

BRANCH OF WILDLIFE REFUGES NARRATIVE REPORTS

MR. SALYER _____

MISS BAUM _____

MR. CRAWFORD _____

Operations

MR. REGAN _____

MR. ~~DuMONT~~ PD

Land Management

MR. ~~ACKERKNECHT~~ 20a

DR. ~~MORLEY~~ Rem

Habitat Improvement

MR. BANKO _____

MR. STILES S

MR. KUBICHEK _____

Stenