

PEA ISLAND NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

JANUARY 1, TO APRIL 30, 1951

Completed and submitted May 6, 1951

Approved _____

Title _____

Lewis E. Turner

Lewis E. Turner
Refuge Manager

PEA ISLAND NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT
January 1, to April 30, 1951

Contents

	Page
I. General	
A. Weather Conditions	1,
II.	
A. Migratory Birds	
1. Population and Behavior	2,
2. Food and Cover	3,
3. Botulism	3,
4. Other Diseases	3,
B. Big Game Animals	4,
C. Fur Bearing Animals	4,
III. Refuge Development and Maint.	
A. Physical Developments	4,
B. Maintenance	4,
C. Fires other than Controlled	4,
D. Farming and other Plantings	4,
IV. Economic Uses	5,
V. Field Investigations	5,
VI. Public Relations	
A. Recreational Uses	5,
B. Law Violations	5,
C. Visitors	5,
App. Canada Goose Tabulations	6,
NR Forms and Photographs	

PEA ISLAND NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT

January 1, To April 30, 1951

I. GENERAL

A. Weather Conditions

Compared to the same period last year, This period was somewhat frigid, With temperatures ranging from 18 on Feb. 5, to up around the middle 30, mark for Jan. and Feb. becoming much warmer thru the month of march, April has been about normal as to temperatures.

Rainfall was 9.96 for the four month period or 8.48 with the pools reflecting the lack of rain, Had one extreme high sound tide (Mar. 15,) that covered most of the marshy parts of the Island, Did no damage except latter up the roads with a lot of Drift requiring about three man days to clear off.

The data listed in the table below was furnished thru the courtesy of Mrs. Rosa Drinkwater, Mgr. of the Coop. Weather Bureau Station, In Manteo, N.C. and does not necessarily reflect the actual Precipitation or Temperatures that prevail on the Refuge which is locate some 17, Miled south.

	Precipitation		Temperatures	
	Actual	Dep. from normal	Max.	Min.
Jan.	1.28	-3.22	71	23
Feb.	1.96	-254	77	18
Mar.	3.76	- .74	74	32
April	<u>3.00</u>	<u>-1.50</u>	<u>86</u>	<u>37</u>
Totals	9.96	8.48	86	18

B. Water Conditions

Water levels in both of the Pools have remained almost constant for the entire four months period, Starting off Jan.1, with guages reading, North Pool 4.00, South Pool 4.10 never going any lower than these figures and ranging up to 4.20 and 4.38, April 30, No salinity tests have been run on the waters of the pools or Sound this period (Usually by Mr. Baldwin) and no information is available concerning salt content of either, Levels in both Pools are considered to low for maximum Aquatic growth during the coming summer, But is hoped this condition will improve within the next few weeks

II WILDLIFE

A. MIGRATORY BIRDS1. Population and Behavior

Populations in general did not show much change from the same period a year ago with the exceptions of a few species, Canada geese remained at about the same number, 12000 to 14000, the peak for the period being during the first week in Jan. after the hunting season closed some 25% of the Geese scattered out to other feeding grounds and a decline was noted up until Feb. 1. After this date the Population remained about constant at 8000 to 10,000 until March 21, when the main Migration started, By April 1, there were not over 3000 present, At the close of the period there was only about 200 on the refuge.

Greater Snow Geese as reported in the Dec. Narrative at 12000 Stayed until Jan. 6-7 when the entire flock with the exceptions of 3, took off in Mass, they were located in upper currituck sound on Jan. 11, According to the reports of the State Game agents that covered that Area on the annual census, It is interesting to note that their departure was on the same date last year and weather seems to have nothing to do with when they leave any given area.

Swan showed a decrease from a high of last year of 112, to a high this year of 82, By Feb. 15, this number had dribbled down to only about 25, or 30, remaining on the refuge these stayed until March 12, when only 8, could be seen for the last time.

