325 ± 140 radiocarbon years.²

In spite of the continued involvement of the USF&WS on St. Matthew, it appears that the results from each of their periodic visits to the island were not shared with other resource specialists within their agency or the Alaskan archaeological community. At the time the first archaeologist was sent to accompany USF&WS biologists (i.e., Lisa Frink in 1997), no information on previous island archaeological discoveries were known.

Agency bird biologists regularly visit St. Matthew and Hall Islands once every 5 years in order to obtain population counts for the island bird rookeries. In follow-

ing federal OSHA regulations, by being the single archaeologist Frink was unable to conduct forays on her own on St. Matthew, hence her survey efforts were necessarily linked to accompanying bird biologists on their bird count transects. By nature of their surveys, the bird biologists tended to focus their attention on cliff oriented rookeries. Frink's survey efforts were necessarily restricted to these general areas (Figure 5). Despite these survey restrictions, Frink located four sites including the earlier identified prehistoric semi-subterranean house (tested by Klein in 1957) and three historic sites on the northwestern portion of the island (i.e., she more accurately relocated three earlier reported sites and discovered one new potential site). Frink excavated two 20 cm wide trenches within the earlier tested house depression (Pottery House site - 49XSM00001), with the trenches extending to a depth of 0.45 m below surface where sterile soil and gravel were reported (Frink et al. 2001:133). Total fill excavated was less than 0.5 m^3 , with all soil examined by hand without the use of screen mesh.

²Laboratory Number – GX-5070; material dated – Baleen; ^{13}C corrected. Uncorrected ^{14}C age – 1195 BP. Using the reservoir correction calculated by Dumond and Griffin (2002) for 14 matched pairs of marine mammal residue and terrestrial products (580 to 783 year difference with an average of 735 ± 20 yrs, the baleen is likely to date to approximately 500 BP.

Frink's test excavation revealed Thule-like pottery, bone fragments, and two charcoal samples that yielded sufficient material to obtain radiocarbon dates. A total of 40 pottery sherds were recovered from the Pottery House excavations by Frink. These shards were found to represent at least two different vessels. The pottery is described as being heavily tempered, primarily with gravel, with one shard exhibiting evidence of grass temper. The recovered faunal remains included 245 bones, with 49 bones (17 %) having distinguishing characteristics to be positively identified. Of these, 43 were mammal bones representing fox, polar bear, whale, and walrus. Six of the bones were from birds including puffins and cormorant (Partlow 1998). Analysis of the two radiocarbon samples yielded conventional dates of 350 ± 60 and 430 ± 50 BP (Frink et al. 2001).³

The remaining three sites located by Frink include: 1) Bull Seal Point (49XSM00002), 2) Cabin site (49XSM00003), and 3) the Firewood site (49XSM00004) (Frink et al. 2001:134). The Bull Seal Point site consists of a single large rectangular depression (5.3 x 3.3 x 0.35m), which compares favorably to the location of a previously identified cabin site plotted by Klein. It is likely that this site represents the location of an earlier fox trapping related cabin. The Cabin site consists of a single feature measuring 4.0 x 3.5 x 0.35 m deep. A pile of fallen wooden beams was seen covering the depression providing evidence of the existence of an earlier semi-subterranean, historic cabin. The location of this site also matches that of a previously reported cabin site (Klein 2002) and is thought to relate to earlier island fox trapping activities. The last site located by Frink is the "somewhat ephemeral Firewood Site" (Frink 2000:6). This site consists of two erect pieces of wood that are thought to represent the foundations for a firewood cache. Possible human-created depressions were noted at the site but the excavation of a 0.2 x 0.2 x 0.3 m test probe revealed no cultural material and these depressions are now thought to be a product of natural erosion and run-off (Frink 2000:6).

In spite of their rediscovery, none of the above sites have been formally recorded. The recording and mapping of each site and their associated features needs to be completed in the future.

2002 SURVEY RESULTS

The 2002 cultural resource survey of St. Matthew Island was not project driven. That is, the survey was

not designed to identify potentially significant cultural resources within a distinct area of land slated for some land disturbing activity. As such, the 2002 cultural resource survey was largely opportunistic with potential areas for survey selected by previous knowledge of preferred areas of human occupation and topographic considerations (Figure 6). An effort was made to relocate and formally record all previously mentioned cultural sites on the island. Given that the 2002 survey was limited to a ten-day period (July 21- July 31), with a crew consisting of Debbie Steen (USF&WS) and the author, attention was focused on visiting likely locations within the eastern half of St. Matthew Island. This area was selected as a means to compliment the earlier west end survey effort conducted by Frink in 1997.

Prehistoric Survey Results

The only possible prehistoric site known to have been identified in the eastern half of the island was the site of baleen found by Dixon in 1976. An effort was made to revisit the site where the baleen had been discovered eroding from the shoreline, west of Sugarloaf Mountain. An intensive survey of the exposed shoreline was conducted with negative results. This portion of the shoreline has been subjected to severe erosion and slumping. Large slump areas were visibly affected by incoming tides. Any potential site areas visible in 1976 have long since vanished.

No attempt was made to examine the large house-like depression seen by Klein in 1985 in the Big Lake area of the island, because information regarding the existence of this feature was not discovered until after our return from the island. In spite of the apparent negative results from reported probing of the feature by Klein (2002), it is recommended that this feature be tested by archaeologists in the future due to its large size and shape and the absence of similarly shaped features being reported on the island.

What was conspicuously absent from our survey results was any evidence of prehistoric occupation. The majority of the island that we surveyed is low-lying and exposed to strong winds, which are quite frequent. Much of the land in the center of our survey area was extremely marshy. Observed island drainages were all small with many dry by the time of our visit. Fish were abundant, however, in most larger streams (i.e., over 61 cm [2 ft] in width) and island lakes. The eastern peninsula of the island is extremely flat and exposed to winds from all

³Beta-11765 - wood; ¹³/₁₂C ratio -26.1; 2 sigma calibration AD 1443 - 1647 (CALIB 4.4)
Beta-11767 - wood; ¹³/₁₂C12 ratio -24.6; 2 sigma calibration AD 1409 - 1525, 1559 - 1630 (CALIB 4.4)

