



REFUGE NARRATIVE REPORT

OF

ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

May - August, 1963

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REFUGE NARRATIVE REPORT

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ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

AND

IZEMBEK NATIONAL WILDLIFE RANGE

Cold Bay

Alaska

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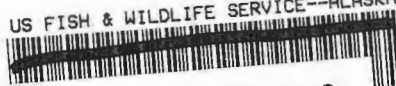
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U. S. DEPT. OF THE INTERIOR
Bureau of Sport Fisheries and wildlife
Fish and Wildlife Service
Cold Bay, Alaska

US FISH & WILDLIFE SERVICE--ALASKA



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ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

AND

IZEMBEK NATIONAL WILDLIFE RANGE

NARRATIVE REPORT

May 1, 1963 - August 31, 1963

I. GENERAL

A. Weather Conditions. The principal activities reported herein were conducted under conditions of intimate association with the weather, and its influence was recorded in the personal impressions of the participants. Thus, mention of the expedition to Buldir Island conjures a picture of wind and rain, while those to Chagulak and Kasatochi evoke memories of calm winds and an oily sea.

Generally, the summer weather has been stormier than usual; and on the Izembek Range, at least, more rainfall has accumulated, for at the time of writing the lakes are at flood level.

The reason for the stormier weather in the western Aleutians (and this fell at the time of the Buldir Island expedition) was the failure of the storm track to move north into the Bering Sea. Instead it pursued the winter course right down the "Chain".

Climatological Data for the Cold Bay Area obtained from the
U. S. Weather Bureau

	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>
Temperature (°F) Max.	58	56	61	65
Min.	26	33	42	38
Avg.	40.8	45.9	50.6	50.6
Precipitation (inches)	1.32	1.6	4.28	2.69
Snow and sleet (total)	0.9	0.0	0.0	0.0
Winds (MPH) Max.	43	40	38	44
Winds avg. for month (MPH)	16.1	17.1	15.8	15.6
Peak Gusts (MPH)		55	53	

Climatological Data for Adak obtained from the U.S. Naval Weather Service

	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>
Temperature (°F) Max.	46	56	56	56
Min.	38	35	46	45
Avg.	41	43	51	51
Precipitation (inches)	5.81	3.52	2.23	0.98
Snow and sleet (total)	1.8	T	0	0
Winds (knots) Max.	54	46	56	41
Winds avg. for month (knots)	11	12	09	10

B. Habitat Conditions.

1. Water. Water management is not practised on either the Aleutian Island Refuge or the Izembek Range.

2. Food and Cover. On the Izembek Range, the focus of attention is on the eelgrass beds for these are the golden eggs that produce the geese. This year a study of eelgrass production in the Aleutian Islands - Izembek Bay area was initiated, leading to a knowledge of the growth of the grass and the conditions of the environment that produce this growth. No data are as yet available, although extensive observations have been recorded. It is expected that more useful information will begin to emerge in the second summer of the study.

Eelgrass production in the Izembek Range, as superficially observed year to year (based on density), was high. In addition seed production was high.

Eelgrass of the so-called variety latifolia was observed in sizeable beds in Portage Lagoon, Atka Island. This is the western-most record in the Aleutian Islands except for the experimental introduction on Adak Island.

This experimental introduction of eelgrass was still going, i.e., there were plants still alive, although less than the original planting. The planting was on such a limited scale that inimical factors could be expected to dominate. Even so, some of the plants had survived two years.

On the heath of the Izembek Range berry production, principally crowberry (Empetrum nigrum), was good. E. nigrum is the chief producer of berries useful to waterfowl year in and year out and cranberry (Vaccinium vitis-idea) is second. The latter is markedly less constant in production, and the volume this year would be rated fair.

Other berries, of less importance to waterfowl but in some cases of considerable importance to other wildlife (notably Alaska brown bear) show variable production. Salmonberry (Rubus spectabilis)

production in the Izembek Range must be at or near an all-time high, nagoon berry (Rubus stellatus) scarce, strawberry (Fragaria chiloensis) scarce, and low-bush blueberry (Vaccinium uliginosum) abundant.

The reasons for the substantial variations in berry production are not known to us.

