

CAPE NEWENHAM NATIONAL WILDLIFE REFUGE
Cape Newenham, Alaska

ANNUAL NARRATIVE REPORT
Calendar Year 1979

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR



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I. INTRODUCTION

A. History:

Cape Newenham National Wildlife Refuge was established by Executive Order on January 20, 1969, by withdrawal of lands formerly in Public Domain. It was created to protect and preserve its..."outstanding wildlife values, including possibly the greatest (sea) bird colony on the North American Continent, and important habitat for other terrestrial and marine wildlife..."

This refuge has never been staffed but is managed under the Clarence Rhode NWR complex headquarters in Bethel, Alaska. The first manager of Clarence Rhode NWR, James King, was instrumental in the establishment of Cape Newenham NWR by documenting the values of the area in his report entitled "Cape Newenham, Alaska - Wildlife Metropolis."

B. Physical Description:

The refuge consists of 265,000 acres of mountains, sand dunes, rugged sea cliffs, clear streams and two large shallow bays; Chagvan Bay to the north of Cape Newenham and Nanvak Bay to the south. Cape Newenham for which the refuge is named forms the boundary between Kuskokwim Bay to the north and Bristol Bay to the south. Cape Peirce is smaller and located south of Cape Newenham.



Cape Newenham and Security Cove, September 1979
(Photo by M.F. Smith)



Nanvak Bay with Cape Peirce to the S.W. and the Slug River to the N.E. (Lower Right hand corner), September 1979.
(Photo by M.F. Smith)



Cliffs of Cape Peirce, lichens cover soil in foreground, September 1979, (Photo by M.F. Smith)

The upland areas are covered with arctic tundra with lichens predominating on the higher slopes; mountain tops and sea cliffs are barren rock. Blueberries, cranberries and especially crowberries are common. Sedges and grasses dominate the marsh areas and dense stands of eelgrass are found in Chagvan and Nanvak Bays. Willow and alder brush occur along the streams but no other trees are found on the refuge.

The climate at Cape Newenham can be quite severe at times; high winds and storms are common. A storm on the 8th and 9th of November 1979 caused so much damage in the neighboring villages of Platinum and Goodnews Bay and along the whole coast that it was declared a disaster area by the Governor. Fog is common and clear, sunny days are few. The average temperature is 33 degrees Fahrenheit, the average maximum and minimum temperatures over a period of 11 years are 65 degrees Fahrenheit and minus 16 degrees Fahrenheit respectively. The growing season averages 140 days per year and the annual precipitation is about 30 inches. The bays are frozen and the mountains covered with snow from late October to May. Some sea ice may drift into the area from the north during winter months.

C. Wildlife:

Wildlife is abundant both in variety and numbers at Cape Newenham. Seabirds nest on the cliffs of Cape Newenham and Cape Peirce forming one of the largest colonies in North America.



Common murrens on cliffs of Cape Peirce, (Photo by Jerry Hout, July 13, 1975)

Hundreds of thousands of murres and kittiwakes nest here along with lesser numbers of puffins, auklets, cormorants and gulls. Tens of thousands of brant and geese can be seen during fall and spring migration feeding in the eelgrass of Chagvan and Nanvak Bays and on the berry covered hillsides. In spring of 1976 Margaret Petersen (OBS-CE) noted that Nanvak Bay contained half the world's population of black brant during spring migration. Emperor and Canada geese are also very plentiful as are pintails, scaups, eiders, scoters and other ducks. Passerines and shorebirds nest on the refuge and use it as a migration stop-over. Golden and bald eagles and other raptors also frequent or nest here.

Thousands of harbor seals use Nanvak Bay as a haul-out area and some for pupping throughout the ice-free months. Sea lions in smaller numbers occupy rocky beaches beneath Cape Newenham. Hoary marmots and arctic ground squirrels inhabit the upland areas. Red foxes are plentiful and though brown bears are not, their presence is hard to miss. A few are seen each year particularly in the Slug River and Nanvak Bay areas. Muskrat, river otter, beaver and small rodents are also found in the area.

Caribou remains in the sand dunes at Nanvak Bay and archeological evidence indicate that they once inhabited the area. For reasons unknown they no longer do.

