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REFUGE NARRATIVE REPORT  
OF

ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

JANUARY - APRIL 1963

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REFUGE NARRATIVE REPORT

January - April 1963

ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

and

IZEMBEK NATIONAL WILDLIFE RANGE

Cold Bay

Alaska

Staff:

Robert D. Jones Jr.

Refuge Manager

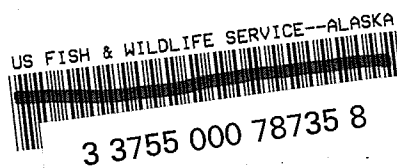
Vernon D. Berns

Assistant Refuge Manager

Shirley M. Berns

Clerk-typist

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



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# ALEUTIAN ISLANDS NATIONAL WILDLIFE REFUGE

and

## IZEMBEK NATIONAL WILDLIFE RANGE

COLD BAY, ALASKA

### Narrative Report

January 1, 1963 - April 30, 1963

#### I. GENERAL

A. Weather Conditions. Temperatures were consistently higher than normal, and precipitation was about normal for the period. Snow cover in the lowlands has been minimal, often totally absent.

An unusual situation developed in January when the storm centers were blocked from their usual northeastward movement, and travelled instead in a circle of roughly a thousand mile diameter. This circle encompassed the Refuge and conferred windy weather at the extreme ends. Cold Bay began this cycle on January 8th with average winds of 17.7 mph that did not drop below 20.0 mph until the 18th with a welcome 13.9 mph average.

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

	Jan.	Feb.	March	April
Temperature (°F) Max.	48	41	47	47
Min.	8	13	18	17
Avg.	34.2	29.1	34.4	32.9
Precipitation (inches)	4.91	.43	3.02	1.66
Snow and sleet (total)	.9	1.6	2.8	3.8
Winds (MPH) Max.	58	37	49	38
Winds avg. for month (MPH)	21.2	14.9	19.6	15.3
Peak gusts (MPH)	71	46	66	54

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

	Jan.	Feb.	March	April
Temperature (°F) Max.	40	36	41	42
Min.	34	29	32	33
Avg.	37	33	37	38
Precipitation (inches)	5.30	1.97	8.66	3.65
Snow and sleet (total)	5.3	6.9	11.7	4.7
Winds (knots) Max.	47	47	72	56
Winds avg. for month (knots)	10	9	13	13

## B. Habitat Conditions.

1. Water. Lakes on the Izembek Range reached higher levels than usual, so much so that wave action eroded the Grant's Point road where it skirts lake shores closely.

2. Food and Cover. Eelgrass was observed to have begun growing in Izembek Bay and Cold Bay by the 20th of March. Water temperatures in the Bays were then 34°F., and varied between 30° and 44° from then until the 20th of April. Steady growth of the grass continued despite these temperature variations, a fact which suggests that another factor (perhaps solar radiation) is the controlling one.

No basic studies of ground cover and plant succession have been made on the Izembek Range. Sometimes, however, significant factors come to light unexpectedly, and so one did this period. We were flying over the alder slopes of Frosty Mountain in late March, at which time the snow cover in the area was almost gone. Such snow as remained was in drifts so that a look at the unobstructed ground was afforded. Such a look in summer is obstructed by leaves on the alders. A number of vehicular tracks dating back to WWII were evident, and in all these were solid stands of alders, patently the first succession on disturbed ground in this part of the Range.

## II. WILDLIFE

### A. Migratory Birds.

1. Geese. Two species of geese, black brant and emperor geese, winter along the Alaska Peninsula and in the Aleutian Islands. The numbers of the former are small and their distribution uncertain: but the latter is abundant and present all the way in winter to the western end of "the Chain". At Cold Bay, ice when present, excludes the emperors from the beaches, their feeding grounds. Reappearance is prompt, however, when the ice disappears, and we have a record of emperors returning to the upper end of Cold Bay February 19th.

Few emperor geese were in Izembek Bay and Cold Bay the 20th of March. The distribution at that time was typical of the scattered wintering population and continued so through the 29th. By April 2nd, however, the picture had altered substantially and several thousand geese were in Izembek Bay. On that date numerous flocks were observed arriving from the westward.

