

Regional Director, Atlanta, Ga.

April 6, 1956

Refuge Manager, Pea Island Refuge, Manteo, N. C.

Narrative report, Pea Island, Jan. through April

Please find submitted herewith Narrative report covering the period mentioned above.

Considerable time went into the preparation of this Report and it is believed to cover about all items of activities and data worth reporting


Lewis B. Turner, Refuge Manager

PEA ISLAND NATIONAL WILDLIFE REFUGE
NARRATIVE REPORT

JANUARY 1, TO APRIL 30, 1956

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PEA ISLAND NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT
JANUARY 1, TO APRIL 30, 1956

I, GENERAL

A, Weather Conditions

This period has proven to be rather rugged from a Weather standpoint, During the period Jan.8-13 the longest hardest and worst North Easter for the past 30 years struck the North Carolina Coast, With winds of near hurricane force which blew for a long sustained period, The rest of January was almost as bad, Temperatures was not at an extreme low but the whole month was just plain bad weather, Feb. and march also brought along two normal north easters but was just a sepher compared with the Jan. Storm, April started out good but another severe North Easter ocured on the 11 and 12th which had wirts up to 73 MFE, This one only lasted about 48 hours and petered out with out causing much Damage, Since that date April has been seasonal or about normal, Precipitation exceeded that for the same period last year by some 2.69 inches but is still slightly below normal.

Data listed below was furnished by the National Park Service official weather station maintained at their Bodie Island Station and reflect conditions as they actually exist as this Station is just three miles north of the Refuge.

Precipitation,		Temperatures,	
Actual,	Dep.From Normal	Max.	Min.
Jan. 2.79	- 1.41	59	25
Feb. 4.63	± .13	75	27
March, 3.03	- 1.47	68	28
April, 3.87	- .93	76	35
Tot. 14.02	Tot. - 3.68	Max. 76	Min. 25

January - April 1956

Page 2,

II, WILDLIFE

A, Migratory Birds

1. Populations and Behavior

This reporting period began with the wintering Populations about on an equal or slightly larger than for the same period a year ago, Canada Geese numbering between 10 and 11000, Greater Snow Geese numbered app 5500 about half of this flock having left the Refuge area on Dec. 28 Some of these came back and on one count on Jan. 13 showed the flock back up to 5500.

Ducks all Species combined numbered app. 15000 with Coots numbering 2000.

Numbers of Canadas remained almost constant until Feb. 10 when the counts had decreased to about 8000, March 3, Count showed 3000 still remaining and at the end of April only 200 remained.

Snow Geese decreased until on Jan. 27 count showed 950 the last seen was on Feb. 2 when the last remaining 370 left the Refuge and did not return, This is considerably later than they usually stay at Pea Island before going back to upper Currituck Bay.

Ducks scattered off the Refuge area rapidly after hunting season closed and counts made during the last two weeks in Feb. Showed only about 3000 left, Mostly Blacks, Gadwall and Greenwing Teal, a later spring migration brought this number up again to app. 6000 for a short period thru March, These being Pintails and Bluewing Teal with some Baldpates, A late movement of Redbreasted Mergansers occurred during the last week in March when the Area around Oregon Inlet and south had over 50,000 for a period of a week these were all gone by April 6, There was also at the same time some 20,000 Gannets feeding on a run of fish all along the Refuge surf line this flock worked north and was gone within about ten days, With just a scattering number still being present for another two weeks.

The wintering Population of Herring, Ringbill, and Black backed gulls showed an increase over last winter, The constant number of all these combined was about 9000 compared with an estimated 6800 last year Great blackbacks numbered slightly over 800 compared with 350 last season, Six years ago the peak count on blackbacks was 157.