II. ANNUAL NARRATIVE UPDATE

The last annual narrative for Cape Newenham was completed for calendar year 1971. This leaves an eight year gap in information that can only be found by hunting up various reports in the files. In an attempt to rectify this situation, the major projects and happenings from 1972 to 1979 will be documented briefly here, in chronological order.

In the summer of 1972 Dr. Robert A. Ackerman of Washington State University, Pullman, Washington, conducted an archeological survey of the Yukon-Kuskokwim Delta and the Cape Newenham area. The survey took place, August 22 through September 1, and a report entitled, "Archeological Survey: Clarence Rhode National Wildlife Range and Recommendations for further Archeological Investigations", was supplied the refuge in October 1972. Two (2) former seal hunting camps in the dunes on the south shore of Nanvak Bay were identified and investigated. Other possible archeological sites in the dunes were investigated and found sterile. Prior discoveries of archeological sites in the Cape Newenham area are recorded in the report.

In 1973 Matthew Dick was employed by the Clarence Rhode NWR Complex as a Seasonal Biologist. Much of his time was spent at Cape Newenham NWR in three periods throughout the field season, April 27 - May 19, May 26 - June 24 and August 14 - September 27. Matt was compiling a list and making observations of birds on the refuge and was working on a study of pelagic cormorants. A report of his work was never received by the refuge. However, Matt, who is no longer employed by the U.S. Fish and Wildlife Service, is reportedly completing work on both of these projects for publication in conjunction with Margaret Petersen (OBS-CE). Data from this work however did appear in (Petersen 1976) which will be mentioned later in this report.

During August 3-9, 1973, Matt Dick represented the U.S. Fish and Wildlife Service on a float trip down the Togiak River to determine its suitability for wild and scenic river status. Although the Togiak River is not within the present refuge, it is included in the proposed Togiak NWR which would encompass Cape Newenham NWR. A report was submitted on this trip entitled "Narrative and Notes, Togiak Wild and Scenic River Review Float Trip."

Cooperative Researchers Brian and Pattie Johnson spent May 26 - September 8, 1975, at Nanvak Bay studying harbor seals. This was a cooperative study with the Alaska Department of Fish and Game and the University of Alaska Sea Grant (NOAA) project. The refuge's only involvement was providing use of our cabin and boat at Nanvak Bay and two (2) flights on July 13 and August 10 to check on their progress and safety. A report, "Harbor Seal Population of Nanvak Bay", was provided to the refuge along with some limited data on birds. The Johnsons found that the seal population steadily increased from around fifty (50) animals in late May to a high of almost 3,100 on August 31. From August 31 to September 8 when they departed, the population appeared to be declining. A total of 34 pups were observed between June 2 - 28. Both sub-species of harbor seals occurred at Nanvak; they found roughly ten (10) percent to be Phoca vitulina largha the "ice-breeding harbor seal" and the remainder P.V. richardsi the "land-breeding" seal. Nanvak Bay is the northern-most known pupping colony of richardsi in the Bering Sea.

Margaret Petersen and Marilyn Sigman both with the Office of Biological Services - Coastal Ecosystems (OBS-CE) stationed in the area office worked on a seabird project at Cape Peirce, April 28 - September 9, 1976. A report was submitted to the refuge entitled, "Field Studies at Cape Peirce, Alaska 1976, Part XIII of Population Dynamics and Trophic Relationships of Marine Birds in the Gulf of Alaska and Southern Bering Sea." Abundance estimates for the more common sea birds were: possibly 1,000,000 and not less than 500,000 murres, possibly 400,000 and not less than 200,000 kittiwakes and about 80,000 tufted puffins. Losses of birds and eggs were caused mainly by ravens, red foxes and glaucous-winged gulls. Eskimo eggng was also observed on Shaiak Island, June 10-12. The researchers also made observations and recorded spring and fall waterfowl migration. Their report included a check-list of all birds and mammals observed at Cape Peirce - Nanvak Bay by all observers 1963-1976.

A coastal habitat and bird survey was made of the Cape Newenham area on August 21, 1977, as a portion of a larger survey extending from Cape Newenham to Tin City on the Seward Peninsula. Participants were Calvin Lensink and Margaret Petersen, both of OBS-CE, and Wildlife Biologist Chris Dau of the refuge staff. OBS chartered the aircraft. No report was made; the rough data however is retained in our files.

