

IZEMBEK NATIONAL WILDLIFE REFUGE
Cold Bay, Alaska

Including

Eastern Aleutians National Wildlife Refuge
Semidi National Wildlife Refuge
Simeonof National Wildlife Refuge



U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503

ANNUAL NARRATIVE REPORT
Calendar Year 1980

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



Frosty Peak as seen from refuge headquarters. The community of Cold Bay with 200 residents is in the foreground.

(303)2

Sarvis (3/11/81)

PERSONNEL

COLD BAY

1. John Sarvis, Refuge Manager, PFT, GS-12 6/23/74 - Present
2. Michael L. Nunn, Assistant Refuge Manager
PFT, GS-11 7/13/80 - Present
3. Sandra G. Dauenhauer, Assistant Refuge
Manager, PFT, GS-11 4/23/78 - 5/11/80 (Resigned)
4. Jessie Ambridge, Refuge Assistant,
Career-Seasonal, GS-5 11/18/79 - Present
5. William T. Allen, Automotive Mechanic,
Career-Seasonal, WG-10 1/27/80 - Present

CAPE SARICHEF

1. Robert F. Bartels, Wildlife Biologist,
PFT, GS-9 (transferred to Arctic NWR) 6/3/79 - 12/30/80
2. Hyrum D. Ferbrache, Maintenance Worker,
Career-Seasonal, WG-8 6/4/79 - 5/16/80 (Resigned)

Photos of staff are shown in text.

Sarvis - p. 15, 57; Dauenhauer - p. 20; Nunn - p. 25;

Ambridge - p. 53; Allen - p. 25, 57

Cape Sarichef: Bartels - p. 25.

Review and Approvals

John Sarvis 7/8/81
Submitted by Date Alaska Area Office (R-7) Date

Izembek
Refuge



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I General

A. Introduction

The Izembek National Wildlife Range was established in 1960 (Public Land Order 2216) with a boundary encompassing 415,300 acres dominated by wet and upland tundra. Within this area are approximately 95,000 acres of tide lands and lagoons owned by the State of Alaska. These areas have been identified as critical habitat by the State and are largely the basis for the identification and establishment of the refuge. Some of the largest eelgrass beds in the world occur in these shallow lagoons and this resource in addition to those in adjacent fresh water and terrestrial habitats support the large numbers of migratory waterfowl which characterizes the area in fall through spring. The brown bear and barren ground caribou, both impressive resident game species, occur commonly in the area as well.

The Izembek National Wildlife Range became the Izembek National Wildlife Refuge on December 2, 1980 with the signing of the Alaska National Interest Lands Conservation Act (ANILCA - P.L. 96-487) by President Carter. Under ANILCA sixteen refuges were either established, redesignated (such as our name change), or enlarged adding 53,720,000 acres to the NWRS for a total of 76.1 million acres of refuges in Alaska. The purposes for which each of these 16 refuges are to be managed were also changed and/or defined. In addition 13 refuge wilderness areas were established, totaling 18,560,000 acres. A wilderness area of 300,000 acres was designated for Izembek.

The Izembek NWR lies near the western terminus of the Alaskan Peninsula approximately 650 miles southwest of Anchorage. The refuge headquarters is in Cold Bay, Alaska, a largely Federal and State government town of approximately 200 people. The Cold Bay office also has responsibility for the administration of the Eastern Aleutian Islands NWR (lands east of Unimak Pass), the Semidi Islands NWR and the Simeonof Island NWR, all now part of the Alaska Maritime NWR. These latter areas support some of the largest seabird colonies in Alaska with a wide variety of species present. In addition, Unimak Island supports important populations of brown bear, caribou, fur-bearers, and a resident population of Whistling Swans. Adjacent coastal areas support rich and diversified populations of migratory waterfowl, marine birds and mammals, and fin and shellfish. Several fishery stocks exist in commercial quantities and activities associated with these resources increase on a seasonal basis.

Events of major significance in 1980 were the long and much delayed BLHP construction of residence, bunkhouse, garages and office addition, the closing of the Cape Sarichef field station, personnel changes and the eruption of Pavlof Volcano. With the exception of the latter event, these topics will be discussed in detail in later

sections. Pavlof Volcano stands at approximately 8200 feet and when visible, forms a major segment of the majestic mountainous formations lying to the east of Cold Bay. Pavlof is one of the busiest of Alaska volcanos and has "gone-off" several times in recent years, though not to the extent recorded during the recent eruption which began on 11 November. The fireworks were visible in Cold Bay, 30 miles to the southwest, due to clear skies, thereby increasing local residents' respect for the power of mother nature. Ash clouds reached an altitude of about 6.6 miles.

B. Climatic and Habitat Conditions

Average monthly temperatures for Cold Bay were above normal each month except January and February. The temperature extremes were -2°F on 22 February and 68°F on 26 July. Measured precipitation was above normal for all months except February, November and December. Climatological data recorded at Cold Bay are summarized in table 1.

Spring and early summer climatic conditions were favorable to the production of a good berry crop, some species of which (crowberry-Empetrum nigrum, primarily) are very important to several species of migratory waterfowl during fall migration as well as resident populations of willow and rock ptarmigan. Some berries as well as the roots of several forbs are also of seasonal importance to brown bears as well as some of the less formidable resident species. Throughout coastal Alaska, habitat conditions and the timing of its availability is closely tied to climatic conditions hence the monitoring of weather conditions is an essential part of most resource management programs.

C. Land Aquisition

On 2 December 1980, President Carter signed the Alaska National Interest Lands Conservation Act (ANILCA) (PL96-487) which established, redesignated, or expanded sixteen National Wildlife Refuges in Alaska. Included in this withdrawal was the 3.5 million acre Alaska Peninsula National Wildlife Refuge (figure 1). This refuge borders the Izembek NWR as well as the Becharof NWR and it is anticipated that until the area is funded and staffed, the administrative responsibilities will be absorbed by the two existing refuges it borders. The efficient and logical suggestion by this office was to make the Izembek NWR responsible for the Pavlof Unit of the Alaska Peninsula NWR and the Becharof NWR responsible for the remainder. Due to the movements of several resident game species it is felt that this division would complement management practices at Izembek and Becharof. It would make a biologically sensible management division of this new 300 mile long , but narrow refuge.

Table 1. Summary of Weather Data, Cold Bay, Alaska, 1980¹⁾

Month	Av. Temp. (°F)	Departure from Normal	Precipitation (inches)	Departure from Normal	Wind Speed (MPH) Average	Peak ⁽²⁾
January	23.5	-4.7	3.51	+1.09	18.2	52
February	25.4	-2.8	1.69	-0.90	17.3	44
March	33.7	+4.7	3.52	+1.59	19.2	53
April	35.6	+2.5	1.71	+0.17	16.5	52
May	41.4	+1.9	4.22	+2.03	18.3	54
June	45.9	+0.5	3.67	+1.83	20.4	53
July	52.9	+2.8	2.68	+0.46	17.0	44
August	51.5	+0.2	3.95	+0.06	16.1	56
September	48.1	+0.8	5.23	+1.28	17.0	47
October	40.3	+0.7	4.42	+0.11	14.6	41
November	36.4	+2.1	2.88	-1.02	15.9	40
December	32.0	+3.0	2.24	-0.21	19.7	45
1980 Summary	±/Mo 38.9		Total 39.7	(±/Mo 3.31)	±17.5	±48

1) Data reported by the National Weather Service, Cold Bay, Alaska

2) This figure is the fastest mile (i.e. it is the peak sustained wind for a one minute period). Peak gusts (of less than one minute duration) are much higher.

LEGEND

- Area of Environmental Concern
- Alaska Peninsula NWR Proposal Boundary
- Proposed Sub-Units:
 - ① Ugashik Unit
 - ② Chignik Unit
 - ③ Pavlov Unit
 - Izenbek NWR

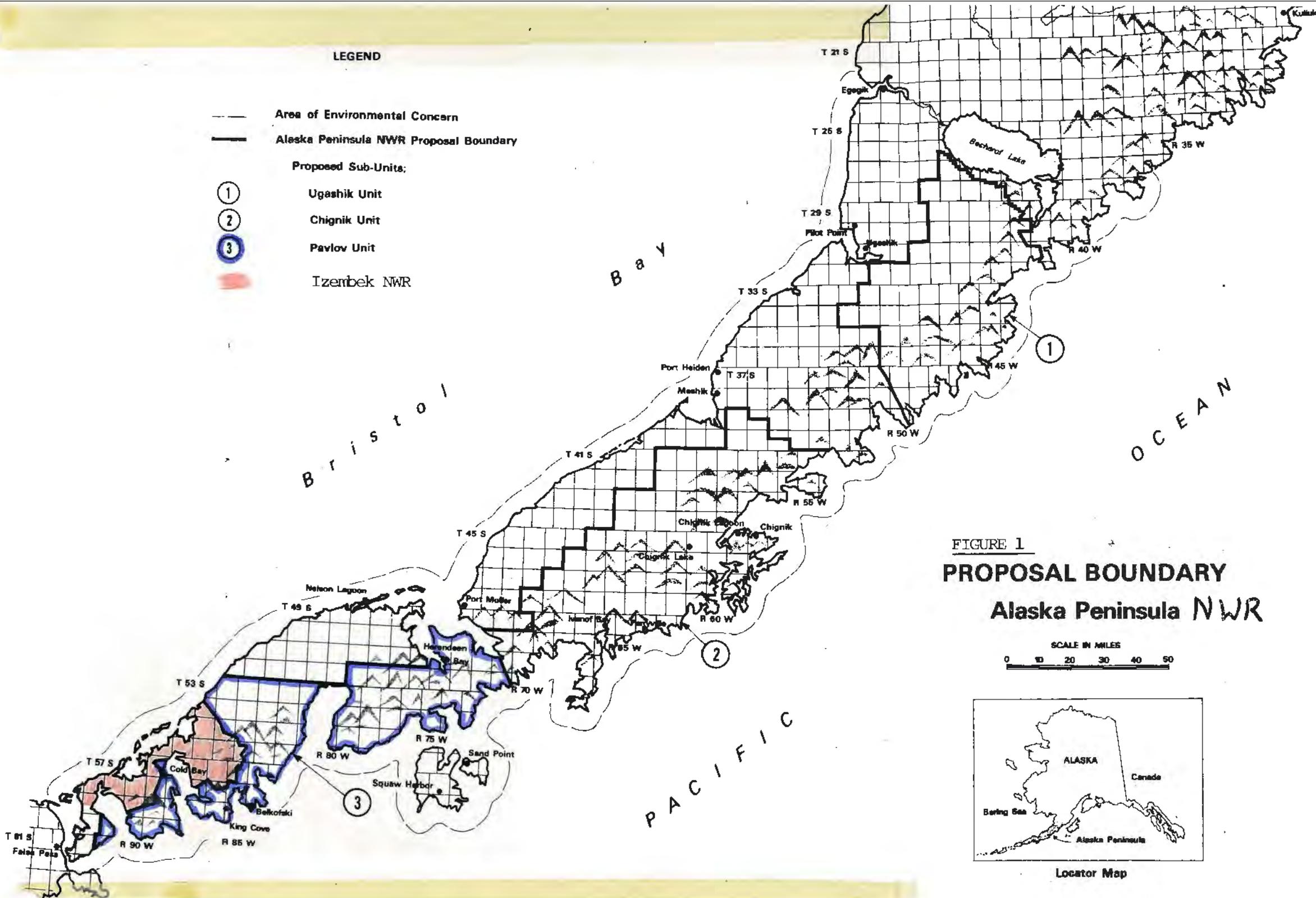


FIGURE 1
PROPOSAL BOUNDARY
Alaska Peninsula NWR

SCALE IN MILES
 0 10 20 30 40 50



Locator Map

D. Systems Status

1. Objectives

The following advices specific for Izembek NWR were listed in the FY80 Annual Work Plan for Alaska. The results follow each advice.

700 a. In accordance with Black brant flyway management plan, determine the size and age composition of the fall population of Black brant staging on Izembek Lagoon.

Results: Population size, age composition and mortality appraisals (i.e. family group counts) were completed (see section IV, B, Black brant).

700 b. With assistance from Waterfowl Investigations, develop for implementation in 1981, a survey on the Alaska Peninsula to determine population and monitor status of Emperor geese at 3-5 year intervals.

Results: Discussions and correspondence relating to the development of an Emperor goose survey in spring 1981 were initiated. Finalized plans will be developed in coordination with Waterfowl Investigations. Annual age composition and mortality appraisal was completed (see section IV, B, Emperor goose).

550 c. Conduct high visibility enforcement efforts on Izembek Lagoon during periods of most intensive public hunting pressure for migratory birds such as season openings and weekends to minimize illegal kill, particularly of Black brant.

Results: Continuous patrol and bag check work were done by refuge personnel with the assistance of personnel from the Law Enforcement division RO, Anchorage during goose charter weekends and periodic patrol was accomplished throughout the remainder of the season. Several citations were issued. In addition, all refuge signs were renovated or updated. Maps were posted depicting the designated road system and a public meeting was held to discuss the refuge and road system regulations (See section V, C, Enforcement).

750 d. Provide funding and logistical support to investigation of the wintering ecology of Steller's eiders on the refuge.

Results: A contract was developed between the University of Missouri, the Research Division (USFWS) and the Izembek NWR. The refuge contributed \$7000 to this project and researcher Keith Metzner arrived in August to continue field work begun in 1978. The annual capture operation for molting Steller's eiders was successful with 1,013 birds captured. Five hundred and twenty-two adults were fitted with plastic nasal saddles to facilitate field observation. Several hundred birds were weighed also. Aerial surveys were conducted in September through December (See section VI, B, Cooperative programs).

750 e. Conduct study of whistling swan population to determine population size, productivity, limiting factors and migration patterns.

Results: Considerable information was gathered during the Whistling swan study in 1980. Through some extraordinary logistical and physical efforts by the refuge staff, 38 new swans were captured, banded and neck collared. Six swans captured during previous years were recaptured and fitted with new neck collars. Additional data collected on captured birds included measurements, weights, parasites, blood smears and head photos. Approximately 236 resightings were made of neck collared swans in 1980. Winter aerial surveys were conducted on Unimak Island in November and January 1981 (see section IV B, Whistling Swans).

Mammals and Non-Migratory Birds (1220)

860 a. Complete cooperative agreements with native corporations that have selected lands within the Refuge.

Results: Not Completed.

860 b. Continue monitoring, cataloging, mapping and protecting midden sites on refuge lands and adjacent lands and develop recommendations on protection of these sites, possible conveyance, and alternatives.

Results: A master map with the locations of over 60 midden sites on Izembak NWR and 10 on Unimak Island was completed. Archaeological sites identified during aerial and ground or water surveys will be added when identified and all are being periodically monitored.

750 c. Maintain habitat for all MNB species on refuge with emphasis on brown bear.

Results: Public relations and information, aerial and ground patrol, vehicle and aircraft regulations, etc. were all used to accomplish this objective. Two citations were issued for off-road vehicular use.

750 d. Maintain a viable population of all MNB species on refuge and maintain specific stocks of the following:

- | | |
|----------------|-------------|
| 1. Brown bear | 125 - 225 |
| 2. Caribou | 3000 - 7000 |
| 3. Wolverine | 25 - 50 |
| 4. River Otter | 150 - 250 |

Results: Aerial and ground surveys indicate these objectives were met.

550 e. Reduce illegal killing of brown bear on refuge.

Results: Bear hunts were conducted and went smoothly after consultation with the Alaska Dept. of Fish & Game. Enforcement patrols were conducted during both the fall and spring hunts and bears were sealed using ADF&G sealing procedures and tags. No bears were known to be taken illegally (see section IV, C, Brown Bear).

700 t. Conduct summer brown bear census.

Results: Bear management plans for Izembek NWR and Unimak Island were prepared and submitted. A bear survey in August on Unimak Island revealed 91 bears (see section IV, C, Brown Bear) while on Izembek 104 bears were observed. Bear numbers were up considerably on Unimak due to more cubs of the year, and about the same on Izembek. Cubs have a high mortality rate; therefore increases on Unimak will have to be analyzed over a period of years.

750 g. Continue work on the brown bear telemetry study in accordance with the approved study plan, including capturing, marking and collar-ing and subsequent home ranges and movements follow-up.

Results: Study was inactive due to the unavailability of approved drugs. Two transmittered bears remain in the population, however their transmitter batteries have expired.

700 h. Conduct semiannual caribou census of Izembek and Unimak herds on an odd year basis.

Results: Survey of the Izembek NWR herd completed on November 21, 1979. Six thousand individuals were tallied.

700 i. Conduct monthly beached mammal transects.

Results: Several surveys and transects were run on an opportunistic basis.

Interpretation and Recreation (1240)

100 a. Base level funding of refuge operation.

Results: Operational accomplishments include public user contacts, public information meeting regarding road use, visitor inquiries, hunter contacts, and preparation and installation of three bulletin boards at public places. New bulletin boards have maps showing designated road systems, refuge regulations, news releases on swans and bears, bird lists, tide tables, and waterfowl shooting times.

120 b. Develop following materials to be incorporated into Public Use Management Plan to be developed in FY-81. -- Develop hunting, fishing and trapping plans for major game species.

Results: Hunting and fishing plans were prepared and submitted. Trapping plan has not been completed.

2. Funding and Staff: These are shown in Table 2.

Table 2. Funding for Izembek NWR (in thousands of dollars)

<u>FY</u>	<u>AUTHORIZED STAFF</u>	<u>1210</u>	<u>1220</u>	<u>1240</u>	<u>1500</u>	<u>Total</u>
70 ¹						45
71						48
72	3PFT, 1PPT					48
73	3PFT, 1PPT					51.2
74	3PFT, 1PPT, 1T					65.5
75	3PFT, 1PPT					95.5
76	3PFT, 1PPT, 2T	113 ²	12		5	130
76 (IQ)	3PFT, 1PPT, 2T	(12)	(4)		(3)	19
77	3PFT, 1PPT	93 ³	17		5	115
78	4PFT, 1PPT, 1T	122 ⁴	25 ⁵	20 ⁶		167
79	4PFT, 1PPT, 1T	128	35	15		178 ⁷
80 ⁸	3PFT, 3PPT, 1T	169	40	16		225
81 ⁹	3PFT, 2PPT	160	75	13		248

¹Prior to FY70, Izembek funds were included in Aleutian Island Budget.

²Included #33,000 for rehabilitation of Headquarters and Grant Point Road (gravel).

³Includes \$3,000 for rehabilitation of Grant Pt. buildings.

⁴Includes \$9,000 cyclic maintenance.

⁵Includes \$10,000 ANCSA

⁶Includes \$15,000 cyclic maintenance.

⁷Includes funding for 3 months' operation and salaries at Cape Sarichef, Unimak Island, Eastern Aleutians NWR.

⁸Includes 1PFT, and 1PPT ceiling and funding for Cape Sarichef field station, Eastern Aleutians NWR.