At this point Refuge Manager Jim King and U. S. Game Management Agent "Uncle Millie" Zahn conducted a survey of the emperor goose

population on the Alaska Peninsula. This was made "down" the Peninsula on the 4th and 5th and "up" on the 10th and 11th. That is to say, the survey was conducted by travelling south-westward from the base of the Alaska Peninsula to Unimak Island and returning over the same route. The trip "down" yielded a total of 43,674 birds, and five days later there were 69,076 birds. The distribution by area and date is listed below.

<u>Area</u>	<u>Date</u>				
	<u>3/27/63</u>	<u>4/4/63</u>	<u>4/5/63</u>	<u>4/10/63</u>	<u>4/11/63</u>
Egegik Bay					6
Ugashik Bay					100
Cinder River		500			4330
Port Heiden		5820		18050	
Ilnik		310		4300	
Port Moller and Nelson Lagoon		6380		10650	
Moffet Bay			5950	8950	
Izembek Bay			23800	20000	
Cold Bay				775	2650
Morzhovoi Bay				35	40
Unimak Island				<u>104</u>	<u>      </u>
Total "down", or southbound				43674	
Total "up", or northbound					69076

April 6th the migration was watched from Neumann Island, and a point inside Cape Glazenap. No departures from Izembek Bay were noted but flocks of emperor geese totalling an estimated two thousand birds, passed along the Bering Sea coast in the two or three hours we were there. These were all arriving from the westward and proceeded northeastward without stopping in Izembek Bay. Geese from Izembek Bay and Moffet Bay were observed departing April 20th, while others, possibly coming from the south end of Izembek Bay or farther westward, were going up the coast as on the 6th. At the end of the period emperor geese were still abundant in Izembek Bay, but the peak of the migration had moved northeastward.

The first brant were observed in Bechevin Bay March 29th. This was a flock numbering perhaps 1500 birds. By April 5th there were 2500 to 3000 brant in Izembek Bay, and about 5200 by the 10th.

2. Ducks. A few mallards and pintails wintering in the Cold Bay area were observed where open water persisted. These birds sought

food on such ice-free tidal flats as were available in January and February. On the 22nd of March two flocks of pintails, each numbering about 150 birds - mostly drakes - arrived in Izembek Bay. These were the vanguard of the northbound migration.

Greater scaup, numbering several thousand individuals, and smaller numbers of common goldeneyes and mergansers were noted on the lakes in March. The largest numbers of these were observed March 29th on the big lake above Morzhovoi Bay.

Sea ducks are widely distributed in the Izembek Bay area. On the 29th of March perhaps 75,000 Steller's eiders were noted in Bechevin Bay, Izembek Bay, and Moffet Bay. At the same time smaller numbers of oldsquaws, common scoters, and white-winged scoters were seen. The largest numbers of the large divers, i.e., common eiders, king eiders, common scoters, and white-winged scoters are found in the deeper bays (such as Cold Bay), and off shore.

3. Swans. January 28th, three very large swans were observed at Adak in the North Arm Bay (of Three Arm Bay) area. These were undoubtedly whooper swans.

Whistling swans were first observed in the Cold Bay area February 27th when five appeared near Trout Creek. March 29th fifty-six whistling swans were observed on Unimak Island. The largest flock numbered sixteen birds resting at the time on the ice of a small lake. The distribution of these birds was generally uniform over the marshy areas of the Island. On the same day four whistling swans were observed near Morzhovoi Bay.

B. Upland Game Birds. Willow ptarmigan populations in the Izembek Bay area continue at a low level but more frequent sightings are reported this winter than last. Hunter success is not high.

C. Big Game Animals.

1. Alaska Brown Bear - On March 10th a sow bear and two cubs were sighted crossing the pass between Right-hand Valley and Volcano Bay. A second sighting was made April 5th of another sow, this time with three cubs, apparently attempting to cross the south slopes of Frosty Mountain from the Thin Point Lagoon area to Littlejohn Lagoon.

2. Caribou - In late January an attempt was made to locate and count the introduced caribou on Adak Island. When weather permitted flying over the Caribou Peninsula the animals were not to be found, nor were they to be found in the rest of their known range. This gives additional credence to the belief that they are travelling widely.

A young female caribou, one of a band of seven, was killed February 7th on the Izembek Range. This animal had an inch and a half of subcutaneous fat over the rump.

March 29th, 298 caribou were tallied in an incomplete survey of Unimak Island. Seventeen others were observed in the rolling hills near Morzhovoi Bay.