Native Liaison Specialist James J. Akaran and U.S. Fish and Wildlife Biologist Bob Wienhold of the Area Office travelled to the villages of Platinum and Goodnews Bay on May 29-30, 1978. The Mayors and other village residents were contacted. Jim and Bob explained the purpose of the existing refuge and discussed D-2 proposals to expand it. They spent May 31 - June 1 at the Nanvak Bay cabin, which they reported to be in terrible condition with piles of trash and dead ptarmigan left inside by winter users. They cleaned it

up and left a note requesting that it be kept that way. Jim took pictures of the seabird colonies and both observed hunters in a boat shooting seabirds off the nesting cliffs. The boat was too far away to get the number.

On July 27, 1978, Refuge Archeologist Robert Shaw and Dr. Robert Ackerman of Washington State University surveyed archeological sites in Chagvan Bay, Security Cove and Nanvak Bay via helicopter. The purpose was to orient Bob Shaw with archeological resource of Cape Newenham NWR. Dr. Ackerman is somewhat of an expert in this area since he has conducted extensive surveys and excavation here since the early 1960's. Another purpose was to examine an archeological midden on the back-beach deposits of the Chagvan Bay south spit. During 1967 excavation of this site by Dr. Dick Ross of Oregon State University, it was estimated to be between 1,500 to 3,000 years old. In Shaw's trip report to the Refuge Manager he recommended salvaging this site soon by total excavation before it is eventually destroyed by erosion.

Other than these particular projects, several waterfowl surveys were flown along the coast and in Chagvan and Nanvak Bays each year 1972-1978 when the refuge aircraft was available.

III. 1979 ACTIVITIES

A. Aerial Surveys:

Several aerial surveys were conducted in the Cape Newenham area in 1979. These were usually over Chagvan and Nanvak Bays. While conducting a coastal survey on May 17, 18,000 Canada geese and several thousand kittiwakes were observed on Nanvak Bay. Due to the heavy work load of the OAS aircraft on Clarence Rhode and Nunivak Island National Wildlife Refuges during the summer months, aerial surveys were not resumed at Cape Newenham until September.

Six (6) aerial surveys were flown over Chagvan and Nanvak Bays from September 6 to October 1. The most abundant species encountered were Canada geese, pintails, lesser scaups and widgeons. Peak numbers recorded for these species were 3,450 Canada geese and 2,200 widgeons on September 14, 16, 860 pintails and 6,500 lesser scaups on September 19. Other species encountered were black brant, emperor geese, eiders, scoters, cormorants, mallards, green-winged teals, red-breasted mergansers, harlequin ducks and kittiwakes.

B. Field Studies:

Assistant Refuge Manager Michael F. Smith made two visits to Cape Newenham NWR in 1979, September 10-14 and 19-25. Observations were made on fall waterfowl migration, seabirds, other wildlife use and human activities. Most ground observations were confined to the Nanvak Bay - Cape Peirce area.

1. Seabirds:

At this late date there were no seabirds remaining at the nesting areas on the cliffs around Cape Peirce. About a dozen pelagic cormorants were present during this period near the cliffs and at

the mouth of the bay. 150 or so glaucous-winged gulls, mostly immature, were seen daily at the south end of Nanvak Bay and 20 mew gulls were noted on the 24th and 25th. Kittiwake populations fluctuated erratically, possibly based on feeding opportunities or weather patterns. Numbers ranged from a high of 10,000 on September 22 to none. Most were observed in the southeast corner of the bay. One horned puffin was the only other seabird observed.

2. Waterfowl:

The peak of waterfowl migration was past by the time these observations were initiated. Large numbers of birds, however, remained in the area with new birds replacing old as they filtered through on their southward journey. The most abundant species present were Canada geese, pintails and greater scaups. Canada geese spent a great deal of time feeding on tundra berries, particularly crowberry (Empitrum nigrum), and grazing in wet meadow/sedge grass areas. The berry crop was practically a bust in the Nanvak Bay area this year with only about 0.5% of the crowberry stands investigated bearing fruit. Emperor geese and pintails preferred wet meadow and shallow water areas particularly in the southeast corner of Nanvak Bay. Scaups, scoters, eiders and harlequins fed in deeper water either in the bay or near the cliffs in the Bering Sea.