⁹One PFT ceiling and one PPT ceiling vacated due to closing of Cape Sarichef field station. One PFT ceiling filled at Izembek

II Construction and Maintenance

A. Construction

Since early 1978 Izembek has had a personnel ceiling, (originally planned to be a wildlife biologist, then a refuge manager trainee, and finally back to a wildlife biologist) that could not be filled due to an absence of housing in the area. Housing for temporary employees and an addition to the office was also necessary. During 1978, a BLHP project was hatched to remedy the situation.

The total refuge input consisted of a project description worksheet and two telephone conversations; one involving the relative size of the individual offices and the other regarding the type of house to be built. It was decided that the manager's office would be the larger of the four and that the residence would be constructed on the same floor-plan as the existing residences. From this point, engineering carried the ball without refuge input or knowledge, in order "to save us the trouble" as we were later informed.

Late in the summer (field season) a building contractor showed up at the headquarters asking questions about where the house and bunkhouse were to be located. The contractor had the plans for the development, and RM Sarvis got to see, for the first time, the facilities we would get.

The floor plan of the house had been modified somewhat, but was basically the same as the existing residences. The bunkhouse however was another matter. The refuge staff had envisioned a rather spartan affair with a minimum of amenities, but the plans called for a structure with 4 large bedrooms, 2 bathrooms, a large living and dining room and a kitchen complete with a dish washer -- strictly first class. This rather extravagant bunkhouse was all the more disconcerting since the additional money used on this could have been better spent putting badly needed new roofs and siding on the 3 old residences. At this point the project had been put out for bids and no major changes could be made.

In September 1979 a contract for the project was awarded to G.C. Contractors, Inc. of Anchorage. Bids ranged from a low \$647,757.00 (G.C.) to a high of \$975,000.00. The project included construction of a 1232 square foot residence to house the biologist, a 1568 square foot bunkhouse for up to 8 temporary employees, a 4 office addition and metal roof and siding for the existing office/shop building, and 4 single car garages; one at each residence.

Construction began on April 21, 1980 and was to be completed by August 15. The project was plagued with problems from the beginning. Allen, Sarvis and Dauenhauer were kept busy for several days shaking



Housing for the BLHP construction crew and all construction materials were barged in and unloaded at the Cold Bay dock, partially explaining the exorbitant costs for construction here.

(256) 34

Sarvis (4/16/80)



The 4 office BLHP addition to the existing office/shop building provided much needed office space.

(265) 27

Sarvis (5/30/80)

gravel for the concrete work. The G.C. construction crew continually had to jury-rig heavy equipment that they had rented from a local man to keep it operational. They found themselves using a crane that would not pivot and pulling a cement mixer truck with a front end loader because the truck had no front wheels. The concrete was delivered to the forms with a back hoe bucket.

Problems were also experienced with the back hoe continually digging into cable and lines that were not where the map said they should be. The main power line was cut as well as numerous abandoned cables and wires, some dating back to WWII. When the crew foreman became upset about all the wires, maintenance man Allen, who was project inspector, set his mind at ease with the following instructions, "Keep digging, if you hit something and nobody shows up in 5 minutes, don't worry about whatever it was."

By the end of June it was evident that the August 15 deadline would not be met, due to material shortages and other delays.

G.C. was given an extension until Sept. 20, and the crew moved out on August 20 without having completed the job. They were to return to install thresholds, hardware and light fixtures when the materials came in. We saw nothing of them the entire month of September. They returned on Oct. 6 and then asked for a final inspection on Oct. 9. When the smoke cleared, Rudy Berus of Engineering (who conducted an excellent inspection) had compiled a punch list of 8 pages containing 111 items of deficiency. The construction crew of 2 to 3 people worked for a couple of weeks and then disappeared again. Meanwhile, G.C. was being assessed \$196/day in liquidated damages for not meeting the extended deadline. On Nov. 13 another "final" or "post final" inspection was conducted. Many of the items on the first punch list had been corrected, however Berus and contracting officer Hickey were not satisfied, and none of the buildings were accepted. Finally on Dec. 31, after much negotiation, beneficial occupancy was taken of the entire project. Our jubilation at having use of the buildings was rather short-lived. Within a few weeks the furnace in the residence was found to be inoperative because no fuel was reaching it. The tank was dug up and a defective fuel line located and replaced. Next it was noticed that the house did not have power at 220 volt outlets. Again the defective line was located and replaced by maintenance man Allen. Other "minor" problems experienced include: siding blowing up, dirt filtering through the walls, paint peeling and improper installation of the hot water heater, among others.

It seems that this project will provide job security for Allen for at least the next several years. Nevertheless the job is finally completed and the Izembek staff now has adequate housing and individual offices.



The BLHP bunkhouse - under construction in this photo - will provide first class accommodations for temporary employees and cooperators. It was badly needed since no vacant or temporary housing exists in Cold Bay.

(274)8

Sarvis (7/18/80)



The office/shop building after BLHP remodeling. Four offices, aluminum siding, and a metal roof were added to the old building.

(288)2

Sarvis (10/9/80)



The nearly completed BLHP residence which will house the wildlife biologist.

(288)24

Sarvis (10/9/80)

In August, G.C. was issued a \$1900 P.O. to finish the Grant Point building which was erected by refuge staff. They installed insulation, overhead doors, and "weather-proofed" the building while waiting for materials to arrive for the headquarters project. This building has proved to be an invaluable facility for storing boats, motors, and other equipment in close proximity to the launching area for Izembek lagoon.

B. Maintenance

Maintenance man Allen arrived Jan. 28 to fill a position that had been vacant for nearly 2 years. Needless to say the back log of work was mind boggling. Bill started with getting all the vehicles running and replacing the rusted out bed on the IHC pick-up.

New hot water heaters and water softeners were installed in all 3 quarters. Floor tile was installed in the kitchen, dining room and bathroom of Qtrs. 1 and 2 and in the kitchen of Qtrs. 3. The bathrooms also required replacement of sub flooring. Several broken windows were replaced and furnaces were made to operate properly. Shingles that had been blown off all the roofs were replaced and the edges nailed. Understandably all residents were deeply appreciative of the work that was accomplished.

The hangar doors were adjusted to slide more smoothly and roof bolts that had rusted away were replaced to prevent wind damage when the door was opened. Generator problems at the Cape Sarichef field station were corrected and Biologist Bartels was given instructions in the care and feeding of the 160 KW Caterpillar monsters. The Northern radio and antenna were repaired. Experience and ingenuity of this nature are invaluable in a bush setting. The work listed above is just a sample of the myriad of tasks that were accomplished.

C. Wildfire

Nothing to report.

III Habitat Management

A. Introduction

A proposal to place approximately 300,000 acres of the Izembek NWR within the Wilderness Preservation System came to pass on December 2, 1980, with the passage of ANILCA, or as it has long been termed the Alaska Lands Act. (Figure 2). The original proposal for wilderness designation was made in 1970 with action being postponed until the Act as a whole was made acceptable to Congress and the President. Management practices have long followed guidelines considering the area as de facto wilderness.

The integrity of the refuge as a high quality wildlife and public use area has been maintained since establishment. The conveyance of lands within the refuge complex to adjacent village corporations (i.e. approximately 76,750 acres), the increase in interest and development of shore-based fishery processing facilities and the pending lease of offshore waters of the Bering Sea for petroleum exploration in 1983, all promise to increase the complexity of management responsibilities.

No physical alterations to the habitat have been necessary so far. Basic management consists of protecting a still naturally-functioning ecosystem rather than restoring habitat.

B. Wetlands

The boundary of the Izembek NWR includes approximately 94,500 acres of State-owned lagoons and tide lands. These areas within Izembek Lagoon are designated as a State wildlife refuge (114 SLA 1960; Chapter 20, Article 1) thereby providing the area with a more protective land classification. The Izembek NWR, as was the case with several other NWR's within the State, was designated a State Wildlife Refuge shortly after establishment.

C. Other Habitat

Approximately 75.1 percent of Izembek NWR is terrestrial habitat with 81.4 percent of that being upland, Ericaceous tundra. This habitat is an essential element in the production of forage for waterfowl, primarily geese which rely heavily on crowberries, and caribou which utilize several lichen species. The stand of berries in 1980 was above average in most areas.

The boundary shown includes lands affected by the Submerged Lands Act and the Alaska Statehood Act. The total area is a complete ecological unit essential to wild-life needs.

Names given are in common use locally and not necessarily identical with current official maps.

B E R I N G S E A

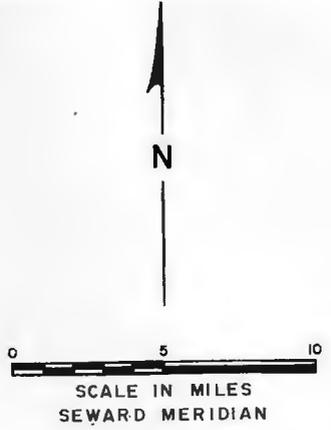
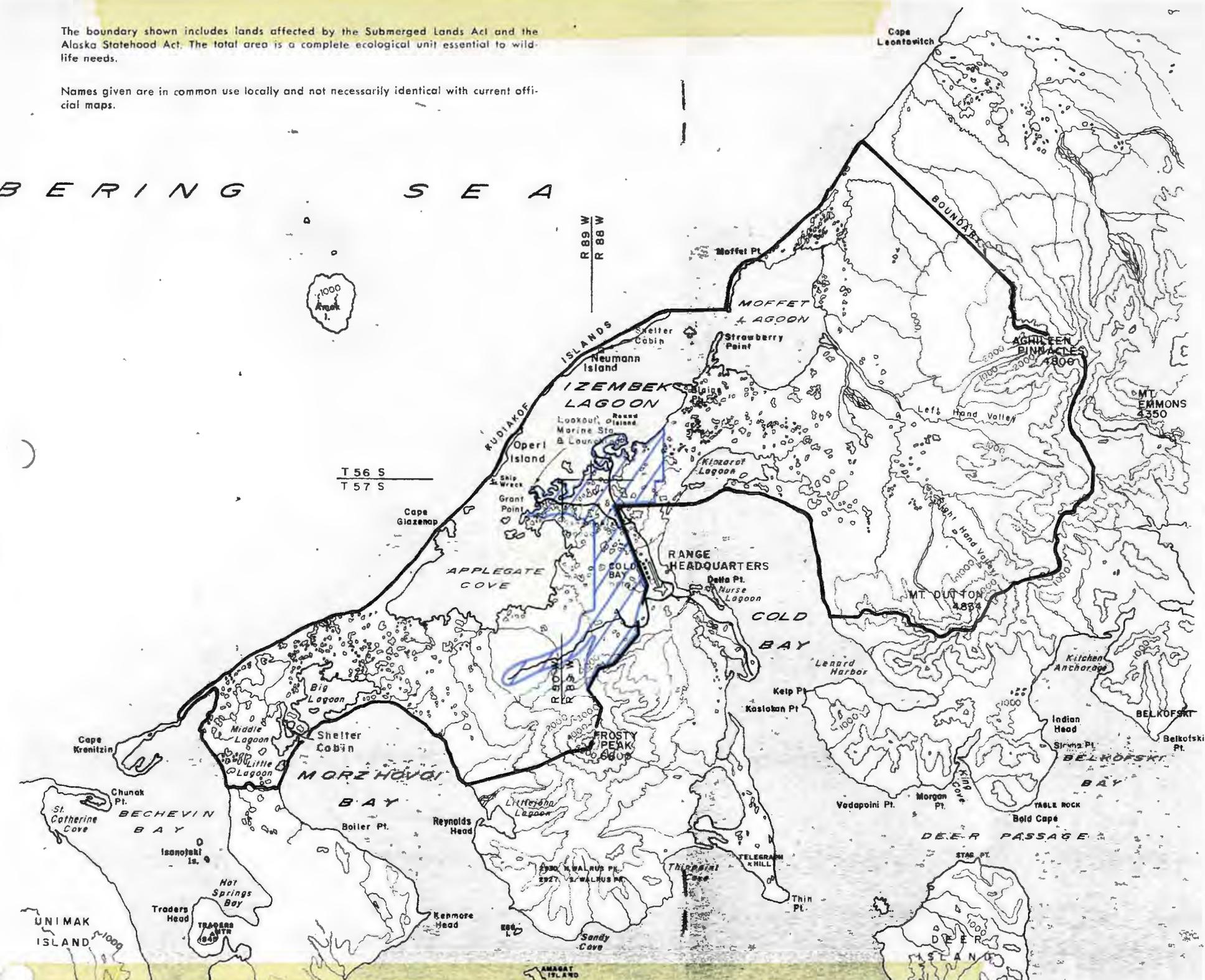


FIGURE 2
IZEMBEK NWR

— Refuge boundary
 Area excluded from wilderness designation

PLAN
 LEGEND
 — EXISTING
 — PROPOSED
 □ SALT WATER
 □ FRESH WATER



Refuge Manager John Sarvis keeps an ever watchful eye on refuge resources.

Nunn (10/24/80)

IV Wildlife

A. Threatened or Endangered Species

The endangered Aleutian Canada goose (Branta canadensis leucopareia) may occur on the Izembek NWR during spring or fall migration to and from their western Aleutian nesting areas, however this use has not been documented by observation. In addition the Arctic and American races of the peregrine falcon (Falco peregrinus tundrius and F. P. anatum, respectively) may occur in the area during migration, however use by these species has not been documented either. The non-endangered or threatened Peale's race of the peregrine falcon (F.P. pealei) is a fairly common resident of the area.

B. Migratory Birds

Birds banded under the refuge Master Banding Permit 20826 are shown in Table 3.

Whistling Swan

The year began with the majority of the Izembek and Unimak Island resident Whistling Swan population wintering as usual at Peterson Lagoon on Unimak Island. Aerial and ground counts of the Uria Bay area (which includes Peterson Lagoon) on Jan. 2, 7, 9 and Feb. 6 revealed 458, 494, 533, and 573 respectively. A maximum of 17 marked swans were also observed (on Jan. 9).

Though most freshwater was still frozen in mid-March, swans began moving back onto Izembek refuge. Forty-nine were observed on March 26 in the central Izembek and Mortensen's Lagoon area.

The first swan nesting occurred on April 24 on an island in a lake near the south end of Izembek Lagoon. This is the second year in a row that this nest site was the first to be occupied (4/25 in 1979). Peak of nest initiation and egg laying occurred the first week of May. The spring nesting survey was done May 14 and 15 with 233 birds counted on Izembek and surrounding areas (Table 4). Unimak Island was not surveyed, but about 150 to 200 swans were estimated using the island.

Thirty nests were counted during the spring survey with 4 additional nests found incidental to other work. Of the 34 nests located on Izembek NWR and adjacent areas (not including Unimak Island), 17 (50%) hatched, 15 broods with 51 cygnets (av. 3.4) were found within 10 days of hatching, and 10 of the broods with 22 (av. 2.2) reached flight stage (Table 5). This pattern of high mortality appears to be normal in this predator-laden, severe-climate area.

Table 3 Birds Banded at Izembek NWR, 1975 - 1980

Species	Year						Total
	1975	1976	1977	1978	1979	1980	
Pelagic Cormorant					1		1
Whistling Swan	3		4	27	17	38	89
Canada Goose			109	143		66	318
Black Brant		26					26
Emperor Goose		2					2
Mallard		1					1
Pintail				98		5	103
Greater Scaup						5	5
Steller's Eiders	886	457	1405	502	516	941	4707
Rock Sandpiper					12		12
Dunlin					2		2
Lapland Longspur	14	9	4				27
Snow Bunting	201	162	15	33	105	19	535
McKays Bunting	25	1		7	8	1	42
Common Raven	31				1		32
Wilson's Warbler	1						1
Grey-crowned Rosy Finch	45	128	50	40	113	147	523
Savannah Sparrow	19	1				2	22
Song Sparrow						3	3
Totals	1225	787	1587	850	775	1239	6451

Table 4 Spring Surveys of Whistling Swans (area of coverage: Izembek NWR, Cathedral Lakes, lakes so. of Cold Bay to Thin Point, and West Morzhovoi Bay)

Category	No. Swans observed (% of total)		
	5/8/78 ¹⁾	4/25 & 28/79 ²⁾	5/14 & 15/80
Singles	6 (8%)	10 (5%)	9 (4%)
Swans in nesting pairs	18 (23%)	24 (12%)	60 (26%)
Swans in other pairs	26 (33%)	96 (47%)	84 (36%)
In groups	28 (36%)	75 (36%)	80 (34%)
Total	78	205	233
Area Covered (sq. mi.)	315.5	413.9	413.9
Density	.25/sq.mi.	.50/sq.mi.	.56/sq.mi.
No. collared swans seen	n.a.	12	1

1) Cathedral lakes, lakes so. of Mortensen's Lagoon, and West Morzhovoi Bay areas not covered; other areas not covered thoroughly.

2) Survey done too early to include peak of nesting.

Table 5 Whistling Swan Production (Izembek NWR & vicinity)

Parameter	1977 ¹⁾	1978 ²⁾	1979 ²⁾	1980
Nests with known clutch				17
Number eggs				82
Mean clutch				4.8
Total Nests	?	14+	17+	34
No. Hatched	10+	19+	7+	17 (50%)
1st Observation - No. broods (cygnets)				15 (51)
Last Observation before 9/1 broods (cygnets)	10 (34)	9 (28)	7 (17)	10 (22)
Date of last Observation	7/22	7/21,8/8	7/18	numerous

- 1) Swan surveys not done before 1977 due to no aircraft at station
- 2) Total nests deduced in 1978 and 1979 from a combination of nest surveys done too early and later brood surveys



A collared and banded pair (61 & 16) of Whistling Swans on the take-off run.

(310)6

Sarvis (4/15/81)



Assistant refuge manager Sandy Dauenhauer weighing whistling swan eggs. Sandy left FWS in May to return to graduate school.

(84)18

Sarvis (5/25/78)

In 1980, nesting and brood chronology and mortality were followed more intensively. Due to the inaccessibility of many areas of the refuge, it is often impossible to get clutch size information by boat or foot. In addition, a low pass in an airplane usually will not cause the swan to stand up. Thus it is often impossible to get clutch size information. Once a nest hatches it is possible to observe the same brood with reliability up until flight stage due to the normally distinct and separate territories of each pair with a brood. Table 6 summarizes the information on those nests in 1980 that we were able to follow from known clutch size to flight stage.

In 1980, 35 eggs were measured yielding a mean length of 107.8mm and width of 70.3mm. Mean weight of these 35 eggs was 262g. with most weights taken at mid-incubation or later.

The molt began about July 15 and neck collaring and banding began on July 21. A total of 44 swans were captured of which 9 were cygnets and 6 were recaptures from previous years (Table 7). Of the six recaptures, only two still retained their collars and one of these was so badly cracked it would have fallen off any day. A new stronger collar design with a far more visible two-digit code (photo) was utilized this year. This collar (made of 1/8" thick material, rather than 1/16") is a vast improvement over the former design in both strength and legibility. Our number of resightings has increased many times over the resightings for the first 2 years of neck collaring.