II. WILDLIFE

A. Migratory Birds.

1. Geese. The discovery of a nesting population of Aleutian Canada geese on Buldir Island in late June 1962 prompted plans, that began formulating while we were still on the Island, to return in July 1963 and capture goslings for propagation and ultimate restoration to the Aleutians. Planning was completed by the end of November, 1962 and first procurements were then set in motion. Later planning at the Central Office level resulted in a determination that the propagation would be conducted at the Monte Vista Refuge by the Branch of Wildlife Research, and that Erv Boeker and Karl Kenyon would join the field crew, already comprising Mil Zahn and the two Refuge members, Jones and Berns.

The imponderable factor in operations at Buldir Island stems from the exposed nature of the landing beach and the absence of protection from the relatively heavy swell that is characteristic of the North Pacific Ocean. All hands entertain reservations about the landing and reembarkation; but this time, though the operation was dogged by adverse weather, both of these amphibious details were conducted under admirable conditions. The rocks that had been exposed in 1962, ruling out the use of the Coast Guard's heavy landing boats, were this time covered with sand and the Buoy Tender CLOVER's motor-self-bailer was brought right to the beach. This was on July 7, the date of our arrival at Buldir, and later (July 19) when the Cutter KIAMATH called for us her boat was able to do the same under conditions that were ideal. The wind was offshore in each case so that the roughest water was encountered alongside the ship, but this was not severe.



Figure 1 The beach at Buldir Photo by Kenyon

Our initial camp site proved untenable for light tents in the high winds that dominated our sojourn of nearly two weeks at Buldir Island. The cook tent was the only canvas cottage we possessed that was of sufficient strength to withstand the velocities prevailing in the wind tunnel we inhabited, and this was true only because of the lavish use of driftlogs brought from the beach. Damage to the light tents dictated an early withdrawal to a beach site under the lee of a low headland. Winds at sea during this period (according to the U.S. Navy Weather Service at Adak) rarely dropped below 35 knots and at Buldir, where the contours of the mountainous terrain influenced the air flow, reinforcement was substantial. It is perhaps unnecessary to add that the inconvenience and discomfort of the wind was aggravated by what seems in memory to have been a continuous flow of precipitation. A spectacular part of the image this writer retains is of a series of water spouts issuing from the pass off Northwest Point as the storm commenced on the day of our arrival, but these were drowned in the general precipitation that poured into the head of our valley and drove down upon the huddle of tents at the beach.

The first four days on the Island, days that would normally be utilized in establishing and improving the camp, were devoted to hanging onto the beachhead, and improvements were never made. We just flung up a bit of canvas and crouched behind it, until a break in weather permitted the work for which we had come so far.

Uncertain as we were about requirements that the goslings would place upon us, we had provided for a wide range of possibilities. The weather imposed the first compromise, and we decided to use one of the small tents as an aviary. It was waterproof, had a floor, and offered the option of closing the door against excessive circulation and rain, or opening for increased ventilation. A flameless gasoline burning heater maintained the temperature in the 60 to 68 degree Fahrenheit range, and the aviary proved quite successful.



Figure 2 Aleutian Canada Geese on Buldir
Photo by Kenyon

The fifth day, the 11th of July, offered the best weather we experienced at Buldir and good use was made of it. The Island boasts only one lake, rather like a cirque, located about half-way down the Island's north side at the summit of an 800 foot-high cliff. Habit dies hard, and in our group there was the belief that waterfowl should be sought on water, even though our evidence suggested the contrary in this case. There was a school of thought that the broods would be led to this lake, and to test this we proceeded to where the chart showed the lake to be. There we found 120 adult Canada geese, whose behaviour suggested they were moulting, and a brood of five goslings. All five of these were taken at the end of a breathless chase that led us up the rim of the "cirque" and over the edge of the cliff to where the downy birds were scuttling for cover. These birds were taken home and placed in the aviary, and our questions regarding their care and feeding became, in that moment, pertinent.

We did not long remain in doubt. The will to live is tenacious in a Canada goose, wherever he may be found; and though we offered these birds strange foods (Purina game bird chow) they took to them just as they did to water. This was a great relief to us for, though we were prepared to hydroponically sprout grain in a greenhouse provided for the purpose, we had hoped the meal would prove palatable.



Figure 3 Aleutian Canada gosling Photo by Berns

Subsequent to the capture of this brood we sought and found the birds on the sea cliffs supporting enough vegetative growth for food and cover. The climatic conditions which favor this adaptation has been discussed (Jones, Annual Report, The Wildfowl Trust, 1962). We were permitted effective access only to the north side of the Island by the harsh weather conditions, but each gully

or grassy slope that we visited revealed the presence of geese. We have no way of knowing if the 120 adults observed on the lake represent the entire non-breeding population, which is a pity, for our observations of a year ago suggest that there are more birds on the south side than on the north. Thus we still cannot estimate with accuracy the number of geese on the Island, however, the population appears to be in a healthy state.

The presence of a brood was not difficult to determine, for apparently the home range of the brood is quite limited, and droppings accumulate rapidly. Except in the tallest cover the birds revealed themselves, by the accumulation of droppings, by the open presence of the adults and, by the scurrying of the goslings from cover to cover. Once located, they were not generally difficult to catch. A certain hazard attaches to this enterprise because of the avalanches, which are active. The numerous star-shaped impact marks produced on rocks by heavy rocks falling from above, mutely attest the nature of the hazard. Then too, the interstices among the rocks of the avalanches invite unwary feet. None the less, the charm of the cliff-dwelling geese beckoned to us and we found ourselves again and again upon the avalanches.

Nor are these cliffs and avalanches otherwise devoid of life. Quite the contrary. They are in fact densely inhabited by thousands of Alcids, but more of that later.

A total of eighteen goslings were caught, held captive, and later transferred to Denver. Three of these were appreciably smaller than the rest; too small as it developed, for two ultimately died. The decision to stop with eighteen birds was in recognition of the saturation of our facilities.

Crates measuring 24" X 18" X 16" were prefabricated at Adak of light weight materials and assembled at Buldir. These consisted of a framework covered on the sides, top, and bottom first with burlap and then with poultry netting. The ends were 1/4" plywood, which furnished the necessary stiffness. Inside, the birds stood on 1/2" hardware cloth, under which there was a 3/4 inch space for droppings to accumulate on a sheet of waterproof building paper. The size of these crates seemed large, but the probability of delays enroute to Denver indicated the desirability of increased space. As things developed there were delays, and the goslings remained in the crates 75 hours. The sixteen survivors had achieved full growth according to Erv Boeker by September 4th when they were transferred to the Monte Vista Refuge.

The final spring record of brant in numbers on the Izenbek Range is dated May 23rd, on which date there were 2500 to 3000 brant in Applegate Cove and about 200 in Hook Bay (Bechevin Bay).

A flock of about 200 Canada geese was sighted in Cold Bay on May 12th, and on June 4th another flock of about 25 was recorded.

In Izenbek Bay a few brant remained all summer, as is usual, but it is not known if any of these nested in the area. The first record of brant returning from the north is dated August 23rd, and by the 26th there were large numbers in the Bay. On this date the first Canada geese (Taverner's) were observed arriving near Grant's Point. By the end of the period the avalanche migration was in full swing.

2. Ducks. In mid-June a single drake Steller's eider was observed in a flock of harlequin ducks at Amak Island. Later, at Buldir Island a few harlequins and common eiders were observed. One female harlequin, which we dubbed "the people watcher", apparently quite curious about our presence, swam back and forth at the edge of the water on our beach. The other ducks observed at Buldir consisted of a moulting mallard drake, two common teal hens, and two red-breasted mergansers. At Chagilak Island approximately 50 harlequins and a few common eiders were sighted.

The first Steller's eiders in numbers are recorded about Round Island in Izenbek Bay August 18th and 19th. Thereafter the influx slowed almost to a standstill. No fact is available to us at the time of writing that would explain why so few of these birds arrived on normal schedule.

3. Swans. Aerial observations of whistling swans were made while conducting caribou counts on Unimak Island and the tip of the Alaska Peninsula. On May 5th a nest containing six eggs was recorded near Swanson's Lagoon. This nest was built on a platform of grass and was obvious from the air because the adults had picked, for nest building, all the grass for a radius of thirty feet from the nest. Altogether seven nests, five of them on Unimak Island were recorded in May incidental to the caribou count.

Near Cape Lazaref on Unimak Island, thirty swans were observed in a stream resting on a gravel bar May 21st. This is the largest group sighted during the reporting period.

4. Cranes. Two little brown cranes were observed in the swampy area about midway down Unimak Blight, May 4th. June 14th two others were observed flying near Russell Creek at Cold Bay.

Although no nests have been found, cranes are regularly observed in the western Aleutians and it seems likely some nest on the Refuge.

5. Waterbirds and shorebirds. The largest numbers of a single species observed by the Refuge staff this summer were the fulmars (Fulmaris glacialis), seen on Chagulak Island, July 25th.



Figure 4 An incubating fulmar on Chagulak Island. Photo by Berns

Chagulak is one of the islands in the "Chain" on which foxes were never introduced and we went there in search of nesting Aleutian Canada geese. We found no geese, and it seems unlikely that any were ever on Chagulak for the fulmars were present in such density as to admit of no other nesters, except for kittiwakes and murre on the cliffs too steep for the fulmars.

A word about Chagulak Island. The U.S. Coast Pilot says, "Chagulak Island is a steep, volcanic mountain having a sharp peak 3,750 feet high at its summit. Its rugged slopes, mainly a series of sharp, steep-descending rocky ridges marked by numerous pinnacles, terminate generally in rocky cliffs at or near the shore. The island is steep-to on all sides and soundings give little indication of danger. The cove on the west side formed by the southwest point offers protection and a possible landing for small craft during southeast weather; its approach, however, is endangered by violent tide rips.

"Chagulak Island is a nesting place for whalebirds and small gulls which fly in great numbers around the island within a radius of a few miles, and in foggy weather may indicate the proximity of the island."



Figure 5 The steep cliffs of Chagulak Island
Photo by Berns

To say the Island is rugged and impressive is to beggar the description. It is quite the most impressive in the "Chain", and in this writer's opinion, ranks with the most impressive views in the National Parks System. We proceeded to the Island aboard the USS MOCTOBI, a US Navy fleet tug, in dense fog that cleared just as the ship reached a point north of the Island. The appearance of the sharp peak, the unusually steep slopes, the erect pinnacles reaching almost 2,000 feet, and the hundreds of thousands of fulmars wheeling about the Island, from the beach to the summit, brought the entire ship's company to a momentary standstill.

On another occasion, July 6th, we encountered somewhat similar numbers of crested auklets (*Aethia crestatella*). This time we were aboard the Coast Guard Buoy Tender CLOVER, bound for Buldir. Just at sundown the ship was passing to the south of Gareloi Island and we were treated to the spectacle of an inbound flight of crested auklets. The passage of the birds continued for about a half hour and stretched as far ahead and astern as we could see in the gathering darkness.

At Amak Island in mid-June another large concentration of pelagic birds was observed. This comprised the murres and kittiwakes that nest on the cliffs of the western side of the Island. It is difficult to assess numbers in these large colonies, but the writer believes this may be one of the largest colonies of these birds in the Refuge.

Kasatochi Island (in the Andreanof group), also the nesting site of large numbers of pelagic birds, was visited the 4th of August. This Island is unique in that it is a volcanic cone with a crater lake occupying its center. The walls of the crater are sheer, and it is these cliffs that the birds inhabit. The writer visited the Island for only a brief time to determine if fox elimination efforts had been successful. There were, alas, still foxes on the Island, as the fresh trail which greeted us upon emerging from the water, revealed. Kasatochi is a small island lying well away from the nearest large islands, hence is subjected to the swell of the open sea. On the occasion of this visit we were aboard the USS MOCTOBI and had with us our dory WANDERING TATTLER. Though the wind was calm the swell was breaking on the rocky beach such that landing the dory would pose considerable risk to her. We solved this by anchoring the dory about 200 yards offshore, where she rode quite comfortably, and swam ashore in diving dress that is known as a "wet suit". As the ship was hove to and awaiting our return it was not possible to climb the few hundred feet of slope to the crater's rim for a look at the bird colony. There were, however, several very large flocks of birds wheeling about the Island. They were auklets, possibly least auklets, as there were a number of these on the water.



Figure 6 Least auklets on Buldir Island
Photo by Berns

At Buldir Island we witnessed for the second time the large numbers of pelagic birds nesting there. These included least and crested auklets, horned and tufted puffins, murre, kittiwakes, glaucous-winged gulls, Leach's and fork tailed petrels, and smaller numbers of parakeet auklets.



Figure 7 Horned puffin on Buldir Island
Photo by Berns

B. Upland Game Birds.

Ptarmigan. We found no evidence of ptarmigan on either Buldir or Chagulak Islands, but on Atka several were observed.

On the Izembek Range the population level appears to be gaining ground slowly, and it is not now uncommon to encounter ptarmigan in most areas where alder thickets are a dominant part of the vegetative cover.

C. Big Game Animals.

1. Alaska brown bear. Averill Thayer, Refuge Enforcement Officer from the Kenai National Moose Range spent the month of May at the Cold Bay headquarters conducting bear hunting patrols and caribou counts. In all, 68.4 hours were spent flying Super Cub N724 on these activities.