Black ducks showed the most pronounced increase of any specie for the season, 25, to 30, Percent, With a peak Jan. 15-20 of 6800, Pintails was about the same as for the period last year, With a Population of 4000, to 6000, Gadwalls, Teal, Shovelers, Ring Neck, Ruddy's and Mallards were present in about their usual numbers Ranging in numbers from 12, to 800 per Specie, Scaup showed a decrease of about 30% from last year with a peak of 3800 for the period, all the ducks migrated along with the Canadas except Teal and Shovelers which stayed about two weeks later with a few Teal still on the area at the close of April, Canvas Backs and Red Heads was at an all time low with only about 15 NK Canvas Backs, and no Redheads, Mergansers was very Scarce throughout the period until March 5, when about 2000 were observed near Oregon Inlet but was gone within two days, Probably migrating.

Herring and Ring Bill Gulls Remained on the refuge in large number thru the first three months of this period having counted over 3000 on two occasions in Jan. Feb. Thru April these numbers decreased somewhat, Black back NK Gulls was just about on a par with last season, With a Count of 196 on Jan. 20, Laughing Gulls, Royal and Common Terns, Willets, Turnstones, and Sandpipers of all Species, Began to arrive April 12, and by the close of the month were present in large numbers, No Complete Counts are available for these Species to Date.

Gannets showed a slight increase over the previous period, Thru the last week and the first two weeks of Feb. an Estimated number of 4500 could be Seen feeding along the Ocean side of the Refuge, None have been observed since March 4, when they moved on northward.

2. Food and Cover

Food Conditions as a whole was about average but was not as favorable as last season. The two Pools started off the season with low water levels and as a results Growths was far below last years supply. On the other hand Aquatics in the waters of the sound were in much better Condition and more plentiful.

Both Pools were ~~completely~~^{partly} fed out by the middle of Feb. Except the marginal edges which still some Three Square, Smartweed and Millet and a few other Species Available, Very cold and foul weather prevented the water Fowl from feeding upon the sound as they normally do all thru the months of Jan-Feb and where there were still good stands of food available.

The acreage planted to Grain last fall and killed out by Salt Spray and High tides never did recover to any extent and was discounted as a Food supply this period. An attempt was made to carry out the marsh burning program on schedule, But was delayed by Storm tides and unfavorable burning weather until after the 15th of Dec. From then until Jan 16, Five units were burned off totaling App. 320 Acres, 20 Acres in the south end of the south pond was sown to Rye Grass but due to extreme cold weather germination was delayed and in contrast to last winter the burns was very slow greening up, as a result it was about feb 1, before any green browse became available from this source, from that date on all the burns were utilized by the Geese, and Black and Pin-tail ducks inlarge numbers, The Rye Grass mentioned above showed a rapid growth until the Geese started using on it and it was kept browsed down to the ground until the Migration was over and at times over 600 Geese could be counted feeding on this small area alone.

A better crop of Beach Pea was produced last fall than the year before on most of the Islands higher flats and the dunes, and during the foul spells of weather Geese and black ducks could be seen over most of the Areas it is thought that Beach Pea has more importance as a food factor than heretofore thought, As a whole the food situation was not as favorable as for the same period last year.

Cover is not an important factor on Pea Island as there is adequate cover for all Species needing it, Consisting mostly of Cord Grass Spartina Patens Wax myrtle, Iva and other brush types, The nesting Black and Gadwall ducks show a preference for the Spartina type bordering the two Pools.

3. Botulism

None

4. Other diseases

Records show a total of 168 Canada geese affected thsi season by the mysterious disease prevelant on Pea Island in past years, This subject is covered more thonoughly under V, Field research

B. Big Game Animals

None on the Refuge

C. Fur Bearing Animals

Muskrat Population on the Refuge seems to remain about Static with about 700 to 800 Rats. This is perhaps a saturation Point or some factor involved that is holding down an increase of which we are not ~~familiar~~ familiar, None were harvested or Collected this period.

Otter seems to be scattering to parts of the refuge not heretofore used by them, Otters themselves or their sign can be found in both of the Pool Areas and in all the tide water creeks along the Sound side of the Island, their range is extensive and it is most difficult to estimate the Population with any degree of Accuracy, But a good Guess would be from 30 to 40 Animals.

Nutria, which have been mentioned in previous reports, Are thought to be getting a foot hold on the Refuge Area, During the month of Dec. sign of them have been observed on several occasions and sighted on two different occasions, Reports indicate that they are becoming numerous around the Buxton Area some 25, Miles south of the Refuge.

III, Refuge Development and Maint.

A. Physical Development

No Actual new development projects were undertaken or accomplished this period.

B. Maintenance

This phase of work accounted for most of the Available time that was not needed in the trapping program by the refuge personnel, 405 Pieces of pierced plank landing mats were transported from White River refuge and hauled into the refuge which in itself developed into a major undertaking, all the old mats was removed from the dike crossing and the new ones laid into place, All crossings are completed and now in good condition, This project required a total of 59 man days.

16 Squares of white asbestos siding was purchased hauled in and attached to the C. G. Bldgs. Now occupied by Mr. Phillips, This project is completed with the exceptions of attaching corner strips to four corners, this project required 33, Man days.

Household furniture transfered in from Kentucky Woodlands have been sanded down and revarnished and set up.

Numerous repairs were made to the Equipment, The 1½ ton stake body truck was cleaned, Sanded and painted with rust preventive paint.

C. Fires, Other than controlled

None

D. Farming and other plantings

None

IV, ECONOMIC USES

None for this period.

V, FIELD INVESTIGATIONS

In connection with the Goose disease study being carried on at Patuxant, Refuge personnel expended 49 man day this period, assisting Mr. John Steenis, and otherwise carrying on the trapping, Banding, Weighing, and blood smearing Canada Geese. Also the collection of several types of materials including Vegetative samples, and snails. An extra page is appended showing tabulations of all phases of the work and total results obtained, with the mass of data and specimens collected and made available to the research Division at Patuxant. Some highly valuable information should result.

VI, Public Relations

A, Recreational Uses

Due to such frigid weather and the foul conditions of the Roads thru the months of Jan-Feb, visitors were at a minimum during these two months, but with warmer weather and better roads starting the last two weeks of march Surf Fishing became popular again and several partys have been seen along the surf line trying their luck. Poor success was prevalent during march, but luck picked up during April, and several catches were made not so many in number but some of the Drum Caught weighed up to 40, lbs each. Due to the time factor involved it almost impossible to keep a constant check on this activity and no accurate information is available as to numbers of partys or the actual amount of fish taken.

With the Road from Nags Head to Oregon Inlet now in the process of being paved, We can expect recreational uses of Pea Island to increase by leaps and bounds in the very near future. Possibly by the middle of August this year.

B, Law Violations

None this period.

C, Visitors

Dr. Carlton E. Herman	Official	
	1/23-25/51	Laurel, Md.
Dr. E. E. Wehr	1/23-25/51	" "
Mr. William Good	1/23-25/51	" "
Mr. L. S. Givens	2/5/51	Atlanta, Ga
Dr. (Buzz) Morley	2/5/51	Wash, D. C.
Mr. Carl C. Fermanich	3/13/51	Atlanta, Ga
Mr. R. O. Gustafson	3/12/51	Wash, D. C.
	Unofficial	

None

CANADA GOOSE TABULATIONS, Pea Island Refuge.

Estimates of Canada geese use of the refuge:

At least 10,000 geese wintered on the refuge until January 7 (the last day of hunting). After January 7, 2,000 - 4,000 birds began ranging off the refuge area.

Influx of migrating Canada geese, flocking of local birds, and migration off Pea Island occurred in March; the period of peak migration was in the third week.