In addition to putting a standard FWS metal band, neck collar, and color leg band on each bird, we recorded age, sex, plumage characteristics, eye color, size of yellow spot on lores, bill, wing, and leg measurements, weight, and presence or absence of external parasites. We also took a blood smear and photos of facial pattern.

This was the most successful banding season of the 3 years we have been neck collaring swans due to extra effort and a more experienced crew. Various drives involved aircraft, foot travel, boats, and any combination of methods we could devise to get to the birds' location. On one drive we had to portage the boat and motor miles from the road into 9 different lakes before finally reaching the lake the swans were on. On another we hauled the inflatable boat and motor in the refuge Super Cub airplane and landed on the beach, then shuttled the banding crew to the same location. The boat was then inflated, swans were captured 2 miles away and then the whole process was reversed. On another drive a combination of 50 knot winds, tides, and darkness caused the 4 of us to spend the night anchored in a 21 foot dory. Four bleary-eyed banders finally arrived at the office at 8:30 the next morning, prompting the clerk to remark, "You're late for work today!"

Table 6 Summary of 1980 successful Whistling Swan nests with known clutch size and at least one brood observation.

Nest No.	Clutch	Hatching Date	Sightings of Cygnets (age in days)		
			First	Intermediate	Last
17	3	5/29	3 (2)	3(7)--1(14)	0 (\leq 19)
18	6	6/7-10	4(1-4)	4(23-26)--3(29-32)	3(83-86)
19	8	6/4	7 (3)	6(8)--5(23)	5(77)
22	5	6/12-15	2(2-5)	1(12-15)	1(47-50)
24	5	5/30	4 (1)	4(28)-3(32)	3(75)
25	5	5/30	5 (1)		0 (\leq 6)
29	5	6/28	4 (3)	2(3)-2(5)-1(11)-1(27)	0 (\leq 34)
Total	7	37	29		12
Mean or %	5.3		78% eggs hatched ¹⁾		32% eggs to flight stage 41% class I to flight stage

1) Minimum egg hatching success since more eggs may have hatched, but the cygnets died before the first brood observation.

Table 7

Summary of Whistling Swans banded and neck collared on Izembek NWR (original capture only)¹⁾

Date	Location	Method	Age-Sex						Collar Nos.
			ASY-M	ASY-F	SY-M	SY-F	L-M	L-F	
7/17/78	Swan Lake	Boat/foot		1			2		T301, T302, T303
7/26/78	Lamprey Lake	Foot	4	1	2	1			T304 - T311
7/26/78	VOR Lake	Boat	1	1					T312, T313
7/28/78	Rescue Lake	Boat/foot	1	1					T314, T315
8/2/78	Lamprey Lake	Boat		1					T316
8/3/78	Lake #5	Boat/foot	1	1			2	3	T317 - T322, T324
8/4/78	Y Lakes	Boat/foot	1				1		T323, T325
8/4/78	Bluebell Lake	Boat	1	1					T326, T327
7/20/79	Lake #6	Foot		1					T328
7/21/79	Lake #9	Boat/foot	1	1		1			T330, T331, T332
7/23/79	VOR Lake	Boat	1	1					T333, T334
7/24/79	Swan Lake Alt.	Foot	1						T335
7/25/79	Morzhovoi Lake	Boat		4	3	2			T336 - T342, T344, T346
7/21/80	Lamprey Lake	Boat/foot			1	1			43, 46
7/21/80	Lake #23	Boat/foot/plane	1	1					45, 48
7/22/80	Crabarm Lake	Boat/foot	1	1	1	1			49 - 52
7/23/80	New Record Lake	Boat	3	3					47, 53 - 56, 58
7/24/80 ²⁾	Swan Lake Alt.	Boat	1	1					59, 60
7/25/80	Y Lakes	Boat/foot	1	1			1	2	61 - 64, 66

(Continued)

Summary of Whistling Swans banded and neck collared on
Izembek (original capture only)¹ (Continued)

Date	Location	Method	Age/Sex				L-M	L-F	Collar No.
			ASY-M	ASY-F	SY-M	SY-F			
7/26/80	Morzhovoi Lake	Boat/foot		1	2	2			65, 67, 68, 70, 72
7/30/80	Bluebill Lake	Boat/foot	1	1			2	3	69, 71, 73, 74, 76, 78, 80
8/5/80	Lake #33	Boat/foot	1	1					75, 82
8/8/80	Bering Inlet	Plane/boat/foot		2					84, 86
Totals			21	26	9	8	8	8	80

1) In addition, T313, and T326 were recaptured in 1979, and T304, T310, T311, T316, T323, and T339 were recaptured in 1980

2) In addition, one cygnet was captured that was too small to be collared, put on FWS band only.



The chase is over for the Bluebill Lake brood and they are now one step away from being released.

(277)19

Sarvis (7/30/80)



Jason Nunn (foreground), maintenanceman Bill Allen (center), and assistant refuge manager Mike Nunn releasing the Swan Lake pair and their cygnet.

(276)10

Sarvis (7/24/80)

The normal procedure we have evolved entails surrounding the molting lake with people and then using a boat and dip net to catch the swans. The swans prefer to handle the drive differently and often "hoof-it" across the tundra. So quite often plan A degenerates into a free-for-all foot race with every bander and swan for itself.! Anyone who thinks it is easy or even possible to run down a flightless swan in the tundra just hasn't tried it.

In September and October swans move throughout the area. By late October they begin moving to Peterson Lagoon in the Urilia Bay area of Unimak Island where most spend the winter. On October 22, 24, 28, and Nov. 2, swans in the Urilia Bay and Swanson Lagoon areas numbered 63, 73, 189 (4 collared) and 148 respectively. On Jan. 20 (1981) there were 540 (16 collared) on Unimak Island.

In 3 years of banding, we have now neck collared 80 swans. As of November 30 we have resighted 56 of the 80 at least one time for a 70% resighting rate and have compiled 377 resightings and 782 total observations of individual birds (Table 8).

Our most observed individual so far is number 23 with 37 observations. He and his mate, T328, raised broods in 1977, 1978, and 1979 (and possibly prior years) in the Y lakes area of the refuge. Their proximity to town and the road system caused them to be readily observable.

In 1980 there was again a nesting pair and subsequent brood in the Y lakes area. The parents were uncollared so we assumed they were 23 and T328 who had lost their collars. But then to our surprise when we captured the family group the parents were unbanded and we captured 23 molting without T328 in an area 10 miles away. It appears something happened to T328 and another pair took over the Y lakes area. This new pair is now collared 61 and 62. They and their 3 cygnets are rapidly becoming our most observed birds. But wait until next year's narrative report when 61 (a male) was with a new mate, did most of the incubating, and possibly had the main influence on nest site and territory selection!

Another long term pair disappeared (or was displaced?) from Swan Lake in 1980. Prior to 1980, T301 and T335 nested at Swan Lake for 2+ years. This year a new pair had a late nest there and hatched 4 cygnets on June 28. This pair was later collared 59 and 60 and they returned in 1981.

After 3 years of neck collar sightings all winter in the Izembek and Unimak Island areas we concluded that we have North America's only non-migratory swan population. And as you might guess, about that time we got reports of 3 of "our" swans being sighted in the Lower 48. Number 11 was observed in Oregon, 55 in California and 70 in Washington, all in December 1980.

Table 8 Summary of neck collared Whistling Swan resightings

Time Period	Year Collared			Total
	1978	1979	1980	
Prior to collaring 1)	30	34	261	325
Banding thru fall - 1978	120			120
Winter - - 1979	12			12
Spring to molt - 1979	51			51
Band thru fall - 1979	15	23		38
Winter - - 1980	10	15		25
Spring to molt - 1980	16	0		16
Band thru fall - 1980	20	1	174	195
Resightings after collaring	217	23	137	377
Total Observations	274	73	435	782
No. Collared	27	16	37	80
No. resighted at least once	25	9	22	56
% Resighted	93%	56%	59%	70%

1) Consists mainly of observations of individually recognizable broods and parents prior to initial collaring and banding.



Has anyone seen this before (write us if you know anything about the cause)? This swan's tongue had fallen through its lower bill! The bird's tongue was repositioned, it was neck collared (84), and released. Surprisingly, she has been observed several times since release and even nested in 1981. Her tongue has stayed in place ever since release.

(280)4

Sarvis (8/18/80)

Number 11 was of particular interest. She flew out of the fog in the town of Monmouth, Oregon and collided with a tree. She was picked up and taken to Baskett Slough NWR where it was released a couple of days later, apparently none the worse for wear. Number 11 was banded as a one year old bird and spent her second and third winters on Unimak Island before this observation in Oregon, her fourth winter! We concluded that, though she was used to landing in our notoriously foggy weather, trees were a new and formidable experience since we have no trees here!

Black Brant

The annual fall production and family group counts were begun in September and continued through October. During this period a total of 12,949 Black Brant were classified as to age from various observation points on Izembek Lagoon. Of these, 3341 (25.8%) were birds of the year. This is 0.3 percentage points above the 18 year average. (Table 9).

Family group counts provide an index of survival through the brood rearing period and fall migration. This year 177 families with a total of 489 young were recorded, giving an average family group size of 2.76 which is 0.05 percentage points above the 15 year average, (Table 10). On the Clarence Rhode NWR, refuge personnel recorded an average clutch size of 4.09 eggs and an average Class I brood size of 2.88 birds (i.e. birds one week old or less) which suggests that mortality was greatest during the nesting period with good survival throughout brood rearing and fall migration. Storm tides on the Yukon-Kuskokwim Delta were again a major cause of brant mortality during the nesting period.

Brant numbers on or adjacent to the Izembek NWR peaked in October with aerial surveys on 30 September and 29 October revealing 122,145 and 133,228 birds respectively in the major lagoon and bay systems. Most if not all of the Pacific flyway population of black brant utilize these waterbodies during the fall staging period from mid-September to early November. Brant become restless during the latter part of the period. When an appropriate weather system with north-westerly winds moves through, the population departs, usually en masse. This departure occurred on the night of November 6 in 1980 when an estimated 60% of the population departed. By the end of November, all of the brant had moved south except for an estimated 2-3000 birds which usually remain on Izembek Lagoon during mild winters or in coastal areas in the Sanak and Shumagin Island groups south of the Alaska Peninsula.

The mid-winter inventory of Black Brant along the coasts of Washington Oregon, California and Mexico conducted in January of 1981, revealed a population of over 194,000 birds, the highest count ever recorded (Table 11). This information suggests that either a significant number

of brant by-pass the Izenbek NWR and adjacent areas during fall migration and hence are not picked up in our surveys or our survey design does not account for all the birds present. Other survey techniques including aerial photography continue to be evaluated in the hopes of designing a cost efficient survey with a high degree of accuracy.

Table 9 . Annual Black Brant Production Counts, Izenbek NWR

<u>Year</u>	<u>Adults</u>	<u>Juveniles</u>	<u>Total</u>	<u>% Juveniles</u>
1963	3968	1243	5211	23.9
1964	13324	4577	17901	25.8
1965	21210	5050	26260	19.4
1966	9927	7134	17061	42.0
1967	15219	3081	18300	16.8
1968	15110	3117	18227	17.1
1969	12829	3577	16406	22.1
1970	12104	6256	18360	34.3
1971	4820	1953	6773	29.0
1972	6599	3698	10197	36.3
1973	12025	4999	17024	29.4
1974	13118	632	13750	4.6
1975	9396	5452	14848	36.7
1976	7962	4340	12302	35.3
1977	8856	4092	12948	31.6
1978	10696	1842	12538	14.7
1979	13674	2349	16023	14.7
1980	9618	3341	12949	<u>25.8</u>

18 yr+25.5%

Table 10 Black Brant Family Group Counts at Izembek NWR, 1970 - 1980

No. of Juveniles	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1966 - 1980 \bar{x} No. \bar{x} % (\pm 1 SD)	
1	17	69	30	45	26	22	36	49	13	22	26	33.7	16.1 \pm 4.1
2	32	102	39	95	44	66	59	77	31	64	47	65.1	31.4 \pm 6.8
3	34	65	45	87	19	48	78	71	29	37	57	59.0	27.9 \pm 4.6
4	41	49	25	70	13	31	40	29	24	17	39	35.1	17.1 \pm 4.6
5	18	8	11	22	2	14	19	13	10	5	7	11.4	5.8 \pm 2.9
6	3	2	3	5	1	5	4	1	3	0	0	2.5	1.3 \pm 0.9
7	3	0	0	2	0	3	1	0	0	1	1	0.9	0.5 \pm 0.6
8	0	0	0	1	0	0	0	0	0	0	0	0.1	0.04 \pm 0.11
9	0	0	0	0	0	0	0	0	0	0	0	0.07	0.02 \pm 0.08
Total Families	148	295	153	327	105	189	237	240	110	146	177	209	
Total Juveniles	476	716	416	938	239	543	674	603	326	361	489	534	
Mean Family Size	3.22	2.43	2.72	2.87	2.28	2.87	2.84	2.51	2.96	2.47	2.76	2.71	

Table 11 Black Brant Mid-Winter Survey Data

Year	Location				Total
	Washington	Oregon	California	Mexico (W. Coast)	
1975	6,163	1507	480	115,340	123,490
1976	7,540	1769	680	112,056	122,045
1977	13,611	2100	0	130,756	146,476
1978	18,100	1110	560	143,117	162,887
1979	8,078	1255	10	120,070	129,413
1980	10,107	1790	540	181,760	194,197



Black brant winging over Izembek Lagoon on a rare calm day (Amak Is. in background). The entire Pacific flyway brant population utilizes the eelgrass beds of Izembek lagoon as a staging area for two months each fall.

(294)29

Sarvis (10/28/80)



Canada goose flock in Izembek lagoon with the Aghileen Pinnacles (refuge North boundary) and Pavlof volcano in background.

(293)4

Sarvis (10/28/80)

Canada Geese

The fall rocket netting project for Taverners Canada geese was begun on September 22, 1980. A total of 66 birds were captured in 3 firings of the net with two of these birds banded previously on the Izembek NWR. The 1977 through 1980 banding results are summarized in Tables 12 & 13.

The Izembek NWR is a major fall staging area for Canada geese nesting on Alaska's coastal plain, primarily in Northwestern Alaska and on the Yukon-Kuskokwim Delta. The distribution and migration of this subspecies is poorly known and banding efforts on the Izembek NWR have identified the Willamette Valley in western Oregon as a major wintering area. Refuge Manager Sarvis and Wildlife Biologist Dau have assisted on the data summarization and formulation of a Pacific Flyway Lesser Canada Goose Management Plan which designates biological data needs and management procedures.

The refuge staff performed aerial surveys of all Izembek NWR lagoons and south of Cold Bay on September 30 and October 29 and recorded 22,817 and 47,390 Canada geese, respectively. These data suggest when the population peaked, however the numbers observed may be below the actual population level. The fall staging population began arriving at Izembek NWR on about August 20 and the bulk of them departed the area in the first week of November.

Table 12. Taverner's Canada Geese Banded at Izembek NWR
1977 - 1980

Date	Adult (AHY)		Juvenile (HY)		Unknown Female	Total
	Male	Female	Male	Female		
<u>1977</u>						
October 7	10	13	18	11	1	53
October 18	7	9	20	20		56
<u>1978</u>						
October 15	9	13	21	25		68
October 18	7	4	7	12		29
October 19	6	3	7	7		24
October 27	2	2	9	9		22
<u>1980</u>						
September 29	15	18	15	18		66
Totals	56	62	97	102	1	318

Table 13 . Recoveries of Taverner's Canada Geese Banded on
Izembek NWR, 1977 - 1980

Year	Age/Sex ¹⁾	Number Banded	Recoveries by Hunting Season After Banding			
			1 ²⁾	2	3	4
1977	AHY M	17	2		1	
	AHY F	22	2	1		1
	HY M	38	2		1	
	HY M	31	3		1	1
	U F	1				
1978	AHY M	25	1	1		
	AHY F	22		1		
	HY M	43	2	1		
	HY F	53	2	2	1	
1980	AHY M	15				
	AHY M	18	2			
	HY M	15				
	HY F	18				
Totals		318	16	6	4	2

1) AHY = After hatching year; HY = Hatching year; U = Unknown
M = Male; F = Female

2) Recoveries during the first hunting season after banding
(i.e. direct recoveries).

Emperor Goose

The annual fall/winter productivity appraisals of emperor geese began in September. Thirty-six families were identified during the month and age ratio information was collected on 1,600 individuals during a September 24 aerial survey. This project continued into October with the final tally of family group counts being 40 with an average of 2.33 young per family. A total of 2,363 birds were classified as to age with 586 (24.8%) of these being hatching year birds (Table 14).

Table 14 . Emperor Goose Productivity Counts
Izembek NWR, 1966 - 1980

Year	Adults	Juveniles	Total	%Juveniles	No. of Families	% Family Group Size
1966	699	265	964	27.0	132	2.5
1967	1457	585	2060	28.0	66	3.3
1968	1195	585	1779	33.0	40	2.8
1969	4149	2980	7129	41.8	161	3.3
1970	9722	4933	14655	33.5	383	2.9
1971	8142	3458	11600	29.8	480	2.7
1972	4680	2270	6950	32.7	210	3.1
1973	--	--	--	--	---	---
1974	2025	377		15.7	50	2.6
1975	744	405	1149	35.2	51	2.9
1976	1923	324	2247	14.4	207	2.7
1977	996	683	1679	40.7	108	2.8
1978	1395	495	1890	26.2	62	3.0
1979	841	113	954	11.8	53	3.3
1980	1777	586	2363	24.8	40	2.3
14 Yr. Average				28.2		2.9

Steller's Eiders

Izembek Lagoon is a major molting area for Steller's eiders and the refuge performs an annual banding drive to mark birds for analysis of distribution and mortality patterns and the physical characteristics of the birds. The latter aspect is a focal point of a cooperative project currently underway with the University of Missouri-Columbia. This project is discussed in more detail in IV Other Items, B, Cooperative Programs.

In 1980 a total of 1,013 birds were captured in a single banding drive conducted on September 3. No mortalities occurred and 14 birds were donated alive, to the Game Bird Preservation Center in Salt Lake City, Utah. Table 15 summarizes the 1980 banding drive.

Table 15 . Results of Steller's Eider Banding Drive, 1980

Location	Date	New Bands		Re-captures		Rebands		Donation
		AHY-M	AHY-F	AHY-M	AHY-F	AHY-M	AHY-F	AHY-M
Cape Glazenap	9/3/80	419	522	31	15	2	1	14

Monthly aerial surveys were conducted covering Izembek Lagoon and the shoreline of Cold Bay from Lenard Harbor to Thin Point to determine the numbers and distribution of Steller's eiders and other waterfowl using these areas. Refuge Manager Sarvis flew these surveys in the station Supercub and was assisted by University of Missouri student, Keith Metzner. Metzner will utilize the Steller's eider data as part of his M.Sc. project. The Steller's Eiders seen during these surveys are summarized along with other species in Table 16 .