It was intended to gain information concerning alleged use of aircraft in hunting bears, but the expected hunting pressure did not develop. Five airplanes were observed in hunting activities and only one of these actively circling a bear. Upon investigation this one was found to be engaged in photographing the bear.

Much of the flying was done at high elevations so that violations might be detected without alarming the violator, and under these circumstances fewer bears were observed than at lower elevations. None the less, five to eight bears were sighted each day. Many of these were considered daily sightings of the same animals feeding on carcasses of marine mammals washed ashore.

This summer the problem of bears making nocturnal excursions into the town of Cold Bay and availing themselves of the contents of garbage cans became acute. This seems to be correlated with poor salmon runs creating a want of natural food. Or at least this is the generally accepted view, and perhaps it is correct. But it is clear that were the garbage cans emptied each evening during this critical period the problem would not exist. Late in the period one unfortunate little bear, while exploring the storm porch of one Cold Bay resident pushed the normally open door shut behind him. There was, of course, no option but to shoot the bear, and considerable impetus was given to anti-bear attitudes. Happily the incursions of the bears terminated at that time and we carried the day. But the maintenance of Alaska brown bear populations in close proximity to human settlements is dependent on preventing the baiting of bears into towns.

The following is a list of bears taken in the Cold Bay area. The measurements were furnished by the hunters.

<u>Area</u>	<u>Square measure</u>	<u>Sex</u>
Littlejohn's Lagoon	8' 2"	Male
Littlejohn's Lagoon	7'	Female
Thin Point Lagoon	10'	Male
Thin Point Lagoon	10' (Approx)	?
Cathedral Valley	9'+	Male
Cathedral Valley	8' 6"	?
Swanson's Lagoon	6'	?
Swanson's Lagoon	8'	Male
Trader's Cove	7' 8"	Male

2. Caribou. A count of the Unimak Island caribou was made in May, but weather unsuitable for flying intervened and the count is incomplete. None the less, 904 animals were tallied in what is the largest count since the 1940's.

The first calf noted was observed May 23rd.

3. Feral reindeer. The writer visited Atka Island at Portage Bay the 4th of August. Several hundred reindeer were observed on the high slopes, all of them apparently having completed the moult. The summer range was in excellent condition, although evidence of grazing and trampling was apparent. We did not go above approximately 500 feet elevation, and to that level did not observe any lichens. Five bulls were killed by hunters on this occasion and all five were in excellent physical condition. Subcutaneous fat over the rump was approximately two inches thick.

D. Fur animals, predators, rodents and other mammals.

1. Red fox. Foxes are currently abundant on the Alaska Peninsula and Unimak. Numerous sightings of foxes were recorded during the bear patrols and caribou counts.

A dense population of red foxes, reminiscent of the blue fox population on Amchitka, was observed on Amak Island. The Island was visited at low tide and numerous foxes were on the exposed shelf adjoining the beach feeding on marine invertebrates.

2. Wolverine. None were observed on Unimak Island, however, several were sighted on the Alaska Peninsula.

We have a report of one wolverine following a bear, to the latter's annoyance. The bear chased the wolverine into an alder patch then went about its own business, only to have the wolverine resume its shadowing. What might have happened if the bear had not detected the observers presence and departed rapidly, is a subject of interesting speculation.

3. Sea otter. At Buldir five mothers with pups, and four lone adults were observed. Because of severe weather conditions we were unable to make a complete circuit of the Island and we have nothing approximating a total figure.

At Adak, in the Bay of Islands, more otters than usual were observed, and one young animal attacked the dory in a most aggressive manner.

4. Whales. In May several whales were observed travelling in a northeasterly direction close to the beach of Unimak Island. In early July two little piked whales were noted in Kagalaska Strait. One of these jumped completely out of the water three times, creating an impressive display.

5. Sea lions. We quote from Karl W. Kenyon's report of the Buldir Island expedition: "The sand beach on which we landed on

7 July was occupied by about 1,500 adult and subadult male sea lions. This beach is the hauling ground for a breeding colony which extends around Northwest Point. The beaches of the small islets off Northwest Point are also used as hauling grounds. The breeding colony is continuous along about 3/4 mile of beach. On 11 July I counted and estimated pups (using a Veeder Root hand tally) along this breeding beach. Most of the young were several weeks old and just learning to swim. My total was 1,950 living pups and 151 dead ones. Some of the dead had apparently been trapped and crushed by boulders moved by adults during breeding ground activity. One had apparently been pinched to death by the sharp roots of a drift log that had rolled onto it. The colony was in constant activity, judging from the continual roar at all hours of the day and night."