3. Other Birds:

About 200 rock sandpipers and lesser numbers of red phalaropes, American golden plovers and long-billed dowitchers were observed in the Nanvak Bay area. The red phalaropes had already changed to their winter plumage.

Snow buntings and ravens were the only passerines noted. An immature bald eagle was seen near the cabin on two occasions. A bald eagle nest is present on a rugged point east of Cape Peirce and has been reported as active in the past; however, no adult birds were seen at this late date. A golden eagle and a marsh hawk were also present.

4. Mammals:

Harbor seals were hauled out near the mouth of the bay and on sand bars within the bay September 13-25th. An estimated 2,000 were present usually in two groups over the entire period.

A decomposing whale, possibly a gray whale, was washed up on the beach south of the mouth of Nanvak Bay. This was a favorite dining spot for sea gulls and ravens and was also visited by red foxes and brown bears.

Brown bear sign was very evident on the south beach of Nanvak Bay and in the sand dunes near the cabin. Although fresh tracks were encountered about every other day, the bears were not. Aerial

observations of them were made on September 7 and 10, two young bears and an older reddish colored bear were seen.



Harbor seals at the mouth of Nanvak Bay, September 1979,
(Photo by M.F. Smith)

Red foxes appeared to be quite abundant, possibly because of their boldness. They showed little fear of humans making it easy to observe; however, quite often it was the other way around. Three fox dens were observed, two in the sand dunes and one near the bluffs north of Cape Peirce. Four foxes, apparently a family group, frequented the Fish and Wildlife Service cabin area. From the sign it was assumed that the foxes were feeding on gulls and kittiwakes although one fox was seen carrying a raven.

Arctic ground squirrels and hoary marmot burrows were found on the hillside of Cape Peirce. The marmot burrows were not as abundant as the squirrel's and were mostly on higher slopes. No marmots were seen but a ground squirrel was seen on September 13th.

Other mammals identified were three river otters, a muskrat, a shrew (possibly Sorex arcticus tundrensis) and two voles (Microtus oeconomus).

IV. CONSTRUCTION AND MAINTENANCE

Assistant Refuge Manager Michael F. Smith and Laborer Palmer Olrun spent September 10-12 working on the U.S. Fish and Wildlife Service cabin at the south end of Nanvak Bay. The cabin got its first thorough cleaning in three years; rotten food, rusted canned goods and accumulated trash were burned and buried. A new Yukon Stove and chimney was installed to replace the rusted out shell that was in use. What was left of the old shingles were removed from the roof and a new roofing applied. The chimney pipe was flashed so that the rusting problem should not reoccur. The outside cabin walls were treated with three gallons of "log oil", a preservative/sealer combination.



U.S. Fish & Wildlife Service cabin at Nanvak Bay located to the left of the pond in foreground, Bering Sea and Cape Newenham in background, September 1979, (Photo by M.F. Smith)

V. INSPECTION TOUR

While on an inspection tour of the Clarence Rhode NWR Complex Refuge Supervisor Donald Redfearn, Refuge Manager Charles Strickland and Refuge Staff Ecologist Ronald Garrett spent the afternoon of June 27th at Nanvak Bay. They found the cabin roof leaking and the stove and stove pipe rusted out which lead to the rehabilitation projects mentioned under "Construction and Maintenance." They also inspected the seabird colonies at Cape Peirce and looked over the Nanvak Bay area.

VI. ARCHEOLOGY

During aerial reconnaissance of Cape Newenham NWR in 1978, Archeologist Robert Shaw discovered an unauthorized excavation at the archeological site designated XHI-3. The site consists of approximately 28 house pits atop a terrace remnant at the head of the north spit enclosing Chagvan Bay. The unauthorized excavation consisted of a 9m x 1m trench down the 4m high terrace face (photo below). Archeologist Shaw spent 21 days at the site during early June. The purposes of his efforts were to capitalize on the presence of the trench to examine the subsurface deposits and test the midden without additional damage to the site, and to backfill the trench to prevent erosion and discourage additional vandalism.