Sick bird status:

107 Canada geese found dead.

51 sick Canada geese were caught and autopsied or brought to Patuxent.

168 total for dead geese or sick birds that probably would have died from sickness

Normal acting birds shot:

34 for autopsy and food habit studies including 5 birds selectively shot for checking on feeding habits for Stophostyles helvola.

Trapping results:

413 geese trapped (including repeats)

16 birds lost or that got away

33 live birds brought to Patuxent

267 birds banded, sexed, aged, weighed, blood smeared, etc.

71 birds retrapped a 2nd time that were weighed and blood smeared.

17 " " " 3rd time " " " " " "

3 " " " 4th " " " " " "

WATERFOWL

Refuge Pea Island Months of Jan. 1. to March 30. 19 51

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Young Produced		(6) Total
	Number	Date	Number	Date	Number	Date	Broods Seen	Estimated Total	Estimated for period
I. <u>Swans:</u>									
Whistling swan			82	1/10/51	8	3/10			82
II. <u>Geese:</u>									
Canada goose			12000	1/5	200	4/20			14000
Cackling goose									
Brant									
White-fronted goose									
Snow goose			10000	1/5	3	4/10			12000
Blue goose									
III. <u>Ducks:</u>									
Mallard			70	1/10	2	4/10			100
Black duck			6800	1/15	80	4/20			7000
Gadwall			400	1/10	100	4/20			400
Baldpate			50	1/10	5	4/20			75
Pintail			4000	1/10	17	4/20			4500
Green-winged teal			174	1/10	30	4/20			300
Blue-winged teal			650	1/10	40	4/20			800
Cinnamon teal									
Shoveller			350	1/10	8	4/20			500
Wood duck									
Redhead									
Ring-necked duck			400	1/10	12	4/20			700
Canvas-back			8	1/10	3	3/27			25
Scaup			3800	1/10	26	3/21			4000
Golden-eye									
Buffle-head			50	1/10	2	3/21			150
Ruddy duck			800	1/10	12	3/21			1000
IV. <u>Coot:</u>			4000	1/10	22	4/20			5000

SUMMARIES

Dates waterfowl counts made _____

Percent of waterfowl area covered _____

Dates brood counts made _____

Percent of area covered in brood counts _____

Total production;

Geese _____

Ducks _____

Coots _____

Total waterfowl usage during period 50,550

Peak waterfowl numbers 45,555

Areas used by concentrations Shoal Waters of the Sound.

Two Fresh Pools, Salt Flats, Sand Dunes.

Principal nesting areas this season _____

Reported by Laurie E. Turner

INSTRUCTIONS

- (1) Species: 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.
- (2) First seen: The first refuge record for the species during the season concerned in the reporting period, and the number seen. This column does not apply to resident species.
- (3) Peak concentration: 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 in the reporting period.
- (5) Young produced: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (6) Total: Estimated total number of the species using the refuge during the period. This figure may or may not be more than that used for peak concentrations, depending upon the nature of the migrational movement.

Note: Only columns applicable to the reporting period should be used. It is desirable that the Summaries receive careful attention since these data are necessarily based on an analysis of the rest of the form.

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)Refuge Pea IslandMonths of Jan. 1, to April 30, 1945

(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>										
Commorants,	550	4/16	700	4/20						1000
Hérons, Great Blue	Res.		17	4/20						30
" Louisiana	Res.		25	4/20						40
" Black Crowned	Res.		120	4/20						200
Egrets, American	9	3/20	35	4/20						60
" Snowey	10	3/20	25	4/20						40
Loons, Common	Seen all	Period	285	4/20	285	4/20				300
Grebes, Horned	" "	"	30	1/20	8	4/20				50
" Piebill	" "	"	40	1/20	6	4/20				100
II. <u>Shorebirds, Gulls and Terns:</u>										
Gulls, Great Black back			196	1/20	4	4/20				225
" Herring	Seen all	Period	2000	1/20	600	4/20				2000
" Ring Bill	" "	"	1000	1/20	85	4/20				1500
" Laughing	125	4/12	400	4/20						600
" Bonapartes	3	4/12	24	4/20						100
Terns, Royal	28	4/12	140	4/20						400
" Common	8	4/12	100	4/20						500
Willetts	12	3/28	85	4/20						300
Yellow Legs, Greater	55	3/28	240	4/20						600
Sandpipers, Red Backed	Seen all	Period	1500	4/20						2500
Sandpipers all Species other than Red Backed	800	3/28	3000	4/20						5500