D. Fur Animals, Predators, Rodents, and other Mammals.

1. A red fox, killed under peculiar circumstances near Cold Bay was examined by the Department of Health and Welfare for rabies virus and found positive.

2. Signs of Arctic hares continue to be abundant but the elusive animals are not often seen. The "high-bush" blueberry (Vaccinium ovalifolium) in the Izembek Bay area has been substantially browsed, presumably by the big hare.

3. One of the local dogs turned up with a muzzle filled with porcupine quills, and later a wiser dog brought a porcupine to bay in the alder slopes of Simeon Mountain.

4. A bull walrus was found dead on Neumann Island February 2nd. The skull and baculum (measuring  $23\frac{1}{2}$  inches in length) were recovered.

5. The skull of a dead sea otter was recovered from Izembek Bay (Neumann Island) February 2nd. This was a very young animal as the skull had not ossified.

6. The following information was furnished by two local trappers, James Ruff and Harold Bendixen of King Cove. This was secured from nine land otters taken in the Cold Bay - Izembek Bay area between January 1, 1963 and March 18, 1963.

F	$23\frac{1}{2}$	lbs.	47	inches	long
M	$24\frac{1}{2}$	"	46 $\frac{1}{2}$	"	"
M	27	"	49	"	"
M	$26\frac{1}{4}$	"	46 $\frac{3}{4}$	"	"
M	$19\frac{1}{2}$	"	44 $\frac{1}{4}$	"	"
M	$27\frac{1}{2}$	"	49	"	"
F	12	"	38	"	"
M	25	"	48	"	"
M	$28\frac{1}{2}$	"	48 $\frac{1}{2}$	"	"

Two other otters taken just before the beginning of this period were also measured and the information is here recorded.

F	23 $\frac{1}{2}$ lbs.	43 $\frac{1}{2}$ inches long
M	15 "	44 " "

7. Ground squirrels began emerging from hibernation March 19th.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies.

Bald eagles took up their winter watch on the headlands overlooking the Bays and outer coastline. The obvious prey in sight were the diving ducks, and the few pelagic birds remaining inshore, but we have no evidence in this regard.

One bald eagle was reported diving repeatedly at an object on a headland. Later two eagles were observed in the same area. Investigation revealed the remains of a dead red fox.

No great influx of snowy owls was noted this winter.

Ravens and magpies, concentrated as usual on the town dump for the winter.

F. Other Birds. From March 20th on, immense flocks of sandpipers were observed in Izembek Bay. These flocks seen from a distance look like smoke clouds whirling and twisting about the Bay. They seem to have made up their minds where to land, and the presence of men or boats makes no difference. With a startling "whoosh" these hundreds of birds are suddenly alighting around one, pulling a brown curtain over themselves. This striking effect results from the simultaneous folding of hundreds of pairs of tiny white-lined wings.

A flock of about 75 sanderlings were observed sheltering from the wind on Neumann Island, April 20th.

G. Fish. A small trawl was used experimentally in Izembek Bay twice during the period, once March 20th and the second time April 29th. In the first case no fish were caught, in fact very little except a few shrimps. On the second occasion, a flounder, and several other fish (two of them Cottids) were caught. At the time some smelt-like fish were observed but none caught. It is believed these are Eulachon (Thaleichthys pacificus).

H. Disease. See red foxes under D. Fur Animals, Predators, Rodents, and other Mammals.

### III. REFUGE DEVELOPMENT AND MAINTENANCE

- A. Physical Development. A contract for a headquarters installation, including one service building and three dwellings, was awarded to Walsh and Company, Inc. of Spenard, Alaska. Preparations for this construction were complete by the end of the period.
- B. Plantings. Not applicable.
- C. Collections and Receipts. One king eider was recovered dead, apparently the result of a head-on collision with an immovable object. The skin was preserved.
- D. Planned Burning. Burning is not a management practise that could profitably be employed in this area.
- E. Fires. None observed or reported.

### IV. RESOURCE MANAGEMENT

- A. Grazing. We continue receiving applications for grazing permits in the western Aleutians. Kanaga and Tanaga are the islands most asked about, but one request for Amchitka was received. We have followed the practise of replying that "these wildlife lands are being reserved for wildlife purposes," and as yet no follow up effort has appeared. The only island in the Aleutian Refuge on which grazing is permitted is Caton Island, with its long established precedent of grazing.
- B. Haying. Not applicable.
- C. Fur Harvest. 303 sea otters were taken at Amchitka by the ADF&G.
- D. Timber Removal. Not applicable.
- E. Commercial Fishing. Not applicable.