Marsh and Waterbirds

An estimated 50 to 75 Lesser Sandhill Cranes used portions of the refuge in May. These birds primarily noted as pairs and small groups, utilized the Moffett Bay and Right and Left-hand Valley areas. Sandhill cranes are seen occasionally in the summer and are usually gone by Sept. 15.

Shorebirds, Gulls, Terns and Allied Species

Arctic Terns were first recorded on May 14. A colonial nester, they utilize islands in Izembek Lagoon. The Mew Gull is a dispersed nester on the refuge. The first nest of this species, containing 3 eggs, was located on June 5. Rock sandpipers are common nesters on the refuge. Nests with complete clutches were found from May 28 until June 24. Semi-palmated plover were first observed with downey young on June 24. This species is a scattered nester on the refuge.



Graduate student Keith Metzner (U. of Missouri) with the results of the 1980 Steller's eider drive - over 1,000 eiders ready for banding.

Nunn (9/3/80)



This male king eider and two females were observed frequently feeding by the pilings of the Cold Bay dock.

(307) 34

Sarvis (3/24/81)

Table 16 . Aerial Surveys of Waterfowl in Izembek Lagoon and Cold Bay
Fall 1980/Spring 1981

Species	Location													
	Izembek Lagoon							Cold Bay Including Kinzaroff Lagoon						
	9/9/-11/80	9/30-10/1	10/29-11/11	12/30	1/26/81	3/9	4/14	9/11/80	10/1	11/11	12/30	1/26/81	3/9	4/1
	(1)	(1)	(1)											
Black Brant	58,203	112,038	129,890	247	703	4664	6278				1355	2520	100	13
Emperor Goose	2993	4212	5010	2596	1881	2965	7297	276	483		655	240	700	307
Canada Goose	6376	18604	47650						460					
G. Scaup														
C. Goldeneye				57	52	19	4		11	216	80	63	129	3
Bufflehead						6					2	10		
Harlequin Duck				1					80	169	140	134	6	4
C. Eider				920	977	314					645	24	40	
K. Eider				2		12					12			
Steller's Eider	79931	57064	49098	8323	15096	23359	91895		18	259	2862	1120	4240	253
Oldsquaw				241	66	11				15	38	7	120	30
Black Scoter				116	3080	1103	881	1	364	563	980	562	456	36
W-w. Scoter				52	25			1		50	56	11	128	
Surf Scoter											11			
Ud. Seaduck					165	8			60	64	81	110	78	20
R.B. Merganser				286	68	30	96	539	56	58	103	7	70	14
C. Merganser				3										
Pintail						6	21		80				32	3

(1) Geese and Steller's Eider only recorded.

Raptorial Birds

Steller's Sea Eagles were observed twice during 1980, once near Cape Glazenap on the Izembek NWR and once near Swanson Lagoon, Unimak Island (Eastern Aleutians NWR).

At least one bald eagle attempted to nest near the refuge in 1980. This nest on Delta Point east of Cold Bay may have contained an egg based on sightings from the refuge aircraft, however no young were reared.

Short-eared owls were noted occasionally throughout the year and no marsh hawks or rough-legged hawks were observed in 1980.

Other Migratory Birds

Passerine banding was at its peak in January at Cold Bay and at Unimak Island (Cape Sarichef). Birds of 5 species were banded with the bulk of these (147) being gray-crowned rosy finches. A summary of passerine bandings at both locations is shown in Table 17. The Annual Christmas Bird Count was conducted on 29 December and the results are presented in Table 18. Thirty-three species were seen for a new count record. This was the fifteenth year the Christmas Bird Count has been done at Izembek.

Table 17 Passerine Banding, Izembek NWR and Cape Sarichef, 1980

Species	Izembek						Cape Sarichef						Total				
	AHY			HY			AHY			HY				U			
	M	F	U	M	F	U	M	F	U	M	F	U					
Grey-crowned Rosy Finch	33	13	-	-	-	-	46	56	35	2	-	-	-	1	1	10	105
Snow Bunting	10	2	-	-	-	-	12	3	-	-	-	-	-	-	-	-	3
McKay's Bunting	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	0
Savannah Sparrow	-	-	-	-	-	-	0	-	-	1	-	-	-	-	-	-	1
Song Sparrow	-	-	-	-	-	-	0	-	-	2	-	-	-	-	-	-	2
Totals	44	15					59	59	35	5				1	1	10	112

Table 18 Results of Christmas Bird Count, Cold Bay, 12/29/80

SPECIES	NO. SEEN
Loon	2
Pelagic Cormorant	32
Black Brant	4
Emperor Goose	1292
Mallard	13
Green-winged Teal	12
Green-winged Teal (Eur)	7
Common Goldeneye	137
Bufflehead	14
Oldsquaw	69
Harlequin Duck	76
Steller's Eider	481
Common Eider	2
King Eider	2
White-winged Scoter	3
Black Scoter	229
Common Merganser	3
Red-breasted Merganser	261
Bald Eagle	10
Peregrine Falcon	2
Willow Ptarmigan	5
Rock Ptarmigan	3
Sandpiper sp.	2
Glaucou-winged Gull	58
Murre sp.	2
Pigeon Guillemot	11
Black-billed Magpie	1
Common Raven	67
Dipper	3
Northern Shrike	2
Grey-crowned Rosy Finch	6
Common Redpoll	20
Snow Bunting	5
Totals 33 species	2836

No. Observers 2 (Sarvis and Nunn)

Observation Time 8 hrs. (3 on foot, 5 by car)

Distance Covered 71 miles (7 on foot, 64 by car)

C. Mammals and Non-Migratory Birds

1. Game Mammals

A disappointing lack of coordination in the Anchorage (RO) resulted in four proposals suggesting regulatory changes not being submitted to the Alaska Board of Game prior to the closing date. As most species are available for review only every other year this mixup negated one of our most significant management techniques (i.e. those relating to seasons, bag limits and area restrictions). Our proposals were submitted to the RO for review well in advance of the State's Jan. 16 closing date.

Brown Bear

The lack of suitable, approved immobilizing drugs resulted in no bears being captured in 1980. The management study to evaluate territoriality of bears on the Izembek NWR and specifically their relationship to areas of habitation will hopefully be re-initiated in 1981.

Brown bear surveys of the Izembek NWR and a majority of the suitable habitat on Unimak Island (Eastern Aleutians NWR) were flown from August 11 to 19 and August 20 to 27, respectively. RM Sarvis and ARM Nunn completed the Izembek segment and a portion of Unimak Island in the station Supercub N745. WB Bartels and RM Sarvis completed the remainder of Unimak Island. Both AM and PM survey periods were flown to allow as complete a coverage as possible in the shortest amount of time. A total of 104 bears were observed on the Izembek NWR, as shown in table 19.

Caribou

No surveys of the caribou herds utilizing the Izembek NWR and Unimak Island were accomplished in 1980. Incidental observations made during the aerial and ground reconnaissance showed a continuing high use of areas on Izembek from fall through spring. Calving of this herd occurs primarily in the Black Hills area approximately 15 miles northwest of the refuge boundary.

High hunter success rates again characterized the season which runs from August 10 to March 31. Four antlered animals are allowed per hunter. Several thousand animals migrated onto the refuge in the fall and many remained accessible via the established road system throughout the hunting season.

The Alaska Department of Fish and Game performs composition counts on the Alaska Peninsula caribou herd, primarily at the base of the peninsula, and report 4 to 5 years of high calving success. In lieu of extensive surveys we feel that segment of this herd which utilizes the Izembek NWR are having similar success. This assumption is born out by the increasing numbers seen along the Cold Bay road system and the increased hunter success. We hope to initiate field

TABLE 19

IZEMBEK NWR BROWN BEAR SURVEY RESULTS 1977, 1978, 1979, 1980

Year	Singles	Sows w/cubs of year				Sows with yearlings			Sows w/2 1/2 yr old			Total
		w/1	w/2	w/3	w/4	w/1	w/2	w/3	w/1	w/2	w/3	
1977	39	0	9	1	1	3	6	4	0	0	0	115
1978	40	2	2	1	0	4	4	1	0	0	0	78
1979	43	0	4	7	0	6	3	0	0	0	1	108
1980	34	0	4	4	2	4	4	3	0	0	0	104



Local residents (caribou) inspecting refuge headquarters and BLHP buildings.

Ambridge (2/11/80)



An uncommon refuge resident (wolf) engaged in a stalk.

(287)4

Sarvis (9/1/80)

work to collect herd composition data on caribou utilizing both the Izembek NWR as well as Unimak Island.

Marine Mammals

A beaked whale carcass measuring 22 ft. in length was observed near Cape Krenitzen on Izembek NWR. The skull of this animal was collected for preparation and shipment to the U.S. National Museum.

A herd of less than 1000 walrus again chose Cape Seniavin, 110 miles northeast of the refuge as a hauling out area in April and May. Apparently due to harrassment and shooting, they had moved 30 miles southwest to the Port Moller area by late May. Fifteen to twenty headless carcasses remained at Cape Seniavin. Law Enforcement (RO) was on hand to survey the situation.

Other Animal Life

Salmon runs on various streams on or near the refuge are annually monitored by biologists of the Commercial Fish Division of the Alaska Dept. of Fish & Game. Commercial catch and escapement data for these areas for 1980 is presented in Table 20 .

Russell Creek Fish Hatchery

The State of Alaska constructed a fish hatchery on Russell Creek near Cold Bay in 1979. Construction costs for this facility totaled approximately 4 million dollars and at full capacity it will be able to rear approximately 50 million salmon. The Fisheries Rehabilitation, Enhancement, and Development Division of the Alaska Dept. of Fish & Game manages this facility.

Operations were begun in 1979 with approximately 7.1 million eggs taken from the existing chum salmon stocks. Siltation problems within the hatchery complex resulted in low survival and only an estimated 3.9 million fish were produced. In 1980, the siltation problem was corrected and rearing efforts were made for chum salmon. Pink salmon were also released in 1980. An estimated 13.9 million chum and 4.5 million pink salmon eggs were taken with success to the eyed stage being 87 and 92 percent respectively.

Pink salmon follow a two year cycle while chum salmon produced one year ago will not return as adults until 3 to 5 years old. Pink salmon are released when the young clear the gravel. At that time they are approximately 35 mm in length and weigh approximately 250 milligrams. Chum salmon are reared until approximately one gram in weight with this rearing process effectively doubling their survival over that of the pink salmon. By 1985 or 1986 the facility is planned to produce only chum salmon using four large interior raceways and an expanded number of outdoor ponds for rearing.



Spring visitors, walrus enjoy relaxing on the sand and are very social sleepers.

(249)9

Sarvis (4/5/80)



Another uncommon refuge resident - the wolverine

(247)20

Sarvis (3/26/80)

TABLE 20 Salmon Catch and Escapement, Vicinity of Izembek NWR 1969-1980

(Data supplied by Alaska Department of Fish and Game, Division of Commercial Fisheries, Kodiak)

Pink (Humpy) Salmon in Thousands					Chum (Dog) Salmon in Thousands				
Cold Bay & Morzhovoi*		Izembek & Moffett			Cold Bay & Morzhovoi*		Izembek & Moffett		
<u>Year</u>	<u>Catch</u>	<u>Escape</u>	<u>Catch</u>	<u>Escape</u>	<u>Year</u>	<u>Catch</u>	<u>Escape</u>	<u>Catch</u>	<u>Escape</u>
1969	0.2	20.3	0	2.3	1969	0	24.6	4.5	94.4
1970	1.5	43.9	0	0	1970	1.8	43.5	10.0	53.4
1971	3.6	4.5	0	0.1	1971	0.5	54.3	36.3	54.8
1972	0	5.7	0	0	1972	0	51.0	57.9	72.7
1973	0	4.6	0	0	1973	0.7	30.4	96.6	70.3
1974	0	9.9	0	0	1974	0	30.9	11.2	70.6
1975	0	8.3	0	0.1	1975	0	17.7	3.4	77.6
1976	0.8	55.8	0.1	0	1976	2.9	38.7	40.8	123.3
1977	0	21.7	0	0.2	1977	0	139.1	20.3	368.3
1978	6.0	157.7	2.2	0	1978	5.9	102.2	81.4	119.0
1979	0.03	19.2	0.01	0	1979	4.6	27.4	17.8	178.0
1980	126.1	127.1	0	0	1980	43.3	64.4	282.6	365.2

*Much of the Cold Bay-Morzhovoi runs occur off-refuge

Table 20 Salmon Catch and Escapement, Vicinity of Izembek NWR, 1969-1980 (Cont'd)

Red (Sockeye) Salmon in Thousands					King (Chinook) in Thousands				
Cold Bay & Morzhovoi		Izembek & Moffett			Cold Bay & Morzhovoi		Izembek & Moffett		
<u>Year</u>	<u>Catch</u>	<u>Escape</u>	<u>Catch</u>	<u>Escape</u>	<u>Year</u>	<u>Catch</u>	<u>Escape</u>	<u>Catch</u>	<u>Escape</u>
1969	2.2	7.5	6.1	14.0	1969	0	0	0	6.9
1970	1.0	3.3	3.1	7.5	1970	0	0	0	2.1
1971	1.1	2.3	6.9	3.5	1971	0	0	0	0.2
1972	0	2.5	0.8	4.8	1972	0	0	0	0.2
1973	0.2	3.3	1.2	2.0	1973	0	0	0	0.7
1974	0	27.3	4.7	3.7	1974	0	0	0	0
1975	0.5	15.6	1.5	13.6	1975	0	0	0	0
1976	1.4	27.3	20.4	15.3	1976	0	0	0	0
1977	12.5	28.7	3.1	26.1	1977	0	0	0	0
1978	1.0	24.7	15.5	23.0	1978	0	0	0	0
1979	0	8.5	10.8	8.4	1979	0.002	0	0	0
1980	15.7	6.1	34.2	11.2	1980	0	0	0	0

* Much of the Cold Bay-Morzhovoi run occurs off-refuge.

Table 20 . Salmon Catch and Escapement, Vicintiy of Izembek NWR 1969-1980 (Cont'd)

<u>Year</u>	Coho (Silver) Salmon** in Thousnads	
	Cold Bay & Morzhovoi*	Izembek & Moffett
	<u>Catch</u>	<u>Catch</u>
1969	0	0
1970	0	0
1971	0	0
1972	0	0
1973	0	0.2
1974	0	0
1975	0	0
1976	0	0
1977	0	0
1978	1.3	0
1979	7.0	0
1980	16.4	0

* Much of the Cold Bay-Morzhovoi runs occur off-refuge

** Coho escapement data is incomplete. Some surveys are done but they are rarely peak counts. Fishing effort is usually very light on Alaska Peninsula coho. (per. comm. Arnold R. Shaul, A.D.F.&G., Comm. Fish Div. Kodiak)

Salmon smolt usually depart the stream in April or May with the major predators in the stream itself being Dolly Varden trout. Tagging projects are currently underway on both salmon and Dolly Varden populations to better understand their relationship.

Escapement figures for Russell Creek are shown in Table 21 while Table 22 gives other data pertinent to this State Management effort.

Table 21 Chum and Pink Salmon Escapement, Russell Creek¹⁾

Year	Escapement	
	<u>Chum Salmon</u>	<u>Pink Salmon</u>
1978	50,000	50,000
1979	15,100	3,000
Ave. Even Year	22,500	29,600
Ave. Odd Year	15,800	1,200

1) Data supplied by Marlin J. Bricker, Fisheries Biologist, FRED Div., Alaska Dept. of Fish & Game, Cold Bay.

Table 22 Management Data, Russell Creek Hatchery, 1980 ¹⁾

	Species	
	Chum Salmon	Pink Salmon
No. Adults taken for eggng	7,840	3,977
Aerial assessment of stream population	28,400	35,700
Estimated Commercial Harvest	30,047	39,375
Total run (approx)	66,200	79,100
No. of released fish fin clipped	80,000	--

1) Data supplied by Marlin J. Bricker, Fisheries Biologist, FRED Division Alaska Department of Fish & Game, Cold Bay, Ak.

V. Interpretation and Recreation

A. Information and Interpretation

1. On Refuge

Public use on the Izembek National Wildlife Refuge once again consisted primarily of the 200 local residents of Cold Bay. The fall hunting seasons, particularly caribou and waterfowl, produce a relatively minor influx of hunters from Anchorage, Dutch Harbor and other areas of Alaska. The refuge has no formal interpretive program, visitor center, trails or other facilities. However, most visitors either call, come by the office or are contacted in the field by refuge staff. This personal contact has resulted in a relatively well informed using public.

2. Off Refuge

Sarvis and Dauenhauer presented a talk to the 4th-8th grades (about 12 kids) at the Cold Bay School.

Bulletin boards were maintained at the local air terminal, the local hotel and the Air Force Site. Tide tables, shooting hours, a map of designated roads, information about bears and current refuge activities were posted.

Hunter education materials were distributed to Cold Bay School teachers along with the offer to assist in presentation of the program. Text for a general refuge brochure for Izembek was completed and submitted to the Regional Office.

"Three wheelers", or 3 wheeled all-terrain vehicles became very popular early in the year, with nearly every family having at least one and many families having several. The lure of driving to places that previously could only be reached by walking was more than most could stand. On May 29, Sarvis held a public meeting to discuss the problem with the community. After 4 hours of heated discussion and a vote by the participants, a system of designated roads was established, with the clear understanding that no others were to be used. During the discussions a list of roads and trails preferred by the people was compiled, so that the most desirable ones could be retained for use. It seems that everyone had his favorite road for Sunday driving and all "known" roads were identified as well as a few WWII jeep tracks that were so ill-defined that it would take a pretty good imagination to follow them. The meeting was considered a success by the staff and the locals seemed pleased to have taken a part in the decision-making process. Road mileages and maps showing the designated roads were posted on the refuge Bulletin boards.



Fishing, a popular form of recreation, is enjoyed here by clerk Jessie Ambridge. The fish is an average size pink salmon, smallest of the four salmon species utilizing Izembek.

Ambridge (7/80)

B. Recreation

1. Wildlife Oriented

Waterfowl hunting is the most popular form of outdoor recreation on the refuge. Large concentrations of Canada geese, emperor geese and ducks are available to the hunter within walking distance of the road system. The wilderness setting, lack of competition (except on charter weekends) and availability of birds make this a hunt of high quality. The quality deteriorates a little on weekends when organized "charter" hunts take place, usually two weekends each season. This year only one charter group of about 65 hunters came out from Anchorage. This group chartered a Lockheed Electra from Reeve Aleutian Airways and brought guns, dogs, inflatable boats, decoys and other equipment for a three day hunt. Overcrowding, by Alaskan standards existed in a few choice hunting areas, however everyone seemed satisfied. The refuge prepares an annual letter which is distributed to each hunter through the organizer, which outlines regulations, shooting hours, tides, camping, tips and advice on coping with Cold Bay's notorious weather and bears.