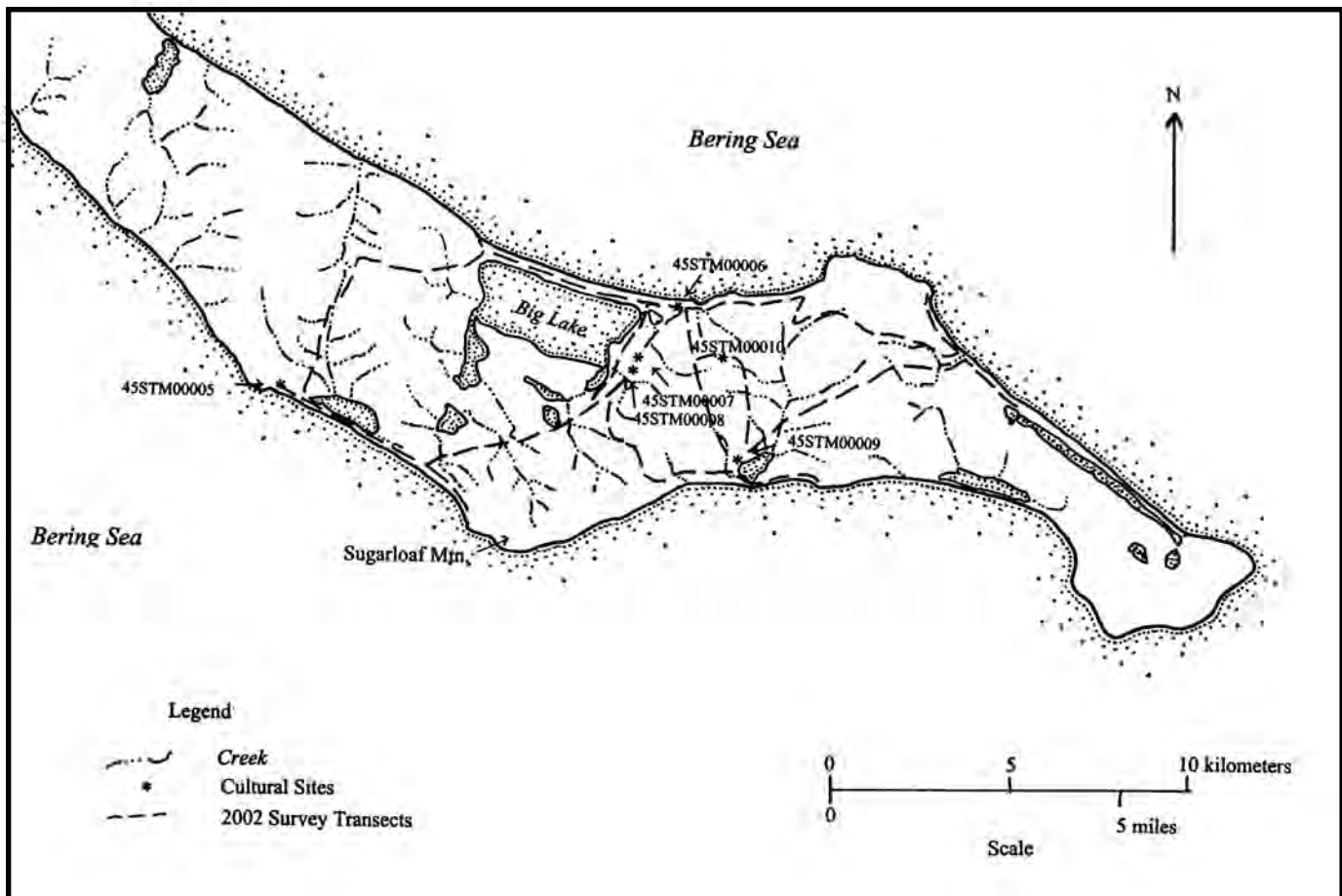


Figure 6: Inset Map - Survey Transects and Recorded Sites from the 2020 Investigation

directions, and is not thought to be ideal for human habitation. The extreme southern tip of the island consists of steep cliffs and bird rookeries. While not surveyed during the 2020 survey, I believe that this area is too inhospitable and open to the elements to warrant a primary focus during future survey efforts. At the completion of our survey, after we had reboarded the Tiglax and were en route back to the Pribilofs, the biologists on Hall Island reported finding what they believe was the remains of an earlier Native habitation. Several buried walrus skulls were noted in one area while an extremely weathered and possibly human-modified tusk was found in another. This constitutes an ideal area for future study.

Historic Survey Results

The 2020 survey results (Griffin 2020) substantiated the use of the island by fox trappers, the US military, and modern visitors. Six historic era sites were identified and formally recorded. One of these sites is related to earlier fox trapping practices on the island. Five sites relate to the island's military occupation.

Big Lake Fox Trapping Cabin & Cache (49XSM00006) consists of the remains of a large semi-subterranean house and collapsed cache located on the

southern edge of a beach terrace, east of Big Lake. The feature is surrounded by a large earthen mound approximately 12.5 m in diameter x 1 m in height. The structure is made from milled lumber, some of which are 2"x 6" tongue and groove planks. The sod-covered roof has collapsed, obscuring the majority of the feature. Approximately 14 m to the southwest is the remains of a collapsed sod-covered cache. Cache size is difficult to determine due to its collapsed condition and thick covering of sod. Vertical planks can be seen through the collapsed sod in addition to a few large spikes.

Military-related sites include the Loran-A Station (49XSM00005), Army Intelligence Weather Station (49XSM00009), two abandoned caterpillar tractors (49XSM00007 and 49XSM00008), and a possible weather station related structure (49XSM00010). The Loran-A Station consists of the remains of numerous structures from the abandoned World War II Loran-A station. Established in 1943, this station originally is thought to have consisted of six quonset huts which housed 23 men and typified a Loran "slave" station in Alaska. The site itself consisted of prefabricated Quonset huts that were often interconnected to provide combined administration/electronics/quarters buildings (Coneybeer 1998:4).



Figure 7: Loran A Station, 2002.

A complete cultural resource survey of this site was not possible at the time of the 2002 visit due to site size, limited time available for survey before the crew's departure, and the small two-person survey crew. Instead, a sketch map of the site was made and numerous photographs taken to illustrate the current site size and condition (see Griffin 2002). In general, the overall site condition of the Loran-A station is considered poor. It appears that much of the refuse and debris from the Coast Guard installation was left on-site and has deteriorated from the severe weather conditions. Hundreds of 55-gallon metal oil drums have rusted into fragments leaving behind large oil spills that can still irritate your eyes while walking through the site. The remains of the wooden storage sheds have largely blown down and pieces of wood and metal can be seen scattered across the tundra. Rusty motors remain in place and only arctic foxes continue to visit the site (Figure 7).

During the winter months, snow is extremely heavy and prolonged snow blizzards of hurricane strength often last up to ten days. Guide ropes and tunnels had to be constructed linking several of the huts together so servicemen would not become disoriented and lost while traveling between huts. Evidence of such tunnels can still be seen at the site, with the longest tunnel (approx. 50 m long) connecting the central part of the camp with the Loran transmission hut which was located near the eastern end of the site. Figure 8 illustrates the remains of this hut and tunnel system.

When the US Navy constructed the St. Matthew Island Loran Station in 1943 they found there was approximately 45 cm - 2.4 m of tundra over the selected

site. The area had to be "prepared" before construction so that site features would not sink once ground became unfrozen (Willoughby 1980:158). The Army used heavy "Cats" and tractors to remove the top layer of muskeg, "as the muskeg was so spongy that no permanent erection could be anchored to it" (US Coast Guard 1946c, I:128-129). In 2002, both tractors used in site construction were found near the middle of the island, where it appears they became stuck and were subsequently abandoned.