Migration of Gulls, and Terns started on schedule about March 5 when the Herring and Ringbills started leaving and by April 25 most of these Species were gone, Laughing Gulls, Royal and Common Terns started arriving about March 20 and at the end of April numbering several thousand, Herons, Egrets and shore birds of all Species were a few days later than last year the first arriving the third week in March at the end of April Little Blue, Black, and Yellow crowned night Herons were starting nesting activities in two separate locations, Of the Shore birds, Black bellied plovers showed a decrease, While Redbacked and Pectoral Sandpipers showed the greatest increase ever last year, Willets and Yellow jags was present in about equal numbers

Populations and Behavior Cont.

as last year, To date no Black Skimmers or sanderlings have been observed altho a few ruddy Turnstones have arrived.

2, Water Conditions

Water conditions for the period has been very satisfactory as a whole, with the two ponds maintaining levels somewhat above normal for this time of the year keeping all the marginal edges submerged to the extreme limits of the shore which enabled Waterfowl to utilize more area than normally. The waters of Pamlico Sound was churned up to a great extent during two severe North Easters but this usually only last a few days and clears up rapidly, as a matter of fact this is in some ways desirable if it does not get too rough for the Geese and ducks to feed. When we have the North Easters the sound tide gets very low along the Pea Island shoreline and allows feeding in waters that is normally not available with normal tides, on these occasions Geese can be seen as much as three miles off shore feeding where there is an abundance of feed when the nearer shallow waters have been cut out.

Salinity of the sound waters is unknown since we have had no test run for the period but should be somewhere normal or about 63 % sea strength.

Tables below show the Gauge readings for the end of the four months being reported.

Jan 31,	North Pond	South Pond
Jan. 31	4.62	4.88
Feb. 29	4.80	4.80
Mar. 30	4.80	4.80
Apr. 30	4.72	4.68

3, Food and Cover

Food conditions remained fair to good or about normal for the period altho not quite up to last years production in the Pamlico Sound area. Also the south pond went entirely dry last summer and of course did not produce but very little aquatic in the main body of the pond. The north Pond had an abundance of aquatic at the start of the period but was eaten out clean by the last of January. The marginal edges of both ponds had a very good crop of three square, Smartweed and wild millet. The 65 Acres planted out to Italian Ryegrass did exceptionally well throughout the season and as was the case last period reported, it continued to carry from 600 to 1400 Geese at all times with a scattering of Pintail Ducks also. The controlled marsh burning program was carried out on schedule with most of the burning being accomplished during Dec. with one unit being burned on Jan 9 consisting of 177 acres bringing the total to 710 acres burned for the winter. Burning will be covered in more detail in a separate report being attached at the end of the narrative

Food And Cover Cont.

Native Beach Pea within the two pond areas was above average but since this is a small percentage of the Refuge area and all the Pea outside of the Dikes was destroyed by the two hurricanes last summer it was estimated that we had perhaps a 35 to 40 % crop based on a past annual production basis.

All Canada Geese trapped for the season past showed an average weight each of 7.8 pounds, This compares with 8.2 for last year and 6.9 two years ago.

4. Botulism and Lead Poisoning

None for the period, It seems not to exist on Pea Island.

5. Other Diseases

The unknown disease that ^{is} prevalent among the wintering Canada Geese each year to a more or less degree was very much below what it was during the last winter, Known sick and dead birds for the entire season was 46 compared with 111 for the last winter past, This count is the combined figure of Refuge Personnel and the Research crew from Patuxent who made canvases at two week intervals and our own surveys was made weekly and sometimes daily, This item will be more fully reported under Field Investigation.

B. Upland Game Birds

Does not apply to Pea Island with the exception of an occasional Dove.

C. Big Game Animals

Does not apply to Pea Island Refuge.

D. Fur Bearing Animals

Fur Bearers on Pea Island consist of Muskrats and Otter, Of Muskrats, Our estimates are around 1500 to 2000 and no radical change has occurred in population trends in the last several years they seem to remain at about this figure year after year as far as we can tell,

Otter number some 30 to 40 and is in about the same status as the Rats, Not showing any increase to mention, No harvesting of either species has been accomplished but there is one Special Use permit in effect to live trap 50 Rats for restocking purposes on Marshlands owned by the State, They have not commenced the trapping program as yet but expect to within the next few days.