Refuge personnel as well as SAC Jim Hogue from Anchorage, spent all 3 days in the field, meeting hunters, answering questions and doing bag and license checks (Table 23).

Caribou hunting is also very popular with the people of Cold Bay. The season opens August 10 and runs through March 31. Four antlered caribou may be taken provided that not more than one may be taken from August 10 to October 31. Most of the caribou are taken after the main herd moves into the area of the road system from its calving grounds north of the refuge. This occurred on October 28 in 1980, earlier than ever before. The trend set over the past several years of the herd arriving in the area earlier each year and staying longer in spite of increased hunting pressure seems to indicate that a population crash is imminent. The harvest this year was probably around 500 animals with the majority being bulls.

This was the year for the bear season to be open on Izembek in spring 1980, and closed in the fall, 1980. Next year, the opposite will occur. Three bears, all males, were taken on that part of the refuge which lies outside the permit area. All three were taken near Moffett Point by hunters who were transported by light aircraft. In addition there is a special permit hunt for the Cold Bay road system which is presently open both seasons every year. This year it was open for 37 days in the spring and 25 days in the fall. This area has been open every spring and fall since 1974 when a photographer was killed and eaten by a bear on Frosty Creek. The Alaska Dept. of Fish & Game reacted to public sentiment and opened the season in the previously closed area to reduce the number of

TABLE 23 Summary of Bag Check Data - 1980
Izembek NWR

Species	IM	IF	AM	AF	UM	UF	IU	AU	UU	Crippled	Total ¹⁾	%
Pintail	1	4	2						1		8	40%
Mallard	1		1	1							3	15
G.W. Teal	1		1	1							3	15
Shoveler			1								1	5
Am. Wigeon	1	1	1								3	15
Greater Scaup	2										2	10
Game Ducks (total)										4	20	
Steller's Eiders			1								1	
Seaducks (total)											1	
Emperor Goose	7	1	13	8	2		5	12	4	5	52	23.2%
Canada Goose	17	8	10	9		1	14	11	36	11	106	47.3
Black Brant	8	10	10	5			12	10	11	13	66	29.4
Total Geese											224	
Totals	38	24	40	24	2	1	31	33	52	33	245	

	Ducks	Seaducks	Emperors	Canada	Brant
Daily Bag Limit	8	15	6	4	4
Possession Limit	24	30	12	8	8

	Hunters Checked*	Ducks	Emperors	Canada	Brant
Charter Weekends	79	9	24	72	16
Non Charter Days	25	12	28	34	50

*Estimate 90% of Charter hunters checked and 10% of all others

	Est. charter weekend bag	Estimated other bag	Est. Cripples	Est. Total
Ducks	9/.9 = 10	12/.10 = 120	26	156
Emperor	24/.9 = 27	28/.10 = 280	32	339
Canada	72/.9 = 80	34/.10 = 340	47	467
Brant	16/.9 = 18	50/.10 = 500	147	665
	<u>135</u>	<u>1240</u>	<u>252</u>	<u>1627</u>

1) Total excluding cripples

bears and the bear/human conflicts. Since 1977, a permit has been required for hunting the road system area, with a maximum of 10 per week issued (starting in 1979) on a first come, first served basis. Since 1979 the season has been closed when four bears are taken.

The hunt has been very successful in reducing the number of bears present as the harvest data for 1980 reveals. The spring hunt resulted in 14 hunters taking 3 bears. Though the season was open 37 days, they were never able to find and take a 4th bear. During the fall season it was planned to close the season after 2 bears were taken, but no bears were taken by the 9 hunters who tried. These facts were discussed with the State Wildlife Biologist and the suggestion made that the harvest be reduced at least 50%. The spring 1981 hunt will be closed when 2 bears are taken. Public sentiment seems to be swinging back in favor of the bears. Several people in Cold Bay mentioned that it would be nice to have bears around to look at as well as hunt.

Photography is fairly popular among locals and many visitors bring cameras, however very few visitors come primarily for the purpose of photography.

Trapping is permitted under state regulations, however, a trapping permit issued by the refuge is required. Fifteen trappers received permits in 1980. Their reported catch is listed below in Table 24.

TABLE 24	79-80 (8 trappers)	80-81 (15 trappers)
Red Fox	73	90
River Otter	4	7
Mink	0	7
Wolverine	0	2
Wolf	0	3

2. Non-Wildlife Oriented

Nothing to report

C. Enforcement

For the past several years, the manager has been the only authorized enforcement officer at Izembek and the law enforcement effort has consisted of acting on tips from locals and a "physical presence" on the refuge during peak periods of use. The need for more consistent law enforcement was recognized but was not practical with only one officer who was burdened with administrative as well as biological and maintenance responsibilities. The filling of the maintenance man position in January and the arrival of the new assistant with law enforcement authority, paved the way for a more active



Maintenanceman Bill Allen (left) and refuge manager John Sarvis measuring a brown bear hide. Hides and skulls are measured and sealed in cooperation with the Alaska Dept. of Fish and Game.

(262) 30

Sarvis (5/14/80)



Occasionally cross foxes (color phase of the red fox) are observed, but the red phase is much more common.

(231) 36

Sarvis (9/5/79)

enforcement program.

Patrol work and investigation of complaints made by residents resulted in 20 cases being made. Half of the cases were filed locally in State Court with excellent results, as illustrated in Table 25 .

In addition to these, S.A.C. Jim Hogue from Anchorage made 2 cases during the weekend that the charter hunters were here.

The attitude of Cold Bay residents changed considerably during the fall period. At first many people were upset (outraged?) by the increased enforcement of wildlife laws, and then for a while several calls a day were received regarding regulations. By the end of the year most were again at least speaking to refuge staff members. An increased effort at public relations seems to have helped the people understand why the effort was undertaken and will continue to occur.

TABLE 25 LAW ENFORCEMENT CASES 1980

Violation	Date	State Court	Fed. Court	Local Res.	Non Local Source	Disposition
1. Drive off Designated Road	5/6/80		X	X		Patrol (aircraft) \$100
2.a) Late Shooting (waterfowl)						
b) No Plug	9/13/80		X	X		Patrol \$100
3. Late Shooting (waterfowl)	9/13/80		X	X		Patrol \$ 50
4. Illegal Trans. Caribou	9/17/80	X		X		Local tip \$500, \$200 suspended hunting lic. suspende for 3 mos. 1 yr prob.
5. Illegal Trans. Caribou	9/17/80	X		X		Local tip \$500, \$200 suspended hunting lic. suspende for 3 mos. 1 yr prob.
6. Illegal trans. Caribou	9/17/80	X		X		Local tip \$500, \$200 suspended hunting lic. suspende for 3 mos. 1 yr prob.
7. Attempt to take protected species (swan)	10/4/80		Not prosecuted Juvenile		X	Patrol Wrote report on identification of swa
8. Illegal transp. caribou	10/6/80	X			X	Local tip \$400, \$200 suspended
9. Illegal transp. caribou	10/6/80	X			X	Local tip \$400, \$200 suspended
10.a) Hunt caribou same day airborne	10/6/80	X			X	Local tip \$500, \$200 suspended
b) Illegal transp. caribou						
11. Hunt Waterfowl w/o stamp	10/14/80		X		X	Patrol \$50
12. Hunt Waterfowl w/o plug	10/18/80		X		X	Patrol \$50
13. Hunt Waterfowl w/o plug	10/26/80		X		X	Patrol \$50
14. Hunt Waterfowl w/o plug	10/26/80		X		X	Patrol \$50
15. Hunt Waterfowl w/o plug	10/26/80		X		X	Patrol \$50
16. Take Waterfowl w/rifle	11/5/80	X		X		Patrol \$400, \$200 suspended 1 yr. prob.
17. Hunt w/o license (non res)	11/5/80	X			X	Patrol \$120

VI Other Items

A. Field Investigations

Refuge Personnel

Seasonal Movements and Population Structure of Resident Whistling Swan Population

This project continued during which 44 birds were color marked. See IV Wildlife, B. Migratory Birds, Whistling Swans for complete discussion.

Population Size and Productivity of Black Brant

This continuing program receives a high degree of emphasis during the fall staging period to insure accurate assessments for management of the species throughout the Pacific flyway, per the Pacific Flyway Black Brant Management Plan. This work in 1980 is summarized in section IV Wildlife, B. Migratory Birds, Black Brant.

Population Size and Productivity of Emperor Geese

Emperor geese winter in the Aleutian Islands and Alaska Peninsula and use the Izembek NWR extensively during the spring and fall migration. Fall productivity surveys and periodic inventories aid in the current drafting process of a Pacific Flyway Emperor Goose Management Plan. The 1980 project results are summarized in section IV Wildlife, B, Migratory Birds, Emperor Goose.

Seasonal Movements and Morphological Characteristics of the Grey-Crowned Rosy Finch, Snow Bunting and McKay's Bunting.

This project is a low intensity effort performed primarily at the Cold Bay headquarters of the Izembek NWR. Birds are baited to a permanent trap site near the office, captured, banded and released. All birds are aged, sexed and weighed with other observations made on physical and plumage characteristics. In 1980 banding efforts were performed at Cold Bay and Cape Sarichef and are summarized in Table 17. Preliminary data suggest that there may be two races of Grey-crowned rosy finches using the Cold Bay area and a technique has been worked out for aging male and female snow buntings.

Seasonal Movements and Distribution of Brown Bear on the Izembek NWR.

This project, begun in 1977, was inactive in 1980 due to problems in obtaining authorization to use a new capture drug to replace Sernylan. We were eventually given permission to use M99 & M50-50 but no capture attempts were made. Incidental observations were collected during aerial reconnaissance concerned with other projects.

Other Personnel

The Institute of Marine Science (IMS) from the University of Alaska has performed studies in Izenbek Lagoon for some years under the direction of Dr. C.P. McRoy. Although these studies have concentrated on the dynamics of the eelgrass beds, other aspects of the ecological relationships of the flora and fauna of this important estuarine system have also been investigated. To date we have not received a report on the field work conducted in 1980.

B. Cooperative Programs

Winter Feeding Ecology of Steller's Eiders

Keith Metzner, a graduate student with the Cooperative Wildlife Research Unit at the University of Missouri-Columbia, arrived in Cold Bay on August 30 to continue his work toward an M.Sc. degree. The objectives and progress of his project are as follows:

- Objectives:
1. To determine foods consumed by Steller's Eiders in Izenbek Lagoon and Cold Bay, Alaska.
 2. To examine the foraging behaviour of Steller's Eiders.
 3. To examine patterns of habitat and spatial use in relation to season, density, availability of food and competitive interactions among species.
 4. To relate foods consumed and their nutritional values to season, internal organ development, lipid deposition, food availability and behaviour.

Progress: Courses in coastal biology and marine birds and mammals were taken from June to August at the Oregon Institute of Marine Biology by the investigator to gain better understanding of the marine habitats and invertebrates found on the Alaskan study areas.

Refuge Manager Sarvis estimated that the Steller's eiders (Polysticta stelleri) first arrived on the refuge the third week in August. The investigator arrived August 30 and was able to participate in the annual banding drive on September 3. To evaluate the seasonal movements of the eiders on the refuge and to observe the behaviour of marked individuals, 262 males (red) and 260 females (white) were marked with nasal saddles. In the period from September to November, there were ten resightings all in Izenbek Bay. Additional information on the dispersal and migrational patterns of these birds may be obtained if observations are reported outside of refuge and adjacent waters.

Weights were recorded for 116 males (average = 798.12g) and 116 females (average = 762.65g). New bands were fitted on 941 birds, 46 recaptures were noted and 14 females were donated to the Game Bird Preservation Center in Salt Lake City, Utah, for research purposes. This is the largest number of Steller's banded at one time and there were no mortalities.

Although it was impossible to maintain any continuity in the collection schedule of specimens for food habits and analyses due to the availability of field assistance and inclement weather, 36 specimens (23 flightless) were obtained from Izembek Bay and 6 from Cold Bay. No birds could be collected in November.

Weekly census of two study sites along Izembek Bay and four along Cold Bay were initiated in September and conducted regularly throughout the winter. The Outer Marker site along Izembek Bay was not surveyed after October due to the lack of field assistance and time considerations. Six hundred 10-second behavioral observations were recorded from seven adult males, 19 adult females and two subadult male Steller's in November and December.

Aerial surveys of Izembek Bay, Kinzarof Lagoon and Cold Bay were flown along the same flight lines utilized in 1979. The totals for these surveys are shown in IV Wildlife, B, Migratory Birds, Table Plans for the next six months include completion of field research in May, laboratory and data analyses and continued literature searching.

Other Cooperative Programs

Dave Oates, Research Biologist with the Nebraska Game and Parks Commission was supplied with wings of Emperor Geese as part of his study of blood serum proteins of North American Waterfowl. His analysis suggests two groups of Emperor Geese were represented in our sample. More samples will be sent this fall to resolve his preliminary findings.

Routine and incidental surveys of Brown Bear and Caribou, and in some instances, waterfowl, were reported to Alaska Department of Fish and Game biologists in King Salmon and Anchorage. They in turn routinely supply 'Survey and Inventory Reports' for areas of joint interest.

Special Use Permits

A total of twenty-four (24) SUP's were issued in 1980 for geological, navigational and biological studies on Izembek NWR. Included were 15 permits for trapping on the refuge. In addition, one SUP was

issued for grazing on Simeonof NWR and two for surficial geological work and navigational antenna installation on the Eastern Aleutians NWR.

C. Items of Interest

Sarvis attended 2 refuge manager conferences and workshops on bird surveying techniques and writing performance standards.

Personnel

Dennis Ferbrache, the maintenance man at Cape Sarichef was on LWOP through 4/30/80. He resigned just as the termination process was completed. His position was announced as a biological technician, but was never filled due to the closing of the field station.

Dauenhauer resigned her position on May 10 to depart for graduate school and a career in speech therapy. She did an excellent job for FWS during her 2 years at Cold Bay and we wish her luck in her new career.

Mike Nunn transferred from Laguna Atascosa Refuge in Texas to fill the assistant manager's position.

Bob Bartels, wildlife biologist at Cape Sarichef transferred to Arctic NWR in December. Bartels received a \$1000 Special Achievement Award (See E.A.L. Narrative for details) for performing double duty as a maintenance man and biologist due to the extended absence of the maintenance man.

Other

On November 11, 1980, Pavlof Volcano, located 35 miles east of Cold Bay, erupted. The locals thought that it was neat to watch, but really no big deal. The flood of reporters that arrived on Nov. 12 thought that it was a news worthy event, however, and saw that it received national coverage.

Pavlof has erupted 25 times since 1700, most recently in 1975 and 1976. Through the end of the year it could be seen emitting great clouds of steam and smoke on clear days.

D. Safety

The E.L.T. was replaced in the station super-cub.

The shop was given a thorough cleaning and safety warning signs, exit signs and protection gear signs installed.

Fire alarm systems in the houses and office/shop building were checked and repaired. A smoke detector was repaired.

New electrical outlets in the office and residences were installed to replace those with faulty plug tension.

Several fire extinguishers were transferred from Cape Sarichef, and installed.

RM Sarvis attended O.A.S. ground school and took his annual flight physical and flight check.

Jessie Ambridge was the FWS representative on the Cold Bay Emergency Medical Services Council. She also attended a 90 hour Emergency Medical Technician training course.

Credits: WB Dau wrote I, III, IV, VI A & B, ARM Nunn wrote II, V, VI C & D, RM Sarvis edited and added to the report, clerk Ambridge did the typing.

EASTERN ALEUTIANS NATIONAL WILDLIFE REFUGE

Cold Bay, Alaska

ANNUAL NARRATIVE REPORT

Calendar Year 1980

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

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EASTERN ALEUTIANS NATIONAL WILDLIFE REFUGE

I GENERAL

The Aleutian Islands National Wildlife Refuge was created from public lands in 1913 by Executive Order 1733. The refuge is administratively divided at Unimak Pass, all refuge lands to the east of this line being managed out of the Cold Bay office for logistical and biological reasons. The split also conforms to natural boundaries, Unimak Pass forming a distinct and extremely important biological 'divide' before the unique Aleutian flora and fauna of the central and western islands. The Eastern Aleutian unit consists of Unimak (989,000 acres), Caton, and Amak Islands and a few scattered rocks and islets, aggregating about 1,000,000 acres. On December 2, 1980 the Alaska National Interest Lands Conservation Act was passed. Section 303(1)III established the Alaska Maritime NWR with an Aleutian Islands Unit; which included the islands that formerly comprised the Aleutian Islands NWR.

Unimak is the only island reachable by our single-engine Supercub; multi-engine aircraft or boats are required to reach the others. Amak is not accessible by aircraft at all, since it is too steep and the beach too rocky for landing.

Unimak's habitat closely resembles that of the Alaska Peninsula, although it is somewhat impoverished. Cover, such as alder and willow shrubs, are quite restricted in distribution, and there are fairly extensive bare or nearly bare ash and lava flows of varying ages. Especially in the western portion, salmon runs are small or non-existent, due partly to steep terrain and bluffs which make upstream negotiation impossible.

The weather on Unimak and more particularly at the Cape Sarichef field station (54°36'N, 164°56'W) is very similar to that of Cold Bay. Nagoonberry and crowberry crops on western Unimak were excellent in 1980. June and July had fog and/or rain on 52 out of a possible 61 days.

Eastern Aleutian habitat falls into two categories: wetlands and other. Wetlands include both salt and freshwater areas and support seasonally abundant waterfowl, notably whistling swans, Canada, emperor, and black brant geese, sea ducks, mallards, pintails, gadwalls, green-winged and common teal, widgeons, buffleheads, common goldeneyes, and greater scaup.

Other habitat includes beaches, cliffs, tundra, bare rock, lava flows and perpetual snow and ice. Species using these types are red foxes, bears, wolverine, caribou, wolves, bald eagles, short-eared owls, geese, sea birds, marine mammals, passerines and shore-birds.



Red fox are seen on the refuge almost daily during summer months, but are much more wary during the winter months (trapping season).

(282)11

Sarvis (8/24/80)



Sea lions awash on lava outcropping near Cape Sarichef.

(283)10

Sarvis (8/24/80)

Wetlands are extensive on Unimak. Three large lagoons - Swanson, Peterson, and Christianson - provide nesting, feeding and resting habitat for waterfowl and shorebirds in summer; during winter these lagoons are especially important for feeding and resting when freshwater freezes. We know from the swan collaring study that Izembek whistling swans winter for the most part on Unimak, flocking up in these lagoons (primarily Peterson) during freezes, then spreading out to lakes and rivers for part of the day during thaws. Wet spongy areas occupy most low areas adjacent to the coast and lake systems. The glint of water is obvious for hundreds of acres from the air even though no open water is present. Game trails - largely caribou and brown bear - cut these areas in every direction, often converging like spokes toward the hub of a small rise or other anomaly in these essentially flat expanses.