### V. FIELD INVESTIGATION OR APPLIED RESEARCH

A start was made on the long awaited study of the eelgrass beds in the Izembek Bay area with a visit to the Izembek Range of Dr. T. Saunders English and Mr. Ronald C. Phillips. Dr. English is on the teaching staff of the Department of Oceanography, University of Washington; and Mr. Phillips is teaching botany at Seattle Pacific College. He is a specialist in the marine grasses Phyllospadix and Zostera. These two scientists are assisting in the preparation of a plan of study, and will give future guidance in its course.

## VI. PUBLIC RELATIONS

A. Recreational Uses. Beachcombing for Russian and Japanese fishing floats on the Izembek Range, and harbor seal hunting at Adak are the principal recreational uses of this period.

B. Refuge Visitors.

<u>Name</u>	<u>Business</u>	<u>Organization</u>	<u>Purpose of visit</u>
Chuck Folmer	Station Manager	Reeve Airways	Personal call
Cal Reeve	Station Manager	Reeve Airways	Personal call
Bert Larkins	Fish Biologist	BCF, N. Pac.	Salmon business
Don Fisk	Fish Biologist	BCF, N. Pac.	Salmon business
Jim Ingraham	Oceanographer	BCF, N. Pac.	Salmon business
Trygve Matieson	Master, GEORGE B. KELEZ	BCF, N. Pac.	Salmon business
Tom Belleau	Pilot	Reeve Airways	Personal call
Dan Hennick	Biologist	ADF&G	Personal call
Chris Gundersen	Fisherman	Private	Business
Stewart Smith	Dispatcher	Flying Tigers Airline	Business
Jack Farrell	Store Manager	Reeve Airways	Business
Mike Uttecht	Fisherman and Guide	Private	Personal call
Jim Huff	Fisherman and Guide	Private	Personal call
Dr. T. Saunders English	Oceanographer	University of Washington	Business
Ronald C. Phillips	Botanist	Seattle Pacific College	Business
Lloyd Huff	Foreman	FAA	Business
Robert A. Smith	Forest & Range Operations	BLM	Business
Russell J. Drabds	Range Manager	BLM	Business
Jim Evans	Range conservation	BLM	Business
Jim Telford	Pilot	BLM	Business
Dick Roderick	Fireman	FAA	Inspection
Fred Barnett	Fire Chief	FAA	Business
Milstead C. Zahn	USGMA	BSPW	Business
Jim King	Refuge Manager	BSPW	Business
Ray Caudle	Station Manager	FAA	Business
Tracy McGuin	Resident Engineer	FAA	Business
Bill Tedder	Foreman	Walsh & Company	Business
Averill Thayer	Refuge Protection Officer	BSPW	Business

C. Refuge Participation. Refuge Managers Berns and Jones continued participation in the Cold Bay Fire and Crash crew, attending regular weekly drills. Both members have completed thirty hour drill courses and are well on the way to completion of the ninety hour course.

Jones has been a member of the Williwaw Chapter (at Adak) of the Toastmasters International for nine years and is the chapter's oldest member. In January, while at Adak, he took part in the regular meetings.

Berns participated in the "Cold Bay Clean-up and Beer Bust" on the weekend of April 20th.

Berns gave a lecture on "Refuge activities in the western Aleutians", to the 71st Air Force Site on February 1st.

Jones attended Region I meetings in Portland in mid-February.

D. Hunting. See under II. WILDLIFE.

E. Violations. A Marine was apprehended at Adak for having killed a sea otter, claiming it was a case of mistaken identity. A Summary Courts Martial judged him guilty, assessed a fine of \$80.00, sentenced him to 45 days at hard labor without confinement, and reduced him from Lance Corporal to PFC.

F. Safety.

1. FAA firemen inspected all fire extinguishers in our buildings and expressed satisfaction that we had kept all fire hazards to a minimum in view of the ramshackle buildings we are occupying.