E, Predators

Predators on Pea Island does not exist fortunately with the exception of a few wild house Cats, These are at a low ebb at present due to some disease they contracted last fall killing out a goodly number several was found dead during Oct. and Nov. Mostly young kittens but the number of adults have decreased also, Two bald Eagles wintered on the Refuge and caused some disturbance among the Ducks and eot but but was never observed preying on Waterfowl.

III, REFUGE DEVELOPMENT AND MAINT.

A, Physical Developments

Physical Developments for the period consisted of pouring another five Car parking area of Conerete adjacent to the Publicity Office at Pea Island Station, The one constructed a year ago proved to be just half enough, We now have facilities for parking ten vehicles, The new lot contains 220 Sq. yards of area.

B, Maintenance

The past four months period proved to be the worst in the last several years from a Maintenance standpoint, One North Easter that ocured during the period Jan 8-13 brought in sea tides six to eight feet above normal Breaking the sand fence into in several places in the South Pond area, And causing major damage to the fence line along the highway, 6.100 yards of Material was moved in repairing the Sand Fence on a contract basis, Refuge Personnel expended 31 man days during the period on the fence repair job, Some of this was caused by Vandalism, Cutting and removing Copper wire, The guilty parties has since been caught and charges filed against them, But most of the damage was caused by high tide waters, Some painting was done on the buildings, Mostly trimwork and windows.

Maintenance schedules were maintained on all the motorized equipment, The boat pulled and painted inside and out, All boundary posting signs checked and several new ones erected, All trapping Equipment hauled in cleaned up and painted or greased and the nets mended and stored, two new portable type duck traps was constructed for an attempt to trap some of the nesting Black and Gadwall Ducks during the summer.

C, Farming

No farming was accomplished during the period, Plant were to plant out about four Acres in experimental summer cover crops during April but the fields have continued so wet through the month we have been unable to get them in, We expect to plant these within ten days.

D, Wild Fires and Otherwise

No wild fires occurred on the Refuge during the period, Controlled Marsh Burning will be reported in detail under separate report, Controlled burning Report, later in the Narrative.

IV, ECONOMIC USES

A, Commercial

No Economic Uses to report this period, It is understood that the Concession formerly owned by Mr. J. B. Tillett and located on the North end of Pea Island, Which has been acquired by the National Park Service has been leased out on an Annual Basis but to date no one is operating it, Revenue from this establishment revert back into Fish and Wildlife Service Accounts under the Memorandum Agreement with the Park Service.

V, FIELD INVESTIGATION AND APPLIED RESEARCH

A, Goose Disease Study

For the past six years Personnel of this Station have been assisting the Research Division at Patuxent in their research work program during each winter, This consist of Trapping, Banding, Weighing, and sexing Geese, Also collection of samples of Vegetative matter, conducting censuses for sick and dead birds at regular intervals, and attending to the captive flocks of Geese brought in for comparative Data purposes.

Our trapping program for the season was not very successful for some reason of which we are unaware, Five trapping sites were kept baited all season but the Canadas just would not come in to bait, The results was only 105 ~~xxxxx~~ Geese was trapped, and Banded

Listed below is the results of the Winter Program..

Total Geese Trapped	121
" " " and Banded	105
Total Geese found sick and Dead	48
Total Healthy Geese sent to Patuxent	19
Captive Geese Held in pens and liberated in the Marsh last Oct	65
Captive Geese recovered and carried back to Patuxent	64

. In addition to the above 79 Ducks were trapped and banded divided as follows, Blacks, 17, Mallards, 50, Pintails, 16 Coots, 5.

VI, PUBLIC RELATIONS

A, Publicity

Only local publicity activities have been continued this period, Refuge Leaflets No. 6 and bird lists have been furnished to all Visitors to the Station and additional information concerning the Refuge has been Given to all parties requesting it, All Tourist resorts from Powell's Point south to Hatteras have been furnished with supplies of Leaflet Material, And some 123 written request have been received and complied with by mailing out printed Matter, No Movies has been shown or public appearances made.