Volcanoes form the backbone of the island, from Roundtop in the east to Faris-Westdahl in the west. Perpetual snow fields and glaciers surround the five most prominent peaks - Roundtop, Isanotski, Shishaldin, Pogrommi, and Faris/Westdahl. At 9,372 feet, Shishaldin is the highest peak on the island, and also the most spectacular, being a perfect volcanic cone. This mountain is a National Historic Landmark because it has served as a navigational aid for seamen at least since the days of Russian exploration and was undoubtedly used by the Aleuts as well. Active volcanoes include Shishaldin, Pogrommi, Faris, and Westdahl. No known eruptions of any Unimak volcanoes occurred in 1980. However, steam and/or smoke rising from the vent of Mount Shishaldin was quite common. A huge lake - Fisher Caldera - lies in west-central Unimak in the crater of a volcano.

Extensive lava flows of varying ages are found below Shishaldin, Isanotski, Roundtop and Faris/Westdahl. Some of those on the north side of Shishaldin have revegetated, although so sparsely that the nature of the substrate is obvious from the air. Several rivers - among them North Creek, Coal Oil Creek, and others unnamed - flow partly through wide ash flats. To the southeast of Roundtop, Isanotski and Shishaldin, are areas several thousand acres in size overlain with virtually bare lava and ash. These are also drained by sizeable streams.

Cliffs ranging from steep bluffs to spectacular wave-cut promontories and sea stacks occur along the coast, except at Unimak Bight and the north side from St. Catherine's Cove to Urilia Bay, where more gentle beaches and dunes are found. The more inaccessible bluffs and cliffs support some seabird nests, but are most important for bald eagles.

Because of its large size and unique features, Unimak was proposed as a separate unit for wilderness in 1972 but was held up pending



Beautifully rugged Isanotski peak covered with rime ice and caldera glacier.

(241)26

Sarvis (1/1/80)



Shishaldin Volcano on Unimak Island is the most active volcano in the area. Steam and/or smoke can be seen on our rare clear days.

(243)13

Sarvis (1/1/80)

resolution of the d-2 lands issues by Congress resulting from passage of the Alaska Native Claims Settlement Act. Finally a wilderness area of 910,000 acres was established on December 2, 1980 with passage of the Alaska National Interest Lands Conservation Act. Management of Unimak will still be the same since it has been managed as a wilderness area all along.

Amak Island, about 2,600 acres in size, is a geologically new formation only some 5,000 years old, lying about 12 miles offshore from Izembek Lagoon. The island rises to 1,760 feet and is generally tundra-covered with sheer cliffs dropping to the sea or extremely rough cobblestone beaches. Murres and kittiwakes nest on the cliffs. Large sea lion rookeries are found on the island and at nearby Sea Lion Rocks.

II Construction and Maintenance

The remote, manned field station at Cape Sarichef was closed in December, after about 18 months of operation. Personnel in the Area Office decided to close the facility in late August due to high operating costs. However, this decision was not confirmed until October 23, when Area Office personnel visited Cape Sarichef to discuss its future.

Maintenance of the huge facility had become a problem in 1980. The Cape Sarichef maintenance worker departed on January 2, never to return. In February, Bill Allen, Cold Bay maintenance worker went to Cape Sarichef to correct a backlog of problems, and give Biologist Bartels a crash course in diesel generator maintenance. During this stay, Allen diagnosed a bad pedestal bearing in one of the generators. Therefore, the 900+ pound armature had to be removed, wrestled into a Cherokee 6 aircraft for the flight to Cold Bay, and shipped to Anchorage for rebuilding. It was re-installed in late February.

Several other generator problems developed during the year. However, Allen was usually able to travel to Cape Sarichef and correct these soon after notification. Otherwise Bartels had to perform routine and minor corrective maintenance for all of the year. This work took an inordinate amount of time, and certainly had a detrimental effect on the biological program.

When the initial word of closure occurred in August, unneeded equipment at Sarichef was assembled and made ready to ship. Every aircraft to Cape Sarichef returned to Cold Bay loaded to gross weight with misc. equipment. When the final decision on closure came in late October, the Coast Guard was contacted concerning their C-130 aircraft. They agreed to backhaul much of the Cape Sarichef equipment to Cold Bay. On November 10, Jo Keller and Mike Yarborough of the Area Office and Palmer Orlun of Clarence



The former 25 man Coast Guard station at Cape Sarichef was maintained single-handedly by Wildlife biologist Bob Bartels for most of the year. In late 1980 the decision was made to close the field station for economic reasons.

OD 24623

Keller (11/15/80)



The Coast Guard was most helpful during the closing of the Cape Sarichef field station, hauling many tons of goods and equipment to Cold Bay.

OD 24610

Keller (11/17/80)

Rhode Refuge came to Sarichef to assist Bartels in packing equipment for the airlift. Four C-130 loads were sent to Cold Bay during their two week stay. A fifth C-130 load was sent in mid December. The Coast Guard cooperation is certainly to be commended.

The nearby, abandoned U.S. Air Force D.E.W. site is still standing. Plans to demolish it were stopped by GSA. On 5/19, Air Force personnel from the Cold Bay site flew to Sarichef to salvage needed parts off the old generator for use in Cold Bay. On 6/2, two Air Force mechanics from Elmendorf A.F.B. in Anchorage flew to Sarichef to get a dozer ready for backhaul to Anchorage on the COOL Barge. They got the machine running and moved it from the top of the cliff to the beach. The dozer was picked up by the barge KOYUK on 10/25.



Typical Unimak Island shoreline where ancient lava flows meet the ocean.

(224)12

Sarvis (8/20/79)



A harbor seal basking on the rocks at Amak Island.

(228)11

Sarvis (8/29/79)

III HABITAT MANAGEMENT

No habitat management is carried out in the Eastern Aleutians, since the area is fortunately functioning naturally, except for ca. 4,000-acre Caton Island, which has a grazing lease. This lease is not for purposes of habitat management, but is an inherited situation. Limit is 100 animal units per year.

The lease was sold in 1979 and not renewed in 1980. On March 27, 1980 Sarvis chartered the Peninsula Airways goose to Caton and counted 81 head. On April 23, Larry Calvert and Sarvis inspected the island on foot and found severe erosion and overgrazing, especially on the southern half, particularly around the lakes.

Efforts have been undertaken to have the cattle removed. Hopefully the problem can be cleared up in 1981.

IV WILDLIFE

A. Threatened and Endangered Species

None are known to occur on Unimak, but it is possible that some Aleutian Canada geese could rest there during migration.

B. Migratory Birds

Whistling Swans

For more complete information see the swan section of the Izembek narrative.

The year began with the majority of the Izembek and Unimak Island resident whistling swan population wintering as usual at Peterson Lagoon on Unimak Island. Aerial and ground counts of the Urilia Bay area (which includes Peterson Lagoon) on Jan. 2, 7, 9 and Feb. 6 revealed 458, 494, 533, and 573 respectively. A maximum of 17 marked swans were also observed (on Jan. 9). Though most freshwater was still frozen in mid-March, swans began moving back onto Izembek refuge. Forty-nine were observed on March 26 in the central Izembek and Mortensen's Lagoon area.

Unimak Island was not surveyed, but about 150 to 200 swans were estimated using the island in the spring and summer. Several broods were observed on Unimak Island incidental to other work.

In September and October swans move throughout the Izembek and Unimak areas. By late October they begin moving to Peterson Lagoon in the Urilia Bay area of Unimak Island where most spend the winter. On October 22, 24, 28, and Nov. 2, swans in the Urilia Bay and Swanson Lagoon areas numbered 63, 73, 189 (4 collared), and 148 respectively.

On Jan. 20 (1981) there were 540 (16 collared) on Unimak Island.

After 3 years' of neck collar sightings all winter in the Izembek and Unimak Island areas we concluded that we have North America's only non-migratory swan population. And as you might guess, about that time we got reports of 3 of "our" swans being sighted in the Lower 48. Number 11 was observed in Oregon, 55 in California and 70 in Washington all in December, 1980.

Other Migratory Birds

Four inland bird transects in different habitat were established in early 1980. These transects, conducted 43 times, yielded data on, primarily, passerine bird densities throughout the year (Table 1). This information can be used as a base to evaluate future changes in habitat by comparison with any subsequent surveys.

Four different beaches near Cape Sarichef were surveyed for beached birds and marine mammals by Bartels in '80. Very few animal carcasses were encountered. This negative data will be useful baseline data to evaluate any future changes in use of the Bering Sea near Unimak Island. Twenty-four such surveys were conducted in 1980 (Table 2).

A series of observations of seabird movements past Cape Sarichef was started in 1980. Observations were made on 52 different days for a total of 76 observation hours. The highlight of this work included seeing an estimated 1.4 million murrelets pass Cape Sarichef during eight days in March (Table 3).

Four sandhill cranes were seen flying NE near Cape Sarichef on 5/24.

A bald eagle nest, was once again active on a cliff south of Cape Sarichef, in early June. Presumably this is the same pair of eagles that nested here in 1979, as the nest structure was within 5 feet of the 1979 nest. Bartels monitored the nest throughout the nesting period from early June until 2 eaglets were successfully fledged in early August.

Two cliff swallows were observed on 7/8 at Bear Track Creek. They are certainly accidentals in this area of Alaska.

A Cape Sarichef bird list has been developed (Table 4). The list contains 75 species, but is by no means an all inclusive list. Any future work at Cape Sarichef would, undoubtedly, yield more species.

No Christmas bird count was conducted this year, as the station was closed before the count period.

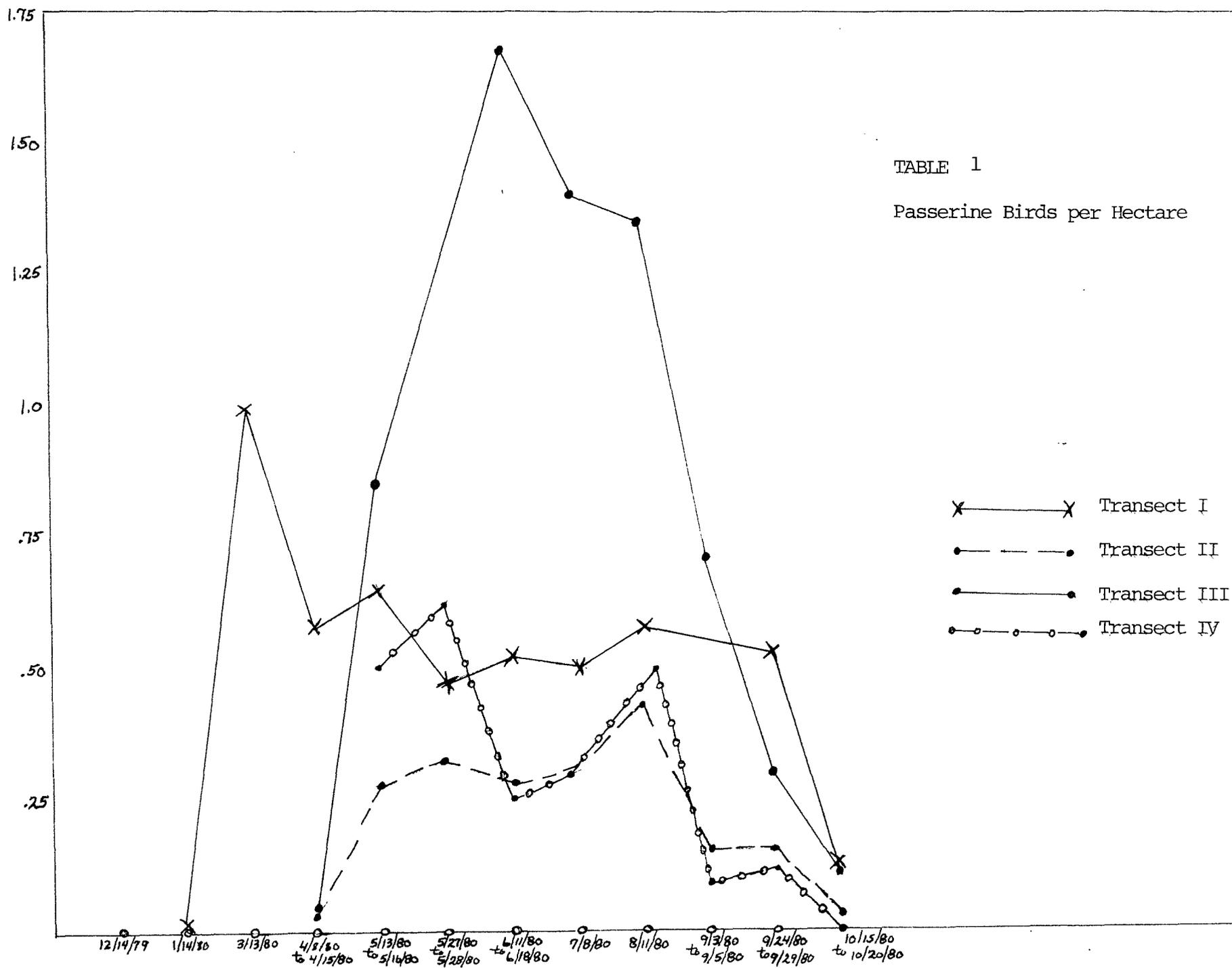


TABLE 2.

BEACHED MAMMAL & BIRD SURVEYS, TRANSECTS, 1980

Species	Sennett Beach (7 surveys)	Reservoir (3 surveys)	Raven Point (16 surveys)	Otter Cove (3 surveys)
Short-tailed Shearwater			2	
C. Murre		1	43	
Tufted Puffin	6		1	
Horned Puffin	1			
King Eider			1	
Galucous-winged Gull	3			
Golden Plover		1		
Red Phalarope	1			
Bald Eagle	1			
Sea Otter		1		
Steller's Sea Lion	1			
Harbor Seal			1	
Brown Bear	1			

TABLE 3. MURRES PASSING CAPE SARICHEF

<u>DATE</u>	<u>NUMBER OF MURRES</u>	<u>DATE</u>	<u>NUMBER OF MURRES</u>
3/13/80	186,900	8/08/80	305,280
3/19/80	134,280	8/11/80	326,400
3/21/80	273,240	8/12/80	117,000
3/22/80	332,280	8/15/80	107,040
3/25/80	116,280	8/19/80	19,320
3/26/80	237,600	Total 5 days	<u>875,040</u>
3/27/80	55,920		
3/28/80	19,920		
Total 8 days	<u>1,356,960</u>		

TABLE 4

CAPE SARICHEF BIRD LIST

<u>Species</u>	<u>Migrant</u>	<u>Perm. Res.</u>	<u>Summer Res.</u>	<u>Winter Res.</u>	<u>Vagrant</u>
Common Loon-----	u				
Red-necked Grebe-----				r	
Arctic Loon-----	u			r	
Short-tailed Shearwater-----			c		
Fork-tailed Storm Petrel-----					r
*Pelagic Cormorant-----		u			
*Red-faced Cormorant-----		c			
Canada Goose-----	u				
Brant-----	u				
Emperor Goose-----	u			u	
White-fronted Goose-----					r
Goldeneye, sp. (common) NMF sighting	r				
Oldsquaw-----	u			u	
*Harlequin Duck-----		c			
Steller's Eider-----	u			u	
Common Eider-----	u			u	
King Eider-----	u			u	
White-winged Scoter-----	u				
Black Scoter-----	u			u	
Common Merganser-----	u		r		
Red-breasted Merganser-----	r				
Rough-legged Hawk-----	r				
Marsh Hawk-----	r				
Golden Eagle-----					r
*Bald Eagle-----		u			
Steller's Sea Eagle-----					- Scotch Cap - Accidental sighting
Gyrfalcon-----		u			
Peregrine Falcon-----		u			
Sandhill Crane-----	r				
*Semi Palmated Plover-----			c		
American Golden Plover-----	u				
Wandering Tattler-----	r				
Ruddy Turnstone-----	u				
Northern Phalarope ?-----					
Red Phalarope-----	r				
Sanderling-----	r			r	
Bairds Sandpiper-----	r				
Western Sandpiper-----	r				
Least Sandpiper-----	r				
Sharp-tailed Sandpiper-----	r				
*Rock Sandpiper-----		c			

Cape Sarichef Bird List Cont'd.

	Migrant	Perm. Res.	Summer Res.	Winter Res.	Vagrant
Dunlin-----	r				
Parasitic Jaeger-----	r				
Long-tailed Jaeger-----	r				
Glaucous-winged Gull-----		c			
Black-legged Kittiwake-----		c			
Common Murre-----	c	u			
Pigeon Guillemot-----	u		u		
Marbled Murrelet ? NMFSSighting-----					
Ancient Murrelet ? NMFSSighting-----					
Parakeet Auklet ? NMFSSighting-----					
Crested Auklet-----				r	
Least Auklet-----				r	
Horned Puffin-----	u		u		
Tufted Puffin-----	c		c		
Short-eared Owl-----	u				
*Tree Swallow-----			c		
*Bank Swallow-----			c		
Cliff Swallow-----		-accidental-			
*Common Raven-----		c			
*Dipper-----		u			
*Winter Wren-----		u			
Hermit Thrush-----			r		
*Water Pipit-----			c		
Wilson's Warbler-----	r				
*Gray-crowned Rosy Finch-----		c			
*Savannah Sparrow-----	c		c		
Dark-eyed Junco-----	r			r	
Tree Sparrow-----	r				
*Golden-crowned Sparrow-----			c		
Fox Sparrow-----			r		
*Song Sparrow-----			u		
*Lapland Longspur-----	c		c		
*Snow Bunting-----	c	c			
McKays Bunting-----				r	

In 1980, the following passerines were bait trapped and banded at Cape Sarichef:

Gray-crowned Rosy Finch	-----104
Snow Bunting	-----4
Song Sparrow	-----2
Savannah Sparrow	-----2

In addition, there were 185 recaptures of birds already wearing Cape Sarichef bands.

C. Mammals

The aerial brown bear survey of Unimak Island with the exception of the False Pass-Ikatan Peninsula area, was conducted out of Cape Sarichef during August 20-25. The False Pass - Ikatan area was surveyed out of Cold Bay on 8/27. One small area near Scotch Cap was not surveyed due to fog coverage.

Straight line transects were flown over open areas, stream courses followed in their entirety, and hilly and rough terrain covered as safety permitted. An altitude of 400' to 500' AGL is maintained whenever possible, with lower altitudes used to estimate bear size. Adjustments higher or lower are made according to terrain and flying conditions.

The survey results were the highest recorded since surveys began in 1977, (See tables 5 & 6). The number of sows with cubs-of-the-year was very high in comparison and certainly raised the overall total.