2. No accidents.

3. No corrective measures were taken.

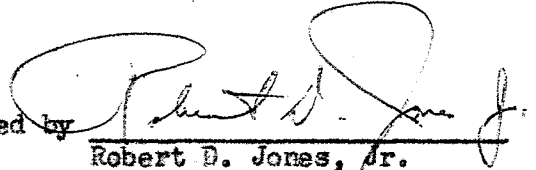
4. Record to date - 394 days

#### VII. OTHER ITEMS

1. Shirley Berns returned to work as clerk-typist after six months of maternity leave. During her absence Mrs. Lois Shute, wife of one of the FAA employees, had ably fulfilled the requirements of the job.

2. After a violent earthquake that tumbled canned goods from the shelves at three in the morning of January 28th, Pavlof Volcano, just east of the Izembek Range, became more active. This became sufficiently spectacular to induce residents of Cold Bay to charter the Reeve Grumman goose for a closer look.

Submitted by



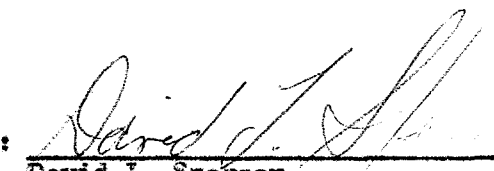
Robert D. Jones, Jr.  
Refuge Manager



Vernon D. Berns  
Assistant Refuge Manager

June 4, 1963

Approved:



David L. Spencer  
Regional Refuge Supervisor

3-1750  
Form NR-1  
(Rev. March 1953)

## W A T E R F O W L

REFUGE Atantien Islands National Wildlife Refuge

MONTHS OF January TO April, 19 63

[illegible]

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge ~~Alutian Islands National Wildlife~~ Months of ~~January~~ to ~~April~~ 195~~6~~~~3~~

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common, Arctic, and red-throated loons Red-necked grebe Horned grebe Laysan albatross Pelagic cormorant Red-faced cormorant										
We have no basis for estimating numbers of these birds.										
II. <u>Shorebirds, Gulls and Terns:</u>										
Northern phalarope Red phalarope Rock sandpiper Sanderling Black oystercatcher Glaucous-winged gull Black-legged kittiwake Common murre Thick-billed murre Ancient murrelet Least auklet Whiskered auklet Crested auklet										

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	None have ever been recorded in the Refuge				
IV. <u>Predaceous Birds:</u> <del>Golden</del> eagle <del>Bald</del> hawk <del>Horned owl</del> falcon Magpie Raven Crow  Northern shrike	500 to 1000 100  50 (Unimak) 500  Numbers unknown				
				Reported by.....	

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
II. Shorebirds, Gulls and Terns (Charadriiformes)  
III. Doves and Pigeons (Columbiformes)  
IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752  
Form A.-2  
(April 1946)

UPLAND GAME BIRDS

161

Refuge ~~Aleutian Islands National Wildlife~~ Months of January to April, 1943

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'v'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Rock ptarmigan	1,800,000	Unknown			50-50	Insignificant			Unknown	Except on Adzhitka where the population has risen following removal of foxes the present trend in numbers is downward.
Willow ptarmigan										There is an unknown number of these birds that move back and forth between Unimak Island and the Alaska Peninsula.

## INSTRUCTIONS

### Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

3-175.  
Form NR-4  
(June 1945)

SMALL MAMMALS

Refuge ~~Alutian Islands National Wildlife~~ Year ending April 30, ~~1963~~

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total Popula- tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed
								Permit Number	Trappers Share	Refuge share			
Mink	Present on Unimak I. only												
Weasel	Present on Unimak I. only												
Wolverine	Present on Unimak I. only												
Land otter	Present on Unimak I. only												
Sea otter	Present throughout the Refuge except in the Near Islands. 303 taken by ADP&O												
Ground squirrel	Present on Unimak, probably the Islands in the Krenitzin group, and on Kavalga.												
Norway rat	Present on Atka, Adak, Amchitka, Attu, Shemya, and Rat Island.												
Arctic fox	Present throughout the Refuge except Amchitka, Buldir, Davidof and Kvostof, Chagulak, Unimak, Little Kiska, Amak, and most off shore islets.												
Red fox	Present on Unimak and Amak												
Silver fox	Present in small numbers on Adula and Seguam.												
Arctic wolf	Present on Unimak only.												
Shrew	Present on Unimak and probably the Krenitzin group.												
Lemming	Present on Unimak and probably the Krenitzin group.												