The St. Matthew Island Weather Station consists of the remains of two Army Quonset huts (one for communication and electronic equipment and residence of their operators, and the other as residence and dining hall for the remaining crew [Rhodes 1987:84]), and associated features. This site is known to have been abandoned in 1943, with evidence suggesting that in 1954 both Quonset huts still remained at the site. Only one structure was reported in 1957 (Klein 2002), with the communication hut having been burned to the ground by unknown persons. By 1982, the surviving hut had collapsed due to inclement weather. The 2002 site survey revealed nine features in association with this site complex. These included remnants of the two Quonset huts, an outhouse, storage shed, wash area, work area, a small oval depression of unknown use, and a machine gun embankment. Historic photographs have helped to identify the true shape and composition of several of the identified features (e.g., Quonset huts, a stone encased stove feature, wood-cutting brace).

The last historic site identified consisted of the remains of a square, semi-subterranean pit located on top of a ridge saddle. The above ground portion of the struc-



Figure 8: Loran A Station Quonset Hut and Tunnel, 2002.

ture has been destroyed by wind and wood debris can be found around and below the saddle area. The ship-lap milled planks and lantern found inside the pit are identical to those found at the island's military Weather Station, located to the south. This site is located in relatively close proximity to the US military weather station and is believed to have been built and used by the soldiers that manned this station in 1943. Ben Schlegel (2002), a soldier stationed at the weather station from 1942 to June 1943, knew of no such structure being built during his tenure on the island, so its use must have post-dated his departure. Historic photos taken in the 1950s are believed to represent a view of this structure prior to its destruction (Figure 9).



Figure 9: Army Weather Hut (?) on St. Matthew Island, ca. 1957. (Photo by Dr. David Klein; courtesy of George Allez)

Modern tour boats are known to stop off at St. Matthew Island with passengers rafted ashore for beach combing and bird watching activities. A quick survey on the internet identified three companies currently offering trips to St. Matthew Island (e.g., Clipper, Wild Wings, and WinWin Vacations tour companies). While most of these groups are thought to visit the island in the vicinity of Bull Seal Point in the northwest part of the island, visitors could and probably do visit many other of the island's exposed landing areas. The 2002 discovery of two driftwood lean-tos in the vicinity of Big Lake probably relate to recent island visits.

SUMMARY AND RECOMMENDATIONS

The majority of cultural features recorded during the 2002 field season had been noted earlier by previous researchers/surveyors but none had been recorded. The 2002 survey represents the first attempt to accurately record, by graphic measurements and photographs, island cultural features. Future survey work on St. Matthew and Hall islands should formally record all previ-

ously noted island features. Copies of all completed site forms need to be deposited at the Alaska Office of History and Archaeology.

So what of the future? How can future surveys build on our current knowledge of island land use while achieving the greatest success in the short time available. My recommendations include:

1. Conduct probing and test excavations on Hall Island where biologists think that they have discovered the site of the 1810 Russian-Aleut hut. This site is reported to have been only used over one winter and would likely reveal a unique set of artifacts that would be useful for comparisons with other Russian era sites. Excavation results should be related to Veltre and McCartney's (1994, 2000, 2002) recent work on the Pribilof Islands. If this structure is found to have a prehistoric component, attempt to relate this area to the Pottery House site tested by Klein and Frink.

2. Conduct more extensive test excavations at the Pottery House site. Determine site depth and obtain more information regarding possible site use. Excavate subsurface probes/test units, both inside and outside the known house feature, using a fine-mesh screen to filter all excavated soil. All recovered artifacts should be recorded within standard stratigraphic or arbitrary levels (e.g., 10 cm).

3. Conduct subsurface probes in and near the possible house depression identified by Klein south of Big Lake.

4. Conduct a pedestrian survey of the western two-thirds of the island. Due to the island's relative inaccessibility and the probable limited time frame for future surveys, the focus of new surveys should be on river drainages and areas having beach access. Work should initially focus on surveying and recording any sites found in areas of reported fox trapping cabins, since these areas probably coincide with the most accessible lands on the island. Surveyors should rely on the use of a Zodiac inflatable boat (if available) to maneuver around the coastline. Cross-island pedestrian surveys, given the rocky terrain of the western portion of the island, will not prove highly productive, given the probable limited time frame of each visit.

5. Complete a more extensive review of federal archival sources to determine additional details of historic land use activities. Seek links to specific fox trapper cabins that might provide additional information regarding the

early use of the island for fox trapping and data concerning specific cabin locales. Contact previous USF&WS personnel in order to assimilate any information noted during previous island visits.

6. Distribute the results of all island investigations through regional conference presentations and published articles so that future researchers will have the benefit of your work.

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