Registered Visitors at the Field Office Numbered 107 compared with 103 for the last four months reported, Sept-Dec. Narrative,

Nine guided tours of the Refuge have been accomplished during the period for parties numbering from 2 to 6 persons each, With two more scheduled for May numbering 15-20 each.

Listed below by months is Vehicular traffic thru the Refuge one way for the period.

Month,	Vehicles,	Passengers,
Jan.	2,109	6.662
Feb.	1,270	3.753
March,	2.068	6.618
April	<u>4,374</u>	<u>15.509</u>
Tot.	251302 9.821	32.344
Sept-Dec. Narrative Report	21.577	77.398

B, Recreational

Due to abnormally bad weather during Jan-Feb. very few persons used the Refuge area for Recreational Purposes, Some fishing was done with but very little success, March and April has shown a steady increase in Surf Fishing, Photography, And just plain visiting for any purpose of interest.

Friday April 27 marked the starting Day for the annual Pirate's Jamboree lasting three days, Friday was Outer Banks day and all visitors to the event numbering app. 8000 had to pass thru the Refuge area and quite a number of these stopped off for various reasons along the 12 miles of surf line thru the Refuge, Estimated man days of Recreational use is as follows.

Man days of Fishing and clamming	996
Man days of Sightseeing and other	1831

C. Violations

We have no Game Law Violations to report for the period, But Pea Island seems to be plagued with more than its share of troubles of a more serious nature.

On April 2, We discovered that the fence line running along the Highway was being damaged by vandalism, Cutting and removing the Copper Wire from the post, The FBI and the local County Sheriff was notified, Most of the wire that had been removed was replaced and the fence checked daily for further damage, none occurred for several days when another raid was made, We started a continuous all night patrol and after a week of this on Thursday April 26, Two Negroes from Manteo, George A. McClees and Leon Morgan was apprehended in the act of cutting and removing the wire about 1 mile north of the south boundary line, We collected all the evidence possible and filed an Information with the FBI, Agent Wood of Elizabeth City rounded up the two men and arraigned them before the U.S. Commissioner who held them on charges of theft of Gov't property, Bail was set at \$500.00 each, which to date they have been unable to raise and are being held in prison in Wilson N. C. for trial next Oct. 3,

App 400 lbs of Copper wire was stolen before we could break up the activity, Estimated cash damage to the fence is about \$500.00.

D. Visitors

Official

Mr. Carl Fermanich, R.O.	2/3	Atlanta, Ga
Mr. Lawrence Smith, Refuge Mgr.	2/7	Sensea Falls, N.Y.
Mr. Jacob M. Valentine, Refuge Mgr.	3/3	Chinsetauge, Va.
Dr. Arch Cewan, Research Div. all thru period		Laurel Md.
Mr. Clark Webster, " " " " "		Laurel, Md
Mr. Edwin Ball, R. O.	3/5	Atlanta, Ga.
Mr. Allyn F. Hanks, Park Supt.	4/4	Manteo, N. C.

Unofficial

As stated under Publicity we had 107 Registered visitors at Pea Island Station during the four month reporting period.

these were from several states but most of them from North Carolina, Virginia, and Maryland, With a scattering from Penn. and New England States.

Submitted By James B. TurnerApproved By 15/ Lawrence S. GuianaDate, 5/6/56Date May 8, 1956

CONTROLLED BURNING PROGRAM
PEA ISLAND REFUGE
WINTER, 1955-56

Some of the controlled Marsh burning being reported in the Report was accomplished during 1955 but since it is desirable to report on burning activities on a seasonal basis rather than on Narrative periods, All burning done during the Winter of 1955-56 is covered.

Unit 2, located app. 2 miles south of Oregon Inlet and containing 441 Acres was burned off Nov. 9, with a North East wind of 15 MPH, Vegetation consisted of, *Spartina Patens*, 65 % *Scirpus Am.* 20 % and a low stand of Wax Myrtle which had been reduced by fire three years ago laying along the sound side about 15 %, Got a very good burn close to the ground on most of the area and set the Myrtle back for some time to come.

Geese used this tract for feeding purposes in a very satisfactory manner numbering from 150 to as high as 700 at times, Most of the benefits derived from burning is during the late winter months especially during Feb. and the first two weeks in March.

Unit No. 7 located along the east side of the South Pond and containing 92 Acres was burned off on Dec. 6, with a North East Wind app. 20 miles an Hour, Dominant Vegetation was *Spartina Patens*, 60 % *Scirpus Am.* 20 % Broom Sedge and Wax myrtle 20 %, Secured a fair burn on all but the lower marginal edge which was too wet due to high water levels prevailing in the pond at the time, This particular area was utilized by the Snow Geese to a great extent during the month period immediately after burning, Counting upward of 4000 on it on several occasions, Later in the season Canada Geese also browsed it down almost to the ground.

Unit No. 10, laying adjacent to the south Boundary line and containing 177 Acres was burned off on Jan. 9 with a North East wind app. 30 MPH, Vegetative Matter on this unit was of a mixed nature with *Spartina Patens* app. 40 % *Juncus* and other low marginal species, 30 % low dune type with Wax Myrtle about 30 %, Some of the last mentioned area did not burn off as desired due to not having enough grass under-story to carry fire, also this tract was hard hit by high hurricane tides from the sound which washed out and moved a good percentage of the dead grasses which accumulated since burning three years ago, this cut the effectiveness of the burning somewhat, App 65 % of the tract burned off so that it was useful for browsing purposes but since Canadas do not use the south end in as great numbers as the rest of the Refuge only limited numbers was observed feeding this area, 425 being the most counted at any one time.

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

W A T E R F O W L

REFUGE Pan Island

MONTHS OF Jan. 1. TO APRIL 30, 1956, 1956

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling	215	149	200	208	70	109	70	127	3	7
Trumpeter										
Geese:										
Canada	10500	9800	9000	9600	8000	6500	7000	4800	3000	800
Cackling										
Brant										
White-fronted										
Snow Greater	8500	4000	3800	950	370					
Blue	3	7	7	1						
Other										
Ducks:										
Mallard	725	700	700	800	800	400	400	160	55	4
Black	1200	1000	1000	1100	950	350	600	450	450	160
Gadwall	2800	1900	1700	1800	1100	700	550	200	300	100
Baldpate	2900	2000	1800	1800	900	450	300	150	85	20
Pintail	2000	2500	3000	3500	2000	800	1100	1200	200	300
Green-winged teal	1700	1500	1200	1250	450	1200	1500	900	300	400
Blue-winged teal	100	160	90	22	8	30	10			80
Cinnamon teal										
Shoveler	750	600	600	700	600	450	450	300	180	75
Wood										
Redhead	6000	4500	800	800	200	300	150	100	20	20
Ring-necked	700	900	800	800	200	300	150	100	20	20
Canvasback	3	5	3	4	12					
Scaup	800	800	400	650	450	200	400	150	35	30
Goldeneye										
Bufflehead										
Ruddy	900	900	650	1000	700	200	300	150	90	110
Other	2200	2100	1500	2400	1800	800	1000	400	80	30
Coot:	2400	2000	1600	950	800	400	250	250	200	200

3 -1750a

Cont. NR-1

(Rev. March 1953)

W A T E R F O W L
(Continuation Sheet)

REFUGE Pas IslandMONTHS OF Jan. 1, TO April 30, 1956

(1) Species	(2) Weeks of reporting period								(3) Estimated waterfowl days use	(4) Production Broods: Estimated seen : total		
	11	12	13	14	15	16	17	18				
Swans:												
Whistling	7	42							8,760	0	0	
Trumpeter												
Geese:												
Canada	600	600	500	400	360	360	176		503,895	0	0	
Cackling												
Brant												
White-fronted												
Snow -----									125,340	0	0	
Blue -----									126	0	0	
Other												
Ducks:												
Mallard ARE ---	2								33,257	0	0	
Black	150	200	180	280	260	300	300		63,745	0	0	
Gadwall	100	80	100	250	400	400	400		87,260	0	0	
Baldpate	10	4	30	20					80,146	0	0	
Pintail	180	8	500	80					132,140	0	0	
Green-winged teal	70	85	20	20					74,025	0	0	
Blue-winged teal	150	300	400	300	450	400	40		17,780	0	0	
Cinnamon teal												
Shoveler	50	60	70	10					31,466	0	0	
Wood												
Redhead ---									79,201	0	0	
Ring-necked	20	10							27,650	0	0	
Canvasback	20	2							346	0	0	
Scaup ---									27,209	0	0	
Goldeneye												
Bufflehead												
Ruddy	110	40	10	30	8				36,386	0	0	
Other Unidentified	10								86,940	0	0	
Coot:	40	30	40	62	100	100	5		66,909	0	0	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production	SUMMARY
Swans	8,750	210	0	Principal feeding areas <u>Entire Refuge Area</u>
Geese	329,235	18000	0	
Ducks	777,850	14145	0	Principal nesting areas <u>None this period</u>
Coots	65,809	2400	0	
				Reported by <u>Lewis B. Turner</u>

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (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) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: 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.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

3-1751

Form NR-1A

(Nov. 1945)

MIGRATORY BIRDS
(other than waterfowl)Refuge Pea IslandMonth of Jan. 1.to April 30.1956

(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. Water and Marsh Birds:											
Hérons, Louisiana		Res.		34	4/27						50
" Great Blue		Res.		5	4/27						8
" Little Blue		Res.		39	3/27						50
" Yellow Crowned		Res.		41	4/27						75
" Black Crowned		Res.		40	4/27						75
Egrets, American		3/18	2	34	4/27						65
" Snowy		3/18	9	61	4/27						80
Orebes, Piebilled		Res.		106	1/6						200
Loons, Common	all	Winter		63	1/6						75
Pelicans, Brown		3/18	11	16	4/27						20
Commorants,		212	3/18	300	4/27						400
Gannets,	All	Winter		24000	2/24	8	4/27				24000
II. Shorebirds, Gulls and Terns:											
Gulls, Blackbacked	All	Winter		550	1/6	2	4/27				600
" Ringbilled	"	"		870	1/6	75	4/27				1000
RAKING Herring		Res.		7400	1/6						8000
" Laughing		Res.		2500	4/27						3000
Terns, Royal		16	3/18	134	4/27						200
" Common		38	3/18	240	4/27						300
" Least		2	3/18	170	4/27						250
" Caspian		2	3/18	30	4/27						50
Willetts,		14	3/28	38	4/27						200
Yellow Legs, Greater		Res.		385	4/27						400
" " Lesser		Res		20	4/14						50
Flovers, Black Bellied		1	3/18	6	4/27						25
" Wilson		14	3/18	90	4/27						200
Sandpipers, All Species Combined		Res		4400	4/27						5000
Sanderlings		8	3/18	45	4/27						200

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged dove	An occasional dove observed passing through, Not enough to record				
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow	Averaged about three using the refuge area during the 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)
 II. Shorebirds, Gulls and Terns (Charadriiformes & Gruiformes)
 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 NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Pea Island Months of Jan. 1, to April 30, 1956

(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.
	Does not apply to	Pea Island	Refuge	except for	an occasional	dove	during	March and April		

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 Pea Island

Year ending April 30, 1958

(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 & Scirpus Am. and other three Square App. 900 Acres within the two fresh Water Ponds	App 2.2	0	0	0	0	0							Est. 2000
Otter	R&G Ranges all over the entire Refuge area	167	0	0	0	0	0							Est. 35

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Lewis B. Turner

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.

REFUGE GRAIN REPORT

Refuge Pea Island

Months of Jan. 1, through April 30,, 1956

(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 OR SUITABLE USE*		
				Transferred	Seeded	Fed	Total		Seed	Feed	Surplus
Yellow Corn, Shelled	115 Bu.	None	115 Bu			Trapping	111 Bu	4 Bu		Trapping this Summer	

(8) Indicate shipping or collection points Blackwater Refuge, Last period

(9) Grain is stored at Pea Island Headquarters Station

(10) Remarks _____

*See instructions on back.

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 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. 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 break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.