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS:

Reported by \_\_\_\_\_

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1750

Form NR-1

(Rev. March 1953)

## WATER FOWL

REFUGE

MONTHS OF

TC

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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[illegible]

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Izembek Range Months of January to April 1953

(1) Species	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Number
I. <u>Water and Marsh Birds:</u>										
Common, Arctic and red-throated loon					Numbers unknown, but small					
Red-necked grebe										
Pelagic cormorant										
II. <u>Shorebirds, Gulls and</u>										
<u>Terns:</u>										
Northern phalarope	Few									
Sanderling	75									
Unidentified sandpipers	in immense flocks									
Glaucous-winged gull	5,000									
Whiskered auklet	Few									

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u>					
Mourning dove	None				
White-winged dove					
IV. <u>Predaceous Birds:</u>					
<del>Golden</del> eagle	30				
<del>Duck Hawk</del> Peregrine falcon	10				
Horned owl	20				
Magpie	100				
Raven					
Crow	25				
Cyrfalcon					
Reported by.....					

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1752  
Form L. -2  
(April 1946)

UPLAND GAM. BIRDS

161

Refuge Izenbek Range Months of January to April, 19463

(1) Species	(2) Density		(3) Young Produced		(4) Sex Ratio	(5) Removals			(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat	Acres per Bird	Number broods obs'd.	Estimated Total	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Rock ptarmigan										A few rock ptarmigan inhabit the alpine slopes of the Range. It is only during this period of the year when they may be expected at lower levels and then only in severe seasons.
Willow ptarmigan N	Heath and alder patches				50-50 as far as currently known	Insignificant				Presently rising from a low in the cycle, numbers are low and very widely scattered at this period.

## INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS.\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\* Only columns applicable to the period covered should be used.

3-1754

Form NR-4

(June 1945)

## SMALL MAMMALS

Refuge Izembek RangeYear ending April 30, 1963

(1) Species	(2) Density		(3) Removals						(4) Disposition of Furs						(5) Total Popula tion
Common Name	Cover Types & Total Acreage of Habitat	Acres Per Animal	Hunting	Fur Harvest	Predator Control *	For Re- stocking	For Re- search	Share Trapping			Total Refuge Furs Shipped	Furs Donated	Furs Destroyed		
								Permit Number	Trappers Share	Refuge share					
Mink	Marsh 80,000 acres														
Land otter	Marsh 92,000 acres														
Weasel	Heath, marsh, grassland 150,000 acres														
Wolverine	Heath, marsh, grassland alpine 250,000 acres														
Sea otter	Izembek Bay rarely individuals come in the Bay														
Red fox	Heath, marsh, grassland alpine 250,000 acres														
Ground squirrel	Heath, grassland, alder 300,000 acres														
Lemmings	Marsh 92,000 acres														
Shrews	Marsh 92,000 acres														
Meadow mice	leath, grassland 60,000 acres														
Jumping mice	leath, grassland 60,000 acres														
Arctic hare	leath, grassland, alders 250,000 acres														
* List removals by Predator Animal Hunter															

\* List removals by Predator Animal Hunter

REMARKS:

Reported by \_\_\_\_\_

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
- (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

#### AN OVERLAND MIGRATION OF FUR SEALS

Since the establishment in 1948 of the Aleutian Islands National Wildlife Refuge headquarters at Cold Bay, Alaska several reports have been received from credible witnesses of an unusual overland migration of fur seals (*Callorhinus ursinus*). According to the reports a small number of seals make an overland migration "in winter" from Herendeen Bay on the north side of the Alaska Peninsula to Balboa Bay opening into the Pacific Ocean. This is a distance of about 8 miles but not all of the distance is travelled overland. According to the reports the seals utilize 2 streams, one draining to the north and the other to the south. Murie records a similar report of seals crossing from Nelson's Lagoon to the Pacific Ocean.

We have ourselves observed 2 fur seals proceeding on such a migration from Izembek Bay on the north side of the Alaska Peninsula to Cold Bay on the south. The first was a young female observed on 20 November 1960 and the second an old female on 8 March 1962. The distance in this case is about 3 miles and there are no creeks paralleling the route.—  
ROBERT D. JONES, JR., *Aleutian Islands National Wildlife Refuge, Alaska. Received 14 March 1962.*