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> : Mourning dove White-winged dove	One or two seen occasionally				
IV. <u>Predaceous Birds</u> : Golden eagle Duck hawk Horned owl Magpie Raven Crow	about 10 observed on the refuge for the period				
Fish	Not over a dozen seen this period				
Reported by <u>Lewis B. Turner</u>					

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.

3-1754

Form NR-4

(June 1945)

SMALL MAMMALS

Refuge Pea IslandYear ending April 30, 1951

(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				
Muskrat	Cattail, Three Square Acreage Unknown													Est. 700
Otter	Fresh Water Ponds Tide Water Creeks													Est. 35
* List removals by Predator Animal Hunter														

REMARKS:

Reported by Lewis B. Turner

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.

Refuge Pan IslandYear 1941

Botulism

Lead Poisoning or other Disease

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl	_____	_____
(b) Shorebirds	_____	_____
(c) Other	_____	_____

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) _____

Condition of vegetation and invertebrate life _____

Remarks _____

Kind of disease UnknownSpecies affected Canada Geese

Number Affected Species	Actual Count	Estimated
<u>One</u>	<u>100</u>	<u>200</u>
_____	_____	_____
_____	_____	_____

Number Recovered NoneNumber lost UnknownSource of infection UnknownWater conditions GoodFood conditions Fair

Remarks Since there was one full time man assigned to this project and part of the time Two and Three it is thought that the figures listed above accounts for over 80% of the birds affected on the Area, as it was combed almost daily for affected birds.

3-1570
NR-8a

REFUGE GRAIN REPORT

Refuge Poa Island.....

Months of Jan. 1. thru April 30. 1951

(1) VARIETY	(2) ON HAND BEGINNING OF PERIOD	(3) RECEIVED DURING PERIOD	(4) TOTAL	(5) GRAIN DISPOSED OF				(6) ON HAND END OF PERIOD	(7) PROPOSED USE		
				TRANS- FERRED	SEEDED	FED	TOTAL		SEED	FEED	SURP.
Corn, Shelled Yellow	100	None				Trapping	75. Bu.	25 Bu.			
<p>"Note" the 25 Bu. listed as on hand is still located at Mattamuskeet Refuge, and with the R. O. approval will be used By Mr Cahoon in the Carp Removal Program now under way at that Station and is surplus to our needs before next Waterfowl season</p>											

- (8) Indicate shipping or collection points.....
- (9) Grain is stored at.....
- (10) Remarks.....

NR-8a

REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)--55 lbs., Corn (ear)--70 lbs., Wheat--60 lbs., Barley--50 lbs., Rye--55 lbs., Oats--30 lbs., Soy Beans--60 lbs., Millet--50 lbs., Cowpeas--60 lbs., and Mixed--50 lbs. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately: Corn, wheat, proso millet, etc. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share-cropping, or harvest from food patches.
- (4) A total of Columns 2 and 3.
- (6) Column 4 less Column 5.
- (7) This is a proposed breakdown by varieties of grain listed in Column 6.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters grainary", etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.



First Step in the Banding Program and
other activities Connected therewith



Second Step, Weighing the Geese



Third Step, Banding The Goose



Fourth Step, Free Again



Burning 320 Acres of Marsh, In High



Tired out, Roaring Fire in the Background



Climax, Sowing Rye Grass (Italian) On Burned over Marsh