E. Hawks, falcons, eagles, owls, ravens, and jaegers.

1. Hawks. An occasional marsh hawk was observed on the Izembek Range.

2. Falcons. Peale's falcons were observed on Buldir Island, at least two pairs of which were apparently nesting. One Peale's falcon flew out from Kasatochi Island at the approach of the USS MOCTOBI on August 4th, and after circling the ship, alighted on the mast head.

On the Izembek Range an influx of gyrfalcons occurred at the end of the period coincidentally with the appearance of migratory waterfowl. One brood of gyrfalcons appears to have been produced on the slopes adjacent to Frosty Canyon.

3. Bald eagles. A pair of bald eagles had established their nest on the floor of the valley behind our camp site on Buldir Island. Examination of the nest contents revealed, among other things, the remains of Aleutian Canada geese. We reluctantly destroyed the eagles.

One other, an immature bird, was observed on the Island. The following items were taken from the nest:

Glaucous-winged gull	4 juveniles
Glaucous-winged gull	1 adult
Glaucous-winged gull	1 egg shell
Aleutian Canada goose	3 adults
Horned puffin	11
Tufted puffin	1
Crested auklet	1
Ancient murrelet	3

4. Owls. A short-eared owl carcass was recovered on Buldir Island. Judging from the torn skin it had been struck by a bird of prey.

5. Jaegers. Parasitic jaegers of the dark phase nest on Buldir Island. Several pairs evidently had their nest in the valley behind our camp site, and 15 to 20 birds observed at about the 700 foot level (near the lake) exhibited behaviour that suggested the presence of a brood. One nest containing two chicks was observed.



Figure 8 Winter wren nestling on Buldir Island
Photo by Berns

6. Other birds. One of the most apparent birds on Buldir Island was the winter wren, and this because of its loud, rollicking call.

P. Fish.

Alex Peden, graduate student from the University of British Columbia accompanied the Buldir Island expedition and made scientific collections at Buldir, Adak, Atka, and Chagulak Islands.



Figure 9 Alex Peden making scientific
collections at Atka Island Photo by Berns

Commercially the salmon runs were unprofitable in the Cold Bay area. Izembek Bay was closed to commercial fishing virtually the entire season, and thanks to this wise measure the numbers of spawning salmon in the tributaries to the Bay were at a satisfactory level. In some instances, notably the red runs, the numbers of spawning salmon were unusually high. This was not true in the spawning beds tributary to Middle Lagoon, Morzhovoi Bay.

At Attu Island the salmon runs were apparently average but historically these runs have never exhibited a correlation with the rest of the "Chain". At Adak, salmon were almost non-existent. We inspected four widely separated spawning areas on the Island in late July and early August without seeing a salmon.

G. Disease. None reported.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical development. A headquarters installation at Cold Bay was nearing completion at the end of the period. This includes three dwellings plus a service building, the latter to include a laboratory and darkroom in addition to office, storage, and shop space.

Fireplaces, camp tables and refuge containers were provided in three frequently used sites.

B. Plantings. None

C. Collections and receipts. None

D. Planned burning. Not a management practise in this area.

E. Fires. Our only grazing lessee, Mr. Chris Gundersen of Sanak, reports the loss of his cabin on Caton Island. He attributes the origin of the fire to a faulty flue.

IV. RESOURCE MANAGEMENT

A. Grazing. Caton Island, mentioned above, is the only one of the Islands in the Aleutian Refuge for which a grazing lease is available. The lessee, Mr. Chris Gundersen, currently has forty to fifty head of cattle on the Island. He is engaged in eliminating the scrub cattle that stem from an earlier period on the Island, and substituting Hereford stock.

B. Haying. Not applicable.

C. Fur harvest. The ADF&G collected a small number of sea otter skins at Amchitka in August.

D. Timber removal. Not applicable.

E. Commercial fishing. One salmon fisherman from False Pass used a stake net across the mouth of the creek flowing into Urilia Bay on Unimak Island.

One commercial fishing operation, utilizing freezing facilities aboard ship, was undertaken at Attu. Illegal methods were employed, however, and it came to grief.

V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

A study of the growth and environment of eelgrass in a marine lagoon was begun in this period. For logistics reasons the principal field work is being done in Izembek Bay, with the more academic aspects being done at the University of Washington in Seattle. Dr. T. Saunders English, Department of Oceanography at the University is furnishing technical guidance in the oceanographic aspects, while Mr. Ronald C. Phillips of the Botany Department, Seattle Pacific College is furnishing technical guidance in the botanical aspects. C. Peter and Nancy McRoy are employed by the Refuge to conduct the study.

The objectives of the study are:

- a. To determine the gross production of eelgrass in the study area.
- b. To determine the environmental conditions existing during the period of maximum growth.
- c. To determine the environmental conditions present throughout the range of population densities, from areas with no grass to areas of maximum grass density.
- d. To determine the usefulness of the study area as an index to other areas.

VI. PUBLIC RELATIONS

A. Recreational Uses. Fishing furnished the main recreational outlet for the period. Others were beachcombing the Bering Sea beaches for glass balls (fishing floats), seal hunting, hiking, and late in the period berry picking and hunting (principally for ptarmigan).

B. Refuge visitors.

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Purpose of visit</u>
Averill Thayer	Refuge Enforcement Agent	BSFW	Enforcement
Tracy McGuin	Resident Engineer	FAA	Inspection
Bill Tedder	Construction Foreman	Walsh & Co.	Construction
Carl Moses	Entrepreneur	Private	Personal visit
Mr. & Mrs. Omar Stratman	Akutan Village School	Alaska Dept. of Education	Personal visit
Karl W. Kenyon	Biologist	BSFW	Buldir trip
Erwin L. Boeker	Biologist	BSFW	Business
Alex Peden	Fish Biologist	U of BC	Research
Milstead C. Zahn	USGMA	BSFW	Buldir trip
David L. Spencer	Reg. Ref. Sup.	BSFW	Inspection
Emil S. Pearson	General Engineer	BSFW	Inspection
Elmer I. Williams	Station Manager	FAA	Personal visit
Dan Hennick	Fish Biologist	ADF&G	Business
Richard Wilner	Enlisted Man	U.S. Navy	Pleasure
Dwight Reynolds	Enlisted Man	U.S. Navy	Pleasure
Gay Ristow	Civilian Employee	U.S. Navy	Pleasure
Mike Dallam	Lieutenant	U.S. Navy	Pleasure
Lee Martin	Captain	USMC	Pleasure
Robert Thompson	Guide	Private	Business
Ron Hayes	Guide	Private	Business
Jim Branson	Fisheries Enforcement	BCF	Enforcement
Lado A. Kozely	Economist	BIA	Business
James Sanford	Captain	USAF	Business
Mike Uttecht	Fisherman and Guide	Private	Personal visit
Fred Day	Station Chief	U.S. Weather Bureau	Personal visit
Chris Gundersen	Fisherman and Cattleman	Private	Personal visit
Kenneth Gilpin	Protection Officer	ADF&G	Business
Dr. Ole Mathiesen	Biologist	FRI	Personal visit
David Henley	Pilot	ADF&G	Business
Claude St Amand	Protection Officer	ADF&G	Court case
Louis J. Roberts	Topographic Surveyor	USGS	Surveying
G. E. Bassett	Personnel Officer	BSFW	Inspection
Howard Spragg	Personnel Services	BSFW	Inspection
Mr. & Mrs. Francis Gillette	Chief, Branch of Wildlife Refuges	BSFW	Inspection
Richard E. Griffith	Regional Chief, Div. of Wildlife	BSFW	Inspection
Ray Woolford	Wildlife Administrator	BSFW	Inspection

C. Refuge participation.

1. At Cold Bay Refuge Managers Jones and Berns took part in forming and guiding the Cold Bay Rod and Gun Club.

2. At Adak Jones continued his participation in the Williwaw Chapter of the Toastmaster's International. This participation has extended over nine years.

3. At Adak Jones, Berns, and USGMA Zahn spent an afternoon with the officers of the Mobile Construction Battalion 10, more widely known as Sea Bees, discussing various aspects of wildlife in the Aleutians.

4. At Adak Jones, Berns, and Lt. Larry Ronan (Base Conservation Officer) met with Milton H. Beuhler of the Bureau of Yards and Docks to compile a wildlife inventory of the Adak Naval Reservation.