With human disturbance around Cape Sarichef practically zero compared to the Coast Guard era, 4 red fox, 2 wolves and 1 bear have made the yard around the building a regular part of their home range.

Steller's Sea Lions began hauling out at four different areas south of Cape Sarichef in early May. They frequented these rocky areas through September. No animals hauled out anywhere around Cape Sarichef in 1979. It is conjecture, but probably the lack of human disturbance allowed the animals to return to the area.

A total of 381 caribou were seen during the August brown bear survey. All of the animals were seen on the north side of the island.

A beached marine mammal survey was flown around the entire coast of Unimak Island on 8/20. Four sea lion carcasses were seen on the south shore between Cape Lazaref and Cape Lutke. A whale carcass was seen, which was probably the remains of a beaked whale. This was located near Cape Lutke.

On July 8, a pilot landed his Jet Ranger helicopter at Cape Sarichef. He was working on a navigation tower under a special use permit NE of here. He told biologist Bartels of the remains of a whale on the beach 12 miles NE near Tarheel Lagoon. He then flew Bartels to the

site. There were seven bears at the site, four single bears and a sow with two yearlings. About all that remained of the whale were some skin fragments and several vertebrae. It was probably a gray whale. On the return flight, a dead bear was seen about 2 miles SW of the site. Upon stopping, a dead sow bear in a state of advanced decomposition was found. Cause of death was not determined.

The gray whale migration past Cape Sarichef is certainly an interesting sight. However, no work was done on it in 1980 by the FWS.

Four sightings were made of Killer Whales near Cape Sarichef during the year. The largest group seen had 8 animals and were swimming around a pod of gray whales. The gray whales then sped toward shore and wallowed within 30 feet of shore for 30 minutes before continuing.

TABLE 5

UNIMAK BROWN BEAR SURVEY RESULTS 1977, 1978, 1979, 1980

Year	Singles	Sows w/cubs of year			Sows with yearlings			Sows with 2 1/2 yr old			Total
		w/1	w/2	w/3	w/1	w/2	w/3	w/1	w/2	w/3	
1977	36	3	4	0	1	4	2	0	0	0	76
1978	19	0	3	1	2	1	0	0	0	0	39
1979	39	1	0	1	5	4	2	0	0	0	75
1980	41	0	2	7	0	2	2	0	1	0	92

TABLE 6

COMPARISON OF BEAR LOCATIONS 1977, 1978, 1979, 1980

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Urilia Bay (North Creek to Shishkof Pond)	27	17	28	38
North Creek to St. Catherine Cove	24	19	21	13
False Pass/Ikatan Peninsula	2	0	2	17
Lazaref River Area	6	3	8	15
South side to Scotch Cap	11	*	12**	7
West Urilia Bay to Sarichef	6	*	4	2

* Not Surveyed

** Area Cape Lutke to Scotch Cap not surveyed

V INTERPRETATION AND RECREATION

There is no formal I & R program for the Eastern Aleutians. Poor weather, great traveling distances, and expensive logistics combines to discourage use. Recreation consists of hunting, trapping, fishing, hiking, photography and beach combing. Aircraft use is restricted to the airstrip at False Pass and Cape Sarichef, lakes and lagoons, and beaches below the mean high tide line.

Brown Bear season was open May 10 - 25 and October 1 - 21, 1980. The Alaska Dept. of Fish & Game held a permit drawing from which 7 hunters were selected to hunt during the spring season and 8 during the fall season. In addition to the state permit, hunters are required to check in prior to the hunt and then after the hunt, at the Cold Bay office. During the spring season only two of the 7 hunters receiving permits actually hunted. One of these took a bear and reported observing a total of six bears. The other hunter reported seeing 37 bears (none over 9 ft.) and did not take a bear. The fall season resulted in 4 permittees actually hunting and 2 taking bears. A total of 22 bears were reported seen. Tables 7 and 8 summarize the Unimak bear harvest data.

This hunt is of very high quality due to the wilderness aspect of the area. The high cost of transportation to the area accounts for the high number of persons who draw permits and then decide not to hunt.

On 6/29, four people in two super cubs landed at Cape Sarichef due to heavy fog. They were enroute to Dutch Harbor. They stayed overnight and continued their trip the next morning.

On 8/31, a pilot in a 1946 Luscombe stopped due to high winds. He also was enroute to Dutch Harbor. He stayed overnight and departed the next evening at dusk as the winds subsided. He later wrote to us stating that the last 20 minutes of flight to Dutch Harbor in the dark were rather "scary". Single engine flying across expanses of the Bering Sea certainly can be considered "adventure"!??

VI OTHER

A. Cooperation

Dr. Bruce Mate, whale biologist from Oregon, sent radio telemetry equipment to Bartels in May. The receiver was in use until November, but no radio-tagged gray whales were ever heard. This is part of a project to track gray whales fitted with transmitters in Mexican waters.

The FAA sent out an inspector to Cape Sarichef on 9/10 to inspect the airfield facilities. Several problem areas were noted by the inspector and corrective action taken. The inspection is required to maintain certification for the 3500 foot gravel strip.

TABLE 7

Brown Bear hunter numbers and success, 1970 - 1980 Unimak Island

	<u>Permits Issued</u>	<u>Hunters Active</u>	<u># Bears Known Taken</u>
Fall 1970 - Spring 1971	15	8	4
Fall 1971 - Spring 1972	15	10	4
Fall 1972 - Spring 1973	16	8	5
Fall 1973 - Spring 1974	20	10	3
Fall 1974	10	3 - 9 ⁽¹⁾	3
CY 1975	20	9	6
CY 1976	18	10 ⁽²⁾	4
CY 1977	15	10 ⁽²⁾	7
CY 1978	15	3 ⁽²⁾	1
CY 1979	15	8 ⁽³⁾	7
CY 1980	15	6	3

(1) It is not clear whether a "no" answer in fall of 1974 records means "did not hunt" or "hunted but was not successful".

(2) One permittee failed to return questionnaire, unknown if active.

(3) Three permittees failed to return questionnaire, Unknown if active. One additional hunter was lost at sea on his return flight to Anchorage. Not known if he took a bear.

TABLE 8

Data on Bears Taken on Unimak Island , Fall 1971 to end of CY 1980

<u>Year</u>	<u>Sex</u>	<u>Size</u>	<u>Kill Date</u>	<u>Location</u>
Fall 1971 - Spring 1972	U	7'	10/4/71	Scotch Cap
	F	8'	10/4/71	Sennett Point
	M	8'	10/6/71	4 mi. N. of Sennett Point
	U	7'6"	10/12/71	Sennett Point
Fall 1972 - Spring 1973	U	7'	10/2/72	Scotch Cap
	U	7'	10/2/72	Sennett Point
	M	9'	10/13/72	Urilia Bay
	U	7'6"	10/16/72	Urilia Bay
	U	7'9"	5/21/73	Urilia Bay
Fall 1973 - Spring 1974	F	7'6"	10/2/73	Cape Sarichef
	U	6'11"	10/23/73	Sennett Point
	M	9'4"	5/21/74	Lazaref River
Fall 1974 - End CY 1975	9 U	Other data not available		
CY 1976	4 F	Other data not available		
CY 1977	F	6'	5/12/77	Brown Peak
	M	7'	5/12/77	Shishkof Pond
	M	8'11"	5/13/77	Winding Creek at Oksenof Beach
	F	--	5/21/77	Urilia Bay
	F	8'1"	10/1/77	Urilia Bay
	F	6'4"	10/2/77	4 mi. S. Christianson Lagoon
	F	8'4"	10/2/77	3.5 mi upstream Swanson Lagoon

TABLE 8 Cont'd

<u>Year</u>	<u>Sex</u>	<u>Size</u>	<u>Kill Date</u>	<u>Location</u>
CY 1978	F	7'8"	10/5/78	On coast 3 mi. S Cape Sarichef
CY 1979	M	9'11"	5/10/79	5 mi S Christianson Lagoon
	M	9'8"	5/11/79	Near Conical Red Hill
	M	9'7"	5/13/79	Cape Rukavitsie
	M	9'10"	5/14/79	West side of Brown Peak
	F	8'6"	5/22/79	4 mi S Cape Sarichef
	F	7'10"	10/2/79	Springs 5 mi S Christianson Lagoon
CY 1980	F	7'1"	10/3/79	3 mi S. Christianson Lagoon
	M	8'6"	5/12/80	5 mi E. Cape Lopin
	M	8'2"	10/6/80	Swanson Lagoon
	M	7'	10/6/70	Swanson Lagoon

Our size information until 1980, is usually size of hide as measured fresh in the field by the hunter, and not the official state sealing records. 1980 data is from the official sealing records.

B. Special Use Permits

A special use permit was issued to Navigation Services, Inc. to install a temporary 70 foot tower 15 miles NE of Cape Sarichef in June. The navigation tower was used throughout the summer by ships in the Bering Sea doing oil exploration seismic work. The tower was removed on 10/9. Chevron Oil Co. was issued a SUP to use a helicopter on Unimak Island to conduct surficial geological studies for oil exploration potential. Two geologists and their Allouette helicopter visited Cape Sarichef on 9/23 during their one and only flight over Unimak. They said Unimak was too volcanic to hold any oil potential. Whew!

C. Personnel

Dennis Ferbrache, maintenance man, departed Cape Sarichef on Jan. 2, 1980. He allegedly aggravated an old injury due to a fall in the engine room. He was on Workmans Comp. until his termination on 5/16.

The maintenance worker position was changed to a Biological Technician with some maintenance duties and green-sheeted in August. However, at this time the decision was made to close Sarichef, so the Bio-Tech position was cancelled. Therefore Biologist Bartels, his wife and daughter were alone at Cape Sarichef for all of 1980 until his departure in mid December. Bartels received a Special Achievement Award along with a check for \$1000 (less taxes of course) for his outstanding performance in carrying out the duties of both maintenance man and biologist during 1980.

D. Safety

Safety at any field station as remote as Cape Sarichef is of paramount importance. No field station in Alaska which is the permanent duty station of an employee compares to the complexity of responsibilities found at Cape Sarichef. In 1980, the prolonged absence of the maintenance man caused additional concern, and placed an increased, technical workload on WB Bartels. This was a regrettable situation beyond the control of either WB Bartels or the Izembek office in Cold Bay. The fact that radio communications were maintained with the Izembek office and the Flight Service station in Cold Bay in addition to Kay being a registered nurse alleviated some of the concern.

No accidents occurred in 1980, much to the Bartels' credit.

E. Credits

This report was written by Bob Bartels and Mike Nunn, reviewed and edited by John Sarvis, and typed by Jessie Ambridge.



An estimated 100 foot wall of water washed the Scotch Cap light into the North Pacific. The remains are still visible today as well as driftwood logs one mile inland in the tundra on the south shore of Unimak Island.

(286)11

Sarvis (8/25/80)



Wildlife biologist Bartels stares in disbelief at the power of a 1946 tidal wave that destroyed Scotch Cap lighthouse. The re-bar looks like spaghetti.

(286) 34

Sarvis (8/25/80)

SEMIDI NATIONAL WILDLIFE REFUGE

Cold Bay, Alaska

ANNUAL NARRATIVE REPORT

Calendar Year 1980

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

SEMIDI NATIONAL WILDLIFE REFUGE

The 256,000-acre refuge lies 35 miles off the Alaska Peninsula in the Pacific Ocean and consists of 9 islands, associated rocks and islets aggregating 8,422 acres, and approximately 248,000 acres of submerged lands. The refuge was created by Executive Order 5858 in 1932 primarily to protect several million seabirds which breed on these spectacularly rough and stormy islands and sea stacks. On December 2, 1980, the Alaska National Interest Lands Conservation Act was passed. Sec. 303 (1) (IV) included Semidi NWR in the Alaska Peninsula Unit of the Alaska Maritime NWR. There are 55 miles of coastline on this small refuge.

No refuge personnel presently in Cold Bay have ever been to the Semidis because of its remote location, difficult access and the high expense involved. Information is known from a wilderness study and from several summers' work by the Office of Biological Services in Anchorage.

The climate is maritime, with frequent overcast, rain, gale-force winds, and fog. Annual precipitation is over 50 inches. Summer temperatures average about 40°F, winter about 20°F. Access is only by sea-going vessel or amphibious aircraft on rare calm days. There are a few anchorages, and only one beach, the one on Aghiyuk, the largest island. Terrain is precipitous cliffs rising from the ocean and generally steeply sloping tundra. Highest elevation occurs on Aghiyuk, at 1,024 feet. Spectacular sea stacks and jagged cliffs are the major features of the islands.

Vegetation is a typical subarctic low mat of grasses, mosses, willow, crowberry, and tundra wildflowers. Some kelp beds occur off-shore. One spruce tree was planted on Chowiet in recent times but has not reproduced. Its age is undetermined.

There are no funds or positions carried for the Semidis, and there are no structures, trails, or other facilities of any kind.

No habitat management takes place, since the Semidis are fortunately functioning completely naturally as an insular ecosystem. Because of lack of safe access and formidably bad weather with often rough seas, human interest in the islands has been nil. The possibility of pollution from oil spills from sea traffic is present, but the route is not heavily used at this time. Chances of diverting or containing a major spill in the area are non-existent.

The Semidis were studied for wilderness potential and found to qualify in their entirety. Halibut and crab fishing take place in ocean waters on the refuge, but were found to be compatible pre-existing uses. The wilderness proposal was completed in 1972

but was delayed pending approval of the Alaska Lands bill by Congress under terms of the Alaska Native Claims Settlement Act. On December 2, 1980, the Alaska National Interest Lands Conservation Act was passed. Title VII, Section 702, paragraph #12 of the Act designated the Semidi NWR as Wilderness containing approximately 250,000 acres.

By far the most outstanding wildlife species on the refuge are seabirds, which occur by the millions during the breeding season. A total of over 2 million breeding adults alone have been estimated by Biological Service teams which have spent 4 summers on the refuge. Seventy-nine species of birds have been identified, many of which depend primarily on maritime habitat. Twenty species of seabirds have been found to nest on the islands, including 3-5 pairs of least auklets, 70 miles outside their closest known colony in the Shumagin Islands, and 386 pairs of rhinoceros auklets, 140 miles west of the Barren Islands, the only other colony known outside of Southeast Alaska. A breeding colony of Cassin's auklets on Suklik Island probably numbers in the tens of thousands. Fulmars are the most abundant breeding bird, and they occupy about 43 of the 55 miles of coastline during spring and summer. The Semidis represent as far as is presently known, the largest breeding aggregation of northern fulmars in the Pacific. Crested auklets were seen on the refuge, and could well nest there since suitable habitat occurs. Many of the smaller islands and islets have not yet been carefully surveyed, however.

Table 1 from the 1978 and 1979 Office of Biological Services reports by Scott and Martha Hatch gives estimated seabird numbers.

All known Semidi birds including the seabirds are listed in table 2, which was compiled by Scott Hatch.

In 1979, 17 small Canada geese were seen by Scott and Martha Hatch on Kiliktagit Island. Some of these birds had white neck bands characteristic of the endangered Aleutian Canada goose. One bird was captured and measured, and these measurements were hoped to be helpful in determining if the birds were B.C. leucopareia, but the results were inconclusive. On May 27, 1980, the Hatches counted 30-35 birds on Kiliktagit. Twenty-five of the birds were studied through spotting scopes and 23 (92%) were observed to have well defined neckrings at least 5 mm wide. The last two weeks in July, 10 adults and 6 hatching year birds were banded and morphological data taken. Standard culmen and tarsal measurements placed most of these birds well within the range of subspecies taverneri or parvipes, while the presence of a prominent neckring strongly favored classification with leucopareia. Hatch's conclusion was that the taxonomic status of the geese on Kaliktagik Island was still uncertain, (ref. Hatch S.A. & M.A. 1980, Population Status & Morphology of Canada Geese on Kaliktagik Island, Alaska). Recent

Table 1. Species and estimated populations of marine birds breeding in the Semidi Islands

<u>Species</u>	<u>Population</u>	<u>Distribution</u>
Northern Fulmar	475,000	All Islands
Fork-tailed Storm Petrel	?	Kateekuk, Suklik, others?
Leach's Storm Petrel	?	Kateekuk, Suklik, others?
Pelagic Cormorant	218	Mainly Chowiet, mobile
Red-faced Cormorant	3,082	Mainly Chowiet, mobile
Common Eider	100	Mainly Chowiet
Black Oystercatcher	200	Most Islands
Parasitic Jaeger	100	Chowiet, Aghiyuk, others
Glaucous-winged Gull	3,140+	All Islands
Black-legged Kittiwake	71,000	All Islands
Common Murre	800,000	All Islands
Thick-billed Murre	200,000	All Islands
Pigeon Guillemot	400	Mainly Chowiet, Aghiyuk?
Ancient Murrelet	1,000	Kateekuk, others?
Cassin's Auklet	10,000's	Suklik
Parakeet Auklet	100,000	All Islands
Least Auklet	15	Chowiet
Rhinoceros Auklet	1,000	Chowiet, others?
Horned Puffin	300,000	All Islands
Tufted Puffin	<u>300,000</u>	All Islands
Total	2,265,255	

Table 2. Checklist of the birds of the Semidi Islands, Alaska

Species	Relative Abundance	Breeding
Yellow billed loon*	R	
Arctic Loon	R	
Red-necked Grebe*	R	
Northern Fulmar	A	X
Fork-tailed Storm Petrel	?	X
Leach's Storm Petrel	?	X
Double-crested Cormorant	U	
Pelagic Cormorant	C	X
Red-faced Cormorant	C	X
Canada Goose	U	
Black Brant	U	
Mallard	C	
Pintail	C	
Green-winged teal	U	
American Widgeon	U	
Shoveler	U	
Greater Scaup	U	
Harlequin Duck	C	
Common Eider	C	X
King Eider	U	
White-winged Scoter	U	
Surf Scoter*	U	
Black Scoter	U	
Red-breasted Merganser	U	
Bald Eagle	C	X
Peregrine Falcon	C	X
Black Oystercatcher	C	X
Semipalmated Plover	U	
Surfbird**	R	
Ruddy Turnstone	U	
Black Turnstone	U	
Common Snipe	U	
Whimbrel	R	
Bristle-thighed Curlew	R	
Wandering Tattler	C	
Yellowlegs (unid)	R	
Rock Sandpiper	U	
Pectoral Sandpiper**	R	
Least Sandpiper	U	
Dunlin	R	
Dowitcher (unid)	R	
Semipalmated Sandpiper	U	
Western Sandpiper**	R	
Red Phalarope	R	
Northern Phalarope***	R	
Parasitic Jaeger	C	X

Table 2. Checklist of the birds of the Semidi Islands (cont'd)

Species	Relative Abundance	Breeding
Glaucous-winged Gull	C	X
Mew Gull**	R	
Black-legged Kittiwake	A	X
Common Murre	A	X
Thick-billed Murre	A	X
Pidgeon Guillemot	C	X
Ancient Murrelet	?	X
Cassin's Auklet	A	X
Parakeet Auklet	A	X
Crested Auklet	U	
Least Auklet	U	X
Rhinoceros Auklet	C	X
Horned Puffin	A	X
Tufted Puffin	A	X
Short-eared Owl	R	
Violet-green Swallow	U	
Tree Swallow	U	
Bank Swallow	U	X
Barn Swallow	U	
Common Raven	C	X
Winter Wren	C	X
Varied Thrush	U	
Hermit Thrush	C	X
Water Pipit	C	X
Yellow Warbler	U	X
Wilson's Warbler	U	X
Gray-crowned Rosy Finch	C	X
Common Redpoll	U	
Pine Siskin**	R	
Savannah Sparrow	C	X
Golden-crowned Sparrow	C	X
Fox Sparrow	C	X
Song Sparrow	C	X
Lapland Longspur	C	X
Snow Bunting	C	X

A = Abundant. Usually used for the most numerous of cliff-nesting seabirds.

