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ANNUAL NARRATIVE REPORT
Calendar Year 1978

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

US FISH & WILDLIFE SERVICE--ALASKA



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Review and Approvals

 2/15/79
Submitted by

Arctic National Wildlife Range
Refuge

Area Office

Date

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I. GENERAL

A. Introduction

The Arctic National Wildlife Range (ANWR) was established by executive order in 1960 for the purpose of preserving unique wildlife, wilderness and recreational values. The ANWR, located in the northeastern corner of Alaska, contains approximately 8,900,000 acres. The area was withdrawn from all forms of appropriation under the public land laws, including the mining but not mineral leasing laws.

In the Alaskan arctic the ANWR offers unique recreational and aesthetic opportunities. It is the only area in the United States where the transition from the arctic foothills to the coastal plain and Arctic Ocean is not yet committed to industrial development. It is the only practical area where recreationists may travel on foot or by boat and traverse a full range of north slope landscape and habitats due to the close proximity of the Arctic coast and mountains. Mt. Isto, 2,758 m; Mt. Chamberlin, 2,749 m; Mt. Hubley, 2,717 m; and Mt. Michelson, 2,699; the four tallest peaks in the Brooks Range are located in ANWR. The ANWR contains the only extensive glaciation in the Brooks Range as well as a full complement of arctic flora and fauna. This includes critical calving ground for the Porcupine caribou herd, the largest in Alaska (approximately 100,000 animals), reintroduced Muskoxen, and critical habitat for the endangered peregrine falcon, snow geese and other migratory bird species.

B. Climatic and Habitat Conditions

Arctic weather sharply contrasts with weather in other parts of Alaska. Average temperatures are cold. The Arctic Ocean and Beaufort Sea have a modifying effect on coastal temperatures despite the proximity of the offshore ice pack for 10 months of the year. Surface winds are relatively strong along the coast but weaken and become more variable further inland due to the influence of the Brooks Range. Although the terrain is continuously wet in summer and dotted with lakes, the amount of precipitation is low. Except at higher elevations the region is classified as desert--a desert of frozen land.

In the coastal and foothills areas, precipitation ranges from seven to less than five inches. Heaviest precipitation occurs in the highest elevations of the Brooks Range where the average annual amounts may be 40 inches or more in the ANWR. Most precipitation occurs during summer as rain.

The primary mode of transportation, flying, depends heavily on weather conditions. The only weather reporting station near the ANWR is at Kaktovik (Barter Island), on the northern coast. Average summer temperatures at Barter Island are 30° to 46° F; winter -20° to -6°; extremes -59° to -75°; precipitation seven inches, include 45 inches of snow; average wind E 11.5 kts; extreme wind 75 kts.



Don Ross on slopes of Mt. Chamberlin

(M.S. Spindler 9/78)

In the arctic, days are longer in summer and shorter in winter than at more southerly latitudes. From early May to early August the sun does not set in the northern half of the ANWR. From mid-November to late January the sun does not rise above the horizon; however, a short period of twilight occurs on each of these days.

The arctic receives most of its heat energy during summer. The decrease in heat energy in fall and winter is rapid. By September there is more outgoing heat energy than incoming--a negative energy balance. The heat energy balance is positive again in late March and early April. February is the coldest month, July the warmest.

C. Land Acquisition

Nothing to report.

D. System Status

Annual Work Plan advices were given in Migratory Birds, Mammals and Non-Migratory Birds and Interpretation and Recreation.

Annual Work Plan advices required the submission of two new management plans in Migratory Birds and five new management plans in MNMB. In I and R we were advised to draft an interpretive guide book and public use plan in addition to continuing advice from 1977. These expectations were not realistic in the time allotted and much of the requested work was not completed. Work on the requested plans continued through the end of the year. Most were in draft stage but work will continue in 1979 on some plans.

The interpretive guide book was suspended for the time being.

1. Funding

Funding in I and R and MNMB increased over FY 77 while funding in MB was less but more work required.

Fiscal Year 1978

Migratory Birds -	56,000
Mammals and Non-Migratory Birds-	216,000
Interpretation and Recreation -	<u>57,000</u>

TOTAL	329,000
Full time permanent staff -	7

II. CONSTRUCTION AND MAINTENANCE

A. Construction

The ANWR assumed control of the abandoned Naval Arctic Research Camp at Peters Lake and undertook rehabilitation of the buildings. Deterioration of exterior siding and porch and main roofs were the major items needing repair. In addition a mountain of empty fuel barrels



Peters Lake Cleanup

(P.J. Young 5/78)

and trash had accumulated and not been removed. The Holmes Research Station, as it is known, was last occupied in 1970.

An OAS, C-123 was chartered and the building materials landed on the ice on the 28th of May. In preparation for the aircraft's arrival empty and cut up barrels were stacked on the ice for loading. Approximately 175 barrels were backhauled to Fairbanks.

By October, when work for the season was completed, the bunk house and kitchen buildings had new main and porch roofs. New siding and stain was applied to the latter buildings as well as the laboratory. All buildings were stained or painted. Trash was burned and unburnable containers hauled to Barter Island. Trash from an exposed hill side dump was sacked up and put in storage for removal next spring.

Remaining goals for rehabilitation of the Holmes Research Station include removal of two Bombardier tracked vehicles and a canvas storage building housing the latter and trash stockpiled from the dump.

A 12x20 portable Weatherport tent was erected on a wood foundation on refuge land just outside the village of Kaktovik. The tent served throughout the summer as temporary housing due to the limited capacity of our permanent field station. The tent cover was removed in the fall and the frame and foundation left in place.

B. Maintenance

Safety hazard removal in the Kaktovik field station was not completed last year and work continued as time allowed this year. Paneling, sheet-rock and a room for the humus toilet were installed.

With the help of a Kaktovik villager, two trips were made by snowmachine up the Hulahula River in the spring to haul airplane wreckage to Barter Island. This wreckage, along with much other miscellaneous junk, was banded to pallets and shipped out on the annual Cool barge in August.

The Boston Whaler, at Kaktovik was beached and tied down and out-board motors drained and placed in storage.

III. HABITAT MANAGEMENT

A. Croplands thru D. Forestlands

Nothing to report.

E. Other Habitat

Barrels stockpiled on the Kongakut River last summer were removed in the spring using a ski equipped Helio Courier. In addition, barrels abandoned on the Sadlerochit and Jago Rivers were cut up and removed in the same manner.



Rehabbed Peters Lake Facilities and
Turbine Beaver N-754

(M. S. Spindler 9/78)

Ave Thayer and Norval Nersch (USFWS, Anchorage), conducted a field survey of present and potential gravel removal sites near Barter Island. They concluded that gravel should no longer be removed from any spits or barrier islands where the formation may breach and cause loss of protection of the productive lagoon system. Future, gravel removal efforts should be directed at River deltas - the Jago, Okpilak, or a small creek south of Barter Island. Further studies of the deltas will be required, however.

Approximately 1500 yards of gravel were removed from Arey Spit on Barter Island to complete ongoing construction in the village of Kak-tovik. Demand for gravel exceeds the available supply and at the close of the construction season all gravel users were put on notice that no future permits for gravel removal on Arey Spit would be granted. Arey Spit has sustained all the use it can stand without risking permanent damage. Recent studies for the Outer Continental Shelf program have revealed that gravel is not replaced on barrier islands and spits once it is removed. These areas are the least desirable sources of gravel.

F. Wilderness and Special Areas

The ANWR was proposed for classification as wilderness, but no action was taken when Congress failed to enact the D-2 legislation by December 18, 1978 deadline. Proposed additions to the ANWR were also stymied.

On November 16, 1978, Secretary of the Interior, Andrus, made an emergency withdrawal of all proposed D-2 additions under section 204 (e) of the Federal Land Policy and Management Act. This provides additional protection for these lands until Congress enacts D-2 legislation.

The Neruvokpuk Lakes (Peters and Schrader Lakes), were approved as a Public Use Natural Area. Research Natural Areas in the Range are Shublik Springs and Firth River-Mancha Creek.