5. At Adak we cooperated with the North Pacific Salmon Investigations personnel and those of the Fisheries Research Institute in the use of our two vehicles stationed at Adak. This is a sort of cooperation that works both ways, as these two organizations extend valuable assistance to us.

6. At Cold Bay both Berns and Jones continued as active members of the Volunteer Fire and Crash Crew.

D. Hunting. See II. WILDLIFE, under Alaska brown bear.

E. Violations.

Refuge Enforcement Officer Thayer and Assistant Refuge Manager Berns investigated the killing of a small bear by a Coast Guardsman at Cape Sarichef. No Refuge permit had been issued in this case. All the circumstances were not clear, however, it appeared that while walking near their water supply on a foggy morning the Guardsman encountered a bear at close range, and becoming excited, shot the bear. He possessed a valid hunting license and professed intentions of hunting a large bear. A Refuge permit was then issued and the Guardsman was required to keep the small bear.

Berns and Thayer explained the Refuge regulations concerning trespassing on the Refuge with vehicles, to the Coast Guard and Air Force personnel at Cape Sarichef. These agencies have trespassed to the extent of a bladed road to what they call First River. This road runs from the Air Force site east along the north side of the Island. These people look upon their tour of duty on Unimak as a form of banishment, and the Island as a sort of playground to ameliorate their frustrations.

Signs proclaiming limits of vehicular travel on the Izembek Range were posted in June. This, of course, occasioned opposition (and support from some quarters) and in the absence of enforcement

during part of the summer some violation of the limits. As is true with the military organizations listed above, the personnel stationed at Cold Bay generally do not feel any responsibility to the land or its resources. The individual's time both at Cold Bay and on Unimak Island is a strictly limited period and in general the only restraint on the use of both the land and its resources to ultimate destruction is the existence and activity of this Headquarters.

A commercial fishing operation of highly suspicious character was being conducted at Attu by an entrepreneur from King Cove. The ALEUTIAN REEFER, a converted WWII yard mine sweeper, had called at Adak in late June enroute Attu for salmon fishing. She had trap wire (in substance a large size poultry netting) on deck, together with a small length of webbing (a "rag of seine", in fishermen's jargon). It seemed clear to several men, experienced in salmon fishing, that the intention was to catch salmon in the creeks ("creek robbing"), a practise prohibited by regulation.

On July 29th the Navy Personnel at Adak invited us to go to Attu on a flight they had scheduled, and Refuge Manager Berns went to investigate the fishing operation. The suspicions expressed above seemed amply warranted in the light of what he learned so a second visit was made the 2nd of August. This time Berns hiked the eleven miles over the mountains to Chicagof Harbor where the ship was anchored, and observed the fishing.



Figure 10 The illegal weir in an Attu Island stream
Photo by Berns

It did not take long for the fishermen to reveal their activities. The trap wire had been used as a weir to prevent migration of the fish up stream and apparently at intervals the "rag of seine" was set across the stream mouth and the fish chased into it. This, at least, was what they did on the occasion that Berns was shadowing the operation after closing hours on a Friday evening.

The case was turned over to Protection Officer Claude St Amand of the ADF&G for prosecution in Magistrate's Court at Cold Bay. Two charges were brought (1) fishing in a closed area (regulations prohibit fishing in a stream or within 500 yards of a stream mouth) and (2) fishing in a closed period (regulations prescribe a closed period between 1800 Friday and 0600 the following Monday). These charges were brought against the three men actually observed fishing and they pleaded guilty.



Figure 11 An illegal "set" in the mouth of an Attu Island stream. Photo by Berns

The Court sentenced each defendant to a fine of \$3000 and 90 days jail for the first charge, and \$500 and 60 days jail for the second. Half of the fine and all of the jail sentence on the first charge was suspended for three years, and the jail sentence on the second charge was suspended for one year. As none of the men had money to pay the fines they were remanded to jail.

F. Safety.

1. Firemen from the FAA Fire and Crash Station conducted inspections of office and residences, looking for fire hazards and checking fire extinguishers. Certain hazards are indigenous to these old buildings, and with completion of the new headquarters they will be left behind.

Refuge Managers Berns and Jones attended FAA safety meetings as there are common hazards and problems.

2. No accidents.
3. No corrective measures were taken.
4. Record to date - 517 days.



Figure 12 Volcanic activity at Sirius Point,
Kiska Island. Photo by Berns

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Vernon D. Berns
Vernon D. Berns
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November 18, 1963

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