C = Common Relative to normal range of nesting densities for breeding species, or denotes migrants observed in considerable numbers in both 1976 and 1977.

U = Uncommon One or a small number of individuals observed on only a few occasions

R = Rare One sighting of one or a few individuals

* Reported by W. Troyer, May 1971

** Reported by L. Leschner and G. Burrell, 1976

*** Reported by I.N. Gabrielson, 1940 or 1945

sightings in California of these geese with known flocks of Aleutian Canada geese from Buldir Island lend credence to the possibility they are indeed Aleutian Canadas. If it turns out they are, they will be about 1300 miles from the only other known breeding population (on Buldir Island),

Mammals found on the refuge include Steller's sea lions (including a rookery of 5,420 on Chowiet), harbor seals, sea otters in low numbers, occasional killer whales, and sei, Minke, finback and humpback whales. The only terrestrial mammal is the arctic ground squirrel, found so far on Chowiet, Kateekuk, Aghiyuk, Anowik and Kaliktagik.

The Semidis receive little public use. In the last few years, the Lindblad Explorer has called at the refuge once or twice, but it did not do so in 1980.

In addition to the OBS teams present the past few summers, the University of Alaska Geophysical Institute maintains a seismometer on the refuge, which requires annual servicing. A special use permit for this was issued in 1979 and is valid through 1982.

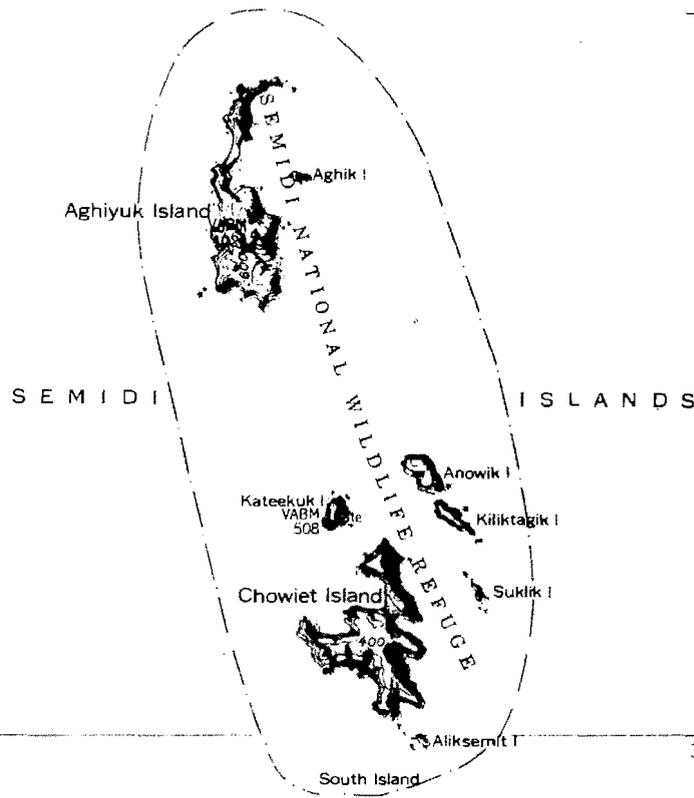
This report was written by Mike Nunn, reviewed and edited by John Sarvis, and typed by Jessie Ambridge.



UNITED STATES DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
BUREAU OF SPORT FISHERIES AND WILDLIFE

SEMIDI NATIONAL WILDLIFE REFUGE WILDERNESS AREA

PACIFIC OCEAN



157°

3

SIMEONOF NATIONAL WILDLIFE REFUGE
Cold Bay, Alaska

ANNUAL NARRATIVE REPORT
Calendar Year 1980

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

SIMEONOF NATIONAL WILDLIFE REFUGE

Simeonof is the outermost of the Shumagin Islands near the tip of the Alaska Peninsula in the Pacific Ocean and measures about 11,000 acres. It was placed in the refuge system in 1958 by Public Land Order 1749. On December 2, 1980, the Alaska National Interest Lands Conservation Act was signed by President Carter. Sec. 303 (1) (IV) of the act, included Simeonof in the Alaska Peninsula Unit of the Alaska Maritime NWR. The refuge is somewhat unusual in that adjacent submerged lands extending a mile beyond mean low water are included. All exposed rocks and islets within this radius are part of the refuge. Total refuge is 27,271 acres.

Simeonof is granite overlain with thin soil. The island is nearly flat, gradually rising to three small peaks, the highest at 1,436 feet. Cliffs are found only on the north end of the island. Soils support very limited grasslands along mountain bases. Otherwise heath tundra is the cover, consisting of a heath-salmonberry-willow association. The island is also noted for its warmer climate than surrounding lands, and its white sand beaches.

No funds or positions are carried for Simeonof.

The refuge was designated primarily to protect marine mammals, especially sea otters and harbor seals. About 500 sea otters and 1,000 harbor seals use the refuge for breeding, rearing young, and feeding. Other mammals are river otter, arctic fox, ground squirrels and several species of whales. There are some eelgrass beds in the unit, and some waterfowl and shorebirds use the area. Fourteen bald eagle nests were reported by cattlemen on the island, and they reported 11 eaglets fledged in 1980. Other species occurring there are willow ptarmigan, glaucous-winged gulls, oystercatchers, arctic terns, and mew gulls. Few seabirds occur because of lack of suitable cliffs. Some pink salmon and Dolly Varden use refuge streams.

The last paragraph of the Public Land Order establishing the refuge stated "the lands shall be administered for grazing by the Bureau of Land Management". In 1960, a 20 year grazing lease, for a maximum of 275 animals/year was issued with an expiration date of Dec. 31, 1980. The lease changed hands several times during that period and overstocking was common. The Fish & Wildlife Service was aware of the overstocking and subsequent overgrazing, as was B.L.M. The National Wildlife Refuge System Administration Act, as amended in 1976, transferred all of Simeonof management to FWS. The actual transition in the administration of grazing, however, was not completed until late 1980 when FWS acquired B.L.M.'s files. During the period 1962 through 1979, livestock counts varied from 82 to 732 head, and averaged 355 (29% in excess of the permit). BLM, however, took trespass action against the lessee only twice during



Simeonof NWR is noted for having the only white sand beaches in this area.

(302)1

Sarvis (3/3/81)



Aerial view of the interior portion of Simeonof NWR

(259)14

(259)14

Sarvis (4/25/80)

the period, and then only at the insistence of the Service. In 1980, the lessee finally paid \$7,500.00 in trespass fines. Due to the severe overgrazing that was occurring in 1978, it was decided that grazing would be eliminated when the permit expired. This would result in restoration of the vegetation and a return to more productive waterfowl nesting.

In addition to the overgrazing problem, damage to archeological sites is prevalent. In areas where cattle trails cross dunes near the beach, bank erosion has caused "sloughing off" of large areas and subsequent loss of artifacts. FWS archeologist Yarborough reported that the damage was more extensive than he had seen on any refuge, with the possible exception of the sites at Cape Sarichef, which had been "mined" by the Coast Guard.

For the past several years the lessee has known that his lease would not be renewed, but did not take any action to phase out his operation. On Nov. 4, 1980, he was formally notified in writing by RM Sarvis that he would have 90 days from Dec. 31, 1980 to remove the cattle and all personal property from the island. This decision was appealed by the lessee to the Regional Director. The Director upheld the decision but granted an additional six month period for the removal of the cattle, since the cows were bred and transportation difficulties are substantial in the winter, (copies of correspondence attached).

Barring political intervention, the cattle will be removed or become the property of the government this fall. The area will hopefully revegetate over a period of years, and should provide good nesting cover for waterfowl. Next year's narrative will document the outcome and hopefully detail the successful elimination of cattle from Simeonof.

Public use is limited to ranch personnel (usually 1 or 2 caretakers) and perhaps a handful of fishermen who take refuge in the harbor during storms. Access is solely by boat or plane. In October 1980, a Cherokee Six owned by Alyeska Air Service crashed while attempting to take off from the beach on Simeonof. The plane had been chartered by the grazing lessee. No one was injured, however the plane received substantial damage. The owner plans to salvage the plane in the spring of 1981 under a special use permit, but so far the plane still remains.

Simeonof is a National Natural Landmark because of its white sand beaches, a rarity in the entire Alaska Peninsula-Aleutian region where black volcanic sand is the rule. It was studied for wilderness and so designated on October 19, 1976 by P.L. 94-557.

Credits: This report was written by Nunn, edited by Sarvis, and typed and assembled by Ambridge.



Cattle, concentrating near the beaches on Simeonof Island have caused the development of large blow-outs of white sand causing degradation of wildlife and wilderness values.

(302)26

Sarvis (3/3/81)



This sandy area on Simeonof NWR illustrates the effects of overgrazing. The darker stubble is yarrow and the rest is dead roots and stems of former healthy vegetation.

(302)14

Sarvis (3/3/81)



The hazards and expenses of cattle ranching on remote Alaskan islands are many. The owner plans to repair this Cherokee 6 on the spot and fly it out.

(302)9

Sarvis (3/3/81)

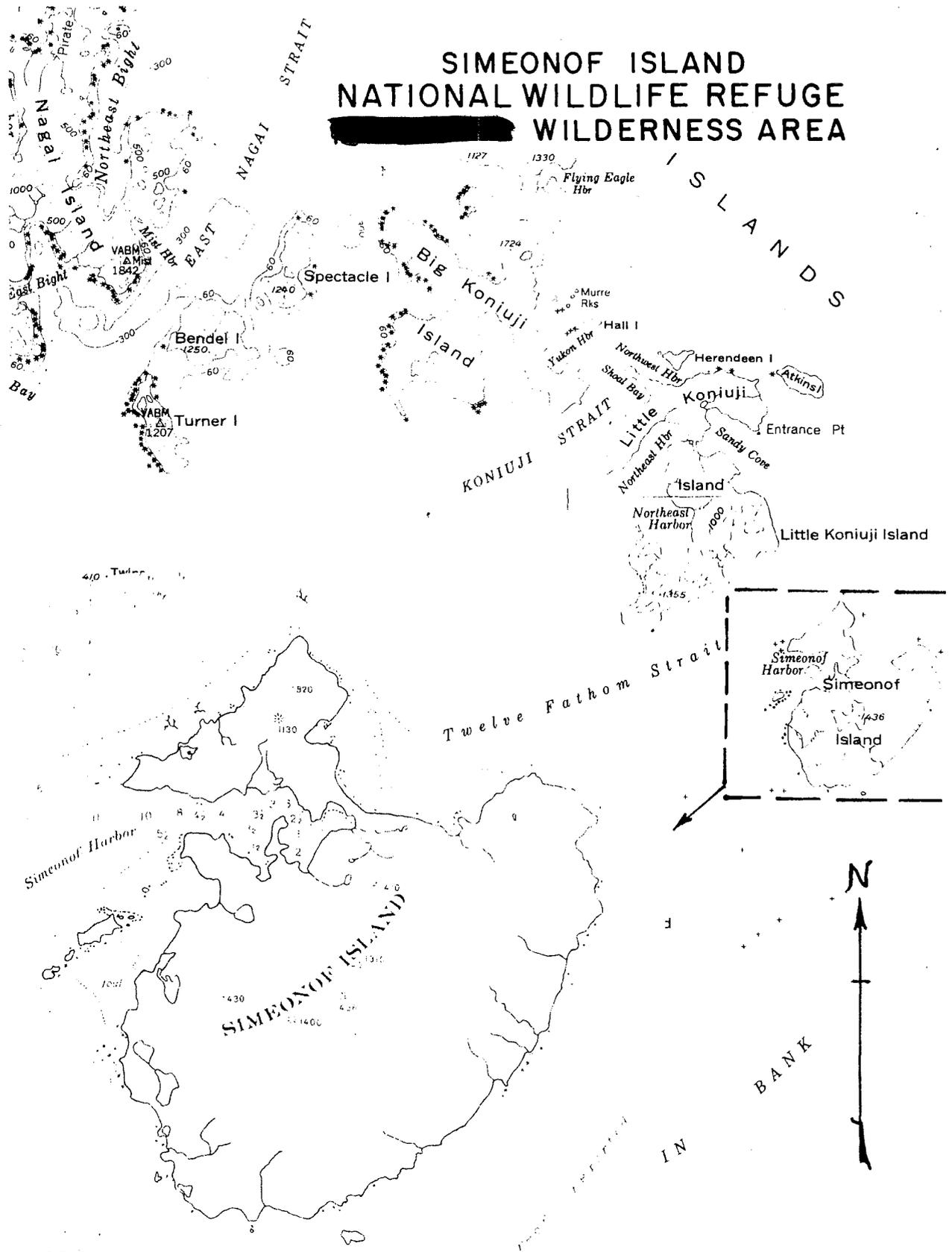


Ranch headquarters on Simeonof Island. They have cleaned up some since last year!

(258)28

Sarvis (4/25/80)

SIMEONOF ISLAND NATIONAL WILDLIFE REFUGE WILDERNESS AREA



11/14/80

376-5827

~~279-3829~~

Horace J. Woodworth
SR 5079-A
Wasilla, Alaska 99687

Dear Mr. Woodworth:

This is a reminder that the grazing lease (A053672) on Simeonof Island in the Shumagins expires on December 31, 1980. The Refuge Administration Act of 1976 transferred responsibility for the management of grazing on the Simeonof National Wildlife Refuge from the Bureau of Land Management (BLM) to the Fish and Wildlife Service (FWS), and this entire case file was recently turned over to us.

As you are aware from earlier discussions with the BLM and the FWS staff in Anchorage, your lease will not be renewed due to chronic overgrazing which has caused severe range deterioration and not considered compatible with the purposes for which the Refuge was established.

The Simeonof lease expires in less than 2 months. You are allowed an additional 90 days from the December 31, 1980 expiration date to remove all your personal property from the island. Anything left after March 31, 1981 becomes property of the U.S. Government, as stipulated in Section 6 of the lease.

You may appeal my decision not to renew the lease. Any opposition to nonrenewal of the permit must be submitted to me within 20 days either in writing or orally.

Sincerely,

John E. Sarvis
Refuge Manager

cc. Operations Manager (S)
Deborah Williams (SOL)

1-21-81

LAW OFFICES OF

BENKERT & WALTER

NATIONAL BANK OF ALASKA BUILDING
301 WEST NORTHERN LIGHTS BOULEVARD
SUITE 600

ANCHORAGE, ALASKA 99503
January 20, 1981

RONALD G. BENKERT
KARL L. WALTER, JR.

[907] 279-9664
[907] 279-9665

Keith Schreiner
Regional Director
U.S. Fish & Wildlife Service
Alaska Regional Office
1011 E. Tudor Road
Anchorage, AK 99503

~~RD~~
DR
3, ARD-WR
RF

Re: Grazing Lease SN A-053672
Simeonof Island in the Shumagin Group
Appeal of Horace J. Woodworth

Dear Mr. Schreiner:

Mr. Horace J. Woodworth, the lessee of the above-grazing lease does hereby appeal from the decision of John Sarvis, Refuge Manager, as contained in the attached letter dated December 22, 1980.

The reason for the appeal is that the suggested course of action outlined by Mr. Sarvis is unrealistic and the lease should be extended for an additional five years in which to allow the animals to be removed in a reasonable and profitable manner.

As the record discloses, Mr. Woodworth has endeavored in good faith since 1962 to develop a cattle industry on both Simeonof and Chirikof Islands at great hardship and expense. For example, despite extreme difficulty and expense he obtained female cows and transported them to Simeonof Island for breeding. At the time of the assignment of the lease, he had been assured by the then-BLM personnel that the lease could certainly be renewed, so he proceeded to spend much of his attention since 1962 to endeavors on the ranch.

In this appeal, Mr. Woodworth seeks an extension of the lease for an additional five year period of time so that the herd may be reduced and the investment and years of labor recouped within a realistic framework. Even if an extension of the lease is not granted, the time stated by Mr. Sarvis for removal of any cattle should certainly be extended.

The cattle cannot be removed at this time because transportation is, for all practical purposes, impossible in the winter time. Mr. Sarvis and other personnel recognize this fact. In recent years Mr. Woodworth removed four barge

Keith Schreiner
January 20, 1981
Page Two

loads of cattle prior to the time the barge sank. The barge has now been raised, but will not be serviceable for some time. A charter barge is cost prohibitive in relation to the value of the animals to be removed and their market price. If the animals do become the property of the government, the government would have no choice but to wantonly slaughter them because it is doubtful the government would be willing to pay the expense of their removal and any other party would face the same problems as Mr. Woodworth for a removal prior to March 31, 1981.

The main reason why the removal of the animals by March 31 is unreasonable is that in spring the cows are heavy with calves and the natural birth process should be allowed to continue until they are delivered and weaned. Again, there would be the needless destruction of the herd.

Mr. Woodworth disputes the statement that the forage is depleted in the sense indicated in Mr. Sarvis' letter. He has raised cattle for over 50 years, and in his opinion he does not believe that a few more years of grazing would generate the so-called harm mentioned. The letter indicates that there is an abundance of forage as has been Mr. Woodworth's experience and that the cattle would move to better forage if the over-grazing, as alleged in Mr. Sarvis' letter, has in fact occurred. Mr. Woodworth questions that the other dire consequences as outlined in the letter of December 22, 1980, are of the magnitude as suggested and he does not believe that the early removal of the animals would permit the degradation speculated.

In conclusion, Mr. Woodworth would request that the appeal be granted, that the lease be extended, and that an orderly arrangement for the removal of the animals be authorized over a period of years in order to allow recoupment of the investment be authorized. He would request the opportunity for a hearing and to meet with you to arrive at a mutual solution to the problem. He does not believe that the slaughter of several hundred head of cattle would be in the public interest and a solution to the problem reasonable to both sides would, however, be in such public interest.

Thank you in advance for your cooperation and assistance in this matter and I shall await hearing from you when we can meet and resolve this matter.

Sincerely,



Karl L. Walter, Jr.

Attorney for Horace J. Woodworth

KLW:nph
cc: Horace J. Woodworth