G. Easements for Waterfowl Management

Nothing to report.

IV. WILDLIFE

A. Endangered and Threatened Species

In February all refuge employees participated in the Second Annual Raptor Workshop held in Fairbanks. Plans for a concerted field study to identify raptor eyries were dropped by 1978. Instead, a master eyrie site map for the ANWR will be established and added to as observations are made during other projects. Literature and local experts (Dave Roseneau and Bob Ritchie), will be consulted in 1979. Dr. Dave Murray and Rob Lipkin (Univ. of Alaska Herbarium) performed a natural landmark survey and endangered/threatened plant species survey on the coastal plain and at the Nervokpuk Lakes. All possible occurrences of endangered and threatened plant species were listed on a memo sent to AAO regarding refuge flora and herbaria.



Neruokpuk Lakes Public Use Natural Area

(Wilbur Mills 7/70)

B. Migratory Birds

1. Waterfowl, Marsh and Waterbirds and Shorebirds

Migratory bird work involved several census and habitat utilization projects. Planning was initiated in January and completed in March. Fieldwork was initiated in late May.

Mike Spindler and field assistant Eric Knudtson spent June and July at VABM Mars near the Okpilak River delta. Four, 0.5 km² census plots were established, and surveyed weekly for bird population. Total bird population was 21 birds/km² (waterfowl, loon, cranes, etc.). The most productive habitats were flooded tundra wetlands. The least productive habitats were tussock tundra areas.

Aerial transect surveys were made throughout the coastal lagoons and nearshore waters in July, August and September. Maximum population occurred in late July and early August in the coastal lagoons, where total population was about 80 birds/km². The most abundant bird species were Oldsquaw (15-30,000), Scoter sp. (500), Loon sp. (500) and King Eider (300). Bird populations in the nearshore waters were extremely low, 1.9-3.4 birds/km². Spindler, Jacobson, and Knudtson were observers during the surveys.

Ross and Jacobson conducted a Whistling Swan survey in August. They observed 173 adults and 50 cygnets. Major concentrations were at Demarcation Bay. Jacobson also attempted to confirm the presences of Trumpeter Swans at Demarcation Bay, but saw only Whistling Swans.

The staging population of Lesser Snow Geese was estimated at 225,000-325,000 birds. As in previous years, the first Snow Geese arrived in late August; maximum numbers occurred in mid-September; most Snow Geese had departed by late September. Ross and Spindler learned by experience that the best method of making accurate accounts from an aerial survey was to take aerial photographs.

An extra effort will be required next year to determine age ratios accurately.

2. Raptors, Other Migratory Birds

Mr. Delcan Troy, a graduate student at the University of Alaska collected about 80 redpolls near Demarcation Bay and VABM Dar near the lower Kongakut River. His project deals with cytogenetics and taxonomy of the two closely-related (and perhaps conspecific) redpolls -- common redpoll and hoary redpoll. Mr. Troy also conducted breeding bird censuses on two plots near the Demarcation Bay DEW site as part of the Arctic fox/prey relationship study being conducted by Mr. Robert Burgess and Dr. Phil Gipson of the University of Alaska.

Planning was initiated for compilation of an ANWR raptor nest site map. Spindler and Ross visited the Firth-Mancha Creek area in late November to determine the feasibility of establishing bird census



Staging Snow Geese

(C. J. Lensink)

plots in the farthest north White Spruce forests in Alaska, which occur adjacent to Mancha Creek.

C. Mammals and Non-Migratory Birds and Others

1. Game Animals

a. Caribou

Caribou are the most abundant big game animal on the Range and have been the subject of much attention from biologists and the general public. Approximately 100,000 animals comprise the Porcupine caribou herd. It accounts for about 20 percent of the caribou on the North American Continent. Calving in 1978 apparently took place in foothill and coastal plain regions of both the ANWR and Yukon Territory. Most of the herd winters in the Yukon Territory south of the Peel River drainage. Generally only a small number winter in Alaska. About 3,000 we've seen moving west and southwest near Arctic Village in November.