Archeological site XHI-3 with Chagvan Bay in the background, June 1979, (Photo by R. Shaw)

Midden cut by the trench is up to 1.3m thick and overlies deposits of sterile sand intermixed with well rounded beach pebbles (see photo on page 11). The stratigraphic profile shows trash deposits paralleling the local ground surface with intensive disturbance of the deposits by burrowing animals. Though heavily disturbed, reliable stratigraphic separation of cultural components could be achieved with a large artifact sample from extensive excavation.

The midden is unfrozen and preservation of organic remains is poor in the area sampled. Although a small sample of decomposing bone was recovered, the artifact inventory consists mostly of pottery with both ground and chipped stone (see photo on page 11). Comparison with the materials recovered by Ross (1971; The Cultural Sequence at Chagvan Bay, Alaska: A Matrix Analysis)

indicates probable occupation of the site by at least 2,000 years ago. A detailed report of the work is in preparation.



A thin layer of high clay content separates the cultural layers of XHI-3 from a sterile beach deposit, June 1979, (Photo by R. Shaw)



Selection of artifacts from XHI-3, June 1979, (Photo by R. Shaw)

Field work during 1978 has resulted in a report by Archeologist Shaw entitled "Archeological Reconnaissance in the Vicinity of Hagemeister Island, Goodnews Bay and Kagati Lake, Southwestern Alaska". The data reported indicate a need to update, correct and expand the Alaska Heritage Resources Survey maintained by the State of Alaska for the area on and around Cape Newenham NWR. Pertinent materials have been forwarded to researchers working in the region and necessary revisions are being coordinated through the Office of the State Archeologist.

VII. ITEMS OF INTEREST

A. Subsistence:

Subsistence hunting and fishing is carried out on the refuge mostly from the villages of Platinum and Goodnews Bay. The area south of Cape Newenham is probably used less than that lying north of the Cape during the snow free period because of frequent high winds and rough seas. Boats do go around to Nanvak Bay on calm days. One was seen on September 7th and another on October 1st. The latter boat had three seal hunters aboard. 80-100 rounds were fired at seals in the water; it is not known if any were hit, as none were retrieved prior to our departure from the area. No other subsistence activities were observed.

B. Recreation:

Most recreational hunting on the refuge is limited to fall waterfowl hunting. People living in local villages or in Bethel are practically the only participants. The local State Game Biologist reported that five brown bears were taken this year from the Cape Newenham area.

The airforce cabin on Security Cove was visited by Refuge Manager Charles Strickland and Assistant Refuge Managers Lee Hotchkiss and Michael F. Smith on September 14th. It was found in terrible condition with trash inside and out. Personnel from the airforce DEW Line Station situated on Cape Newenham are reported to be using this structure. All terrain vehicle (ATV) tracks were found leading to this cabin from the airbase and from there fanning out over the uplands towards Nanvak Bay. Plans have been made to contact the airbase this winter and discuss the cabin regulations regarding ATV's and other matters.

Beachcombing for walrus ivory and oosiks, Japanese glass floats and other such treasures is popular among local villagers and the few outsiders who happen to be in the area during the summer months.

C. Commercial Fishing:

Although some commercial salmon fishing goes on in the area, herring fishing has become the big attraction here since it was commercially opened last year. Herring spawn in great numbers in the spring in Security Cove and the Bristol Bay area. Last year nineteen boats fished at the Security Cove area; this year several hundreds are expected to participate, all hoping to get rich on this high income, short season fishery. The roe is the most valuable part of the fish so they must be

caught as they come in to spawn on rocky shores. Native Organizations particularly Nunam Kitlutsisti fear that commercial over-harvest of this fishery will occur, leaving nothing for local use, as is the pattern in all other herring fishing areas. They would like to see the commercial season closed or opened only to locals.

D. Mining:

Mining on the refuge is allowed in the legislation creating Cape Newenham NWR. There is a platinum placer mine adjacent to the refuge on the Salmon River and several other claims on the refuge. The Goodnews Bay Mining Company has been operating since 1934 and smaller operations were operating prior to that. Platinum is a crucial metal as it is used as a catalyst in the fuel industry, and nearly all of the United States supplies come from foreign countries with the USSR being a large producer. Although platinum sells for about \$400.00 an ounce, the mine closed after its 1975 season because of operating expenses. We are aware that Anaconda is possibly interested in the operation now. We are presently evaluating the claims on the refuge to determine ways to minimize damage to the environment should there be mining activity.