Composition counts of 11,000 caribou made during July in cooperation with the Alaska Department of Fish and Game showed extremely high calf production: 74 calves/100 cows. A fall composition count of 980 animals south of the Arctic Range indicated 62 calves/100 cows. This would be the highest fall survival rate recorded, but was taken from too small a sample to be conclusive.

It is believed that annual recruitment to the herd just about equals the herds natural mortality rate at the present time. This herd represents one of the greatest wildlife spectacles left to man.

For the past year discussions have taken place in Canada and Alaska with agency personnel of the U.S. Fish and Wildlife Service, the Yukon Wildlife Branch and the Northwest Territories Fish and Wildlife Service with regard to international agreements and treaties concerning the herd.

John Oldemeyer (USFWS - Denver Research Center) and his assistants visited the Range on two separate trips during the summer to begin a caribou habitat study on areas of the coastal plain.

b. Dall Sheep

Alaska Department of Fish and Game biologist Tony Smith and charter pilot Bill Lentch (Wright Air Service) continued the cooperative ADF&G/USFWS low-level aerial survey--inventory of Dall Sheep on ANWR. In 1976, they surveyed the Hulahula, Sadlerochit, Aichilik and Jago drainages, and the Sadlerochit Mountains. In 1978 they surveyed the upper Egaksrak and west side of the Kongakut Rivers. They identified a spectacular and unique aggregation of 800 sheep using over 13 mineral licks in a 100 mi² area known as Bathtub Ridge. Total count of sheep was 1,304 with



Bull Moose on a misty morning in the
Arctic National Wildlife Range

(Wilbur Mills)

an overall ram percentage of 14.4 and lamb percentage of 23.6. Together with the 1976 data, this suggests that ANWR has a total sheep population of 6050 about 18-19% of which are rams. Additional surveys on the east side of the Kongakut, the Egaksrak, Sheenjek, Chandalar, and Canning Rivers will complete the initial inventory.

FWS personnel Phil Koehl and Tony Booth conducted an evaluation of ground survey methods for Dall Sheep in the upper Sheenjek Drainage.

Cathy Curby, graduate student from University of Alaska, conducted a study in the upper Sheenjek River on Dall Sheep summer habitat use and behavior. Her final report will be completed in mid-1979.

c. Brown/Grizzly Bears

Brown/grizzly populations in the ANWR show lower densities and reproductive potential than population further south. The population on the Range is estimated at between 150 and 200.

There is both a fall (Sept. 1 to Oct. 10), and spring (May 10 to May 25), hunting season on the ANWR. No more than 10 hunting permits are issued. The known Brown/grizzly bear kill for 1978 was five bears.

Black Bears are few in number on the Range. They are occasionally seen on the south slope. There is no closed hunting season for black bears.

d. Moose

Moose on the Arctic slope are scattered and confined to areas of favorable habitat (riparian willow) in winter. There have been a few sightings of moose near the Arctic coast.

A fall aerial survey in the headwaters of the Sheenjek River showed an increase in moose numbers over 1977. The bull/cow ratio was nearly 1:1, and numbers of cows and calf production was nearly identical to the 1977 survey. Inter-drainage movement seems a partial cause for the observed increase.

e. Muskox

The initial Muskox transplant of 53 animals to the ANWR in 1969 is now showing real success and it is likely the population will continue to increase.

A total of 86 Muskox in five separate groups were counted and classified by ANWR staff during March. After calving, a minimum of 114 Muskox were observed. Groups with the largest numbers of individuals are found on the Sadlerochit River, Tamayariak River, and Okerokovik River.



Musk oxen on Arctic Coastal Plain

(USFWS)

Graduate students from the University of Alaska, Martha Robus and her assistant Ann Hendricks, spent several weeks on the coastal plain gathering information on a Muskox habitat study. This study will continue for at least one more year. Dr. Dave Klein and a new graduate student (Kent Jingfors) initiated a winter forage selectivity study of Muskox in mid-November.

f. Wolves

Though not numerous, wolves are widely dispersed over the ANWR and their numbers appear to be stable. They have repopulated the upper Hulahula River drainage following last year's decimation of a wolf pack by rabies.

2. Other Mammals

The ANWR supports a variety of fur animals. Only a few arctic foxes were seen during the 1977-78 winter on the coastal plain but increased numbers appeared through the summer, fall and following winter months.

University of Alaska graduate student Bob Burgess and Dr. Phil Gipson began intensive field-work on a study to identify Arctic Fox predation influence on bird and small mammal populations at Demarcation Bay. The use of fenced exclosures and electric fences failed, Caribou migrating through the area broke the fence around the plots. Planned 1979 activities will rely on visual and radio tracking of collared foxes to determine foraging behavior and impact on birds and small mammals.

Nineteen seventy-eight was a controversial year for subsistence Bowhead whaling by Native Village along the Arctic Coast. A quota was established by the International Whaling Commission. Intensive surveys during the spring showed there were many more of the endangered Bowheads than biologists had previously estimated. Kaktovik Eskimos captured two Bowheads during the fall whaling season. A third Bowhead was struck and lost.

a. Polar Bears

A significant number of polar bears have traditionally dened and produced young along the Alaska's north coast. The coastal and near coastal area of the ANWR is important denning habitat. No dens were observed on the ANWR this year.

Only a few bears were seen along the coast near Barter Island in the fall. One, and sometimes two, bear attracted by old whale carcasses stayed in the Barter Island area for a few weeks during the summer.

3. Resident Birds

Willow and rock ptarmigan are abundant resident birds. Huge flocks of willow ptarmigan - several hundred strong - feed and loaf in willow thickets in the foothill and mountain valleys

during the spring. Scattered groups of willow ptarmigan occurred in the Barter Island area as late as November, which is unusual since they are generally further inland at this time.

Snowy owls were commonly seen on the coastal plain during the summer. Their numbers appear to be increasing over the years.

4. Other Animal Life

During August several pink salmon were caught by villagers using gill nets off of Barter Island and Bernard Spit. Salmon are not commonly caught in the area, and people in Kaktovik could not remember ever taking so many.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. On-Refuge

The ANWR does not have a formal interpretive program.

Many influential members of Congress and the administration were on VIP tours in Alaska this summer to get a first hand look at proposed D-2 lands. Considerable interest was generated this summer because of a December 18, 1978 deadline for passage of this legislation.

Ave Thayer accompanied Robert Herbst, Assistant Secretary of Interior for Fish, Wildlife, Parks, and others on a tour of the ANWR in July. They spent a night at our Peters Lake camp.

John Durkin, Senator from New Hampshire and Secretary of Interior, Cecil Andrus, on separate visits stopped briefly at Barter Island. "Jake" Jacobson met with the Secretary and showed him around Kaktovik. On the return trip, Secretary Andrus had the opportunity to view the Porcupine caribou herd on its calving grounds.

2. Off-Refuge

Paul Benvenuti was active in developing interest and presenting environmental education programs to classes in the local school district. He also participated in "Career Day" at Eielson AFB and helped present programs during the Anchorage school systems, "Outdoor Week".

Mike Spindler conducted a short outdoor laboratory of taiga ecology at the Fairbanks Wildlife Management Area for a class from the University of Alaska. He also assisted the University of Alaska in obtaining live mount specimens and literature for displays regarding spring bird migration at Creamer's Field.

Ave Thayer and Don Ross travelled to Whitehorse in May to attend an organizational meeting for the Porcupine Caribou Committee.

This is an "ad hoc" committee of government agencies with responsibilities for management of the Porcupine caribou herd including the following: U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, Canadian Wildlife Service, Yukon Game Branch, Northwest Territories Fish and Wildlife Service, and the Alaska Cooperative Wildlife Research Unit as scientific advisors. An important outcome of the meeting was a resolution written and sent to heads of Canadian and U.S. Government agencies recommending adoption of a International Treaty between Canada and the United States for management of the Porcupine caribou herd.

B. Recreation

1. Wildlife Oriented

It appears that the number of sheep hunters increased again from the previous year but overall visitation was probably about the same or slightly greater than last year. The lack of accurate harvest data for sheep, and control over the distribution and number of sheep hunters has become a chronic problem. It is of increasing concern in the face of mounting sport hunting pressure on sheep combined with subsistence hunting by residents of Kaktovik.

A sheep hunting entry permit system and Public Use Plan for the ANWR was prepared by refuge staff in the spring. A proposal by USFWS was submitted to the Alaska Board of Game to limit sheep hunting within the Arctic National Wildlife Range to one ram with full curl or larger. This proposal was not approved.

Only three permits were issued to guided hiking groups this year: one to Henock: Infinite Odyssey, one to Quirk: Wilderness Alaska Unlimited; and McCammon: for the Sierra Club. Permits for guided sheep hunts were issued to Andreis, Grasser, Knutson, Langvardt, Rivers, Want, Wassom, and Wirschem.

Doug Chadwick and Lowell Georgia, writer and photographer, respectively, for National Geographic Magazine, spent most of the summer gathering material for a story about the ANWR.

Bill and Laura Riley, writing a guide to the Wildlife refuge system, made a brief visit to the ANWR.

2. Non-Wildlife Oriented

Recreation by both native and non-native visitors is almost exclusively wildlife oriented. Most non-wildlife oriented recreation occurs around Barter Island and involves use of snowmachines.

C. Enforcement

A case of wanton waste of sheep meat was reported to refuge staff in Barter Island. The hunters had just departed Barter Island for Anchorage, via private aircraft charter. Hurried telephone calls were placed and the hunters were met and cited by Wildlife Protection Officers when they landed in Anchorage.

Two teams of two individuals were placed in the field during spring bear season but no activity was noted. Another team of two persons was placed in the field during the sheep season. One party was suspected, after the fact, of hunting without a guide but not enough information was obtained to follow up the case.

No other violations were reported.

VI. OTHER ITEMS

A. Field Investigations

Archeological investigations on the ANWR were continued during the summer months by Curtis Wilson (Anchorage Area Office) and five assistants. They looked at areas of the Canning River drainage including Eagle Creek, Cache Creek, Ignek Valley and along the Katakaturuk River to the coast at Camden Bay. They also inspected coastal portions of the Demarcation Bay area. The majority of their time was spent at the Turner River overlook site in the northeast portion of the ANWR. A relatively large number of early Eskimo people apparently lived at this location for parts of several years before contact with Caucasians. A variety of animal bones, tools, weapons and other items were found.

Brief descriptions of other field investigations are mentioned in Mammals and Migratory Birds sections of the narrative. The following field investigations were carried out in 1978:

Robert Burgess (U of A) assistant-Sandy Elder: Arctic Fox Ecology
Mike Jacobson and Don Ross: Swan Distribution and Abundance
Cathy Curby (U of A) assistant - Ann Harvey: Dall Sheep Habitat
John Oldemeyer (USFWS--Kenai): Caribou Habitat
Martha Robus (U of A) assistant--Ann Hendricks: Muskox Habitat
Mike Spindler (ANWR) assistant--Eric Knudtson: Bird Populations in Coastal Wetlands

Declan Troy (U of A): Avian Taxonomy
Mike Spindler (ANWR): Snow Geese Distribution and Abundance
Curtis Wilson (USFWS--AAO) assistants--Tom Lorenz: Archaeology
Julie Steele
Pamela Ivie
Virginia Butler
Barbra

B. Cooperative Programs

Special Use Permits for surficial geology studies issued to the following companies:



Archaeologists at work on the
Arctic National Wildlife Range

(M. J. Jacobson 1978)

Atlantic Richfield Company
Chevron, USA
Dome Petroleum
Exxon Co., USA
Mobil Oil
Shell Oil Co.

Richard Chapman received a permit for wolf research on ANWR but did not receive funding for the project. Declan Troy was given a permit for collection of redpolls and long billed dowitchers for taxonomy studies. The University of Washington received a permit for a study of soil and plant relationships. David Murray, University of Alaska, received a permit for evaluation of ecological and geological landmarks. The Los Alamos Scientific Laboratory was issued a permit for a hydro-geochemical and stream sediment survey, Don Ritter, Alaska Division of Public Health, received a permit to collect small mammals for disease studies. Special Use Permits were also issued to the Kaktovik Inupiat Corporation and North Slope Borough for gravel removal, and to Navigation Services, Inc. for unmanned radio positioning transmitters.

Over the past 60 years thousands of 55 gallon drums have been abandoned across the north slope of Alaska including the ANWR. The high cost of removing barrels from the ANWR has been a major stumbling block, but we may have found a solution to the problem.

This year a rehabilitation project to remove barrels and other military debris was started with establishment of a YACC program on the ANWR. YACC camps will eventually be established at Camden Bay and Beaufort Lagoon. Richard Williams was hired to coordinate the project. Material for the two camp locations was flown to Barter Island. Abandoned DEW line buildings at these locations will be remodeled and used as camps. Remodeling of buildings at Beaufort Lagoon began this fall. Planning for establishment of the first camp next year at Beaufort Lagoon continued through the winter.

C. Items of Interest

Two permanent full-time people were added to the staff this year. Mike Spindler, Assistant Refuge Manager, and Richard Williams, YACC Coordinator.

Compromise D-2 legislation was torpedoed by Alaska Senator Mike Gravel in the waning hours of the 95th Congress. Senator Gravel was quoted as saying that he did not think Interior Secretary Cecil Andrus was serious about invoking the 1906 Antiquities Act.

On December 1, 1978, President Carter created 56 million acres of National Monuments in Alaska under the 1906 Antiquities Act. Thirteen monument areas will be managed by the National Park Service, two by Fish and Wildlife Service, and two by the Forest Service.

A draft International Treaty for management of the Porcupine caribou herd was being circulated for comment in December.



Barrels on Jago River

(USFWS)



Barrel Debris on the Arctic Coast

(USFWS)

A Helio Courier aircraft was test flown to determine its suitability for refuge operations. The overall evaluation was favorable and the aircraft will be assigned on a full-time basis to the ANWR. This aircraft has superior range and short field landing and take-off capabilities. In addition the aircraft structure was designed for crash survivability in the event of an accident.

A new school gymnasium complete with basketball court and a small swimming pool was opened for use in Kaktovik in November.

A radio-collared caribou that had been part of the Central Arctic herd was detected by Alaska Department of Fish and Game biologists among a small group of caribou near Schrader Lake in November.

A walrus was shot during the summer near Barter Island by Kaktovik residents. Walrus are rare in this area and villagers have taken only four or five in the past twenty years.

The State's Point Thompson oil lease sale just west of the Range, was postponed for an indefinite period. Disapproval of the sale by villages on the arctic coast played a big part in its postponement.

Precipitation gauges at Barter Island, Jago River and at Kavik are being checked periodically by refuge staff by agreement with the Soil Conservation Services.

Kaktovik residents signed a petition opposing opening of the calving grounds of the Porcupine caribou herd to oil exploration. They support having an international meeting of Alaskan and Canadian villages that hunt the Porcupine herd.

Mike Spindler attended an Oiled-Bird Cleaning Workshop in Anchorage; Mike Jacobson attended a Trumpeter Swan Conference in Anchorage; Spindler attended the Outer Continental Shelf Vertebrate Consumer Workshop in Fairbanks. Spindler has completed a draft manuscript co-authored with Dr. Brina Kessel, entitled "AVIAN POPULATIONS AND HABITAT PREFERENCES IN INTERIOR ALASKA" to be submitted for publication in Syesis in 1979.

D. Safety

Paul Benvenuti obtained an instructor's rating in a Red Cross Multimedia First Aid Course. He has instructed this course for Service employees and graduate students from the University of Alaska. He also instructed a Cardio Pulmonary Resuscitation course for refuge staff and will teach an advanced first aid course in early FY 79.

Don Ross travelled to Arizona to attend a turbine engine school, a requirement prior to checking out and flying N754, a turbine Beaver. The latter aircraft was flown briefly in the spring to assess its suitability for use on the ANWR.

Don Ross attended the OAS ground school held in Anchorage.

No accidents to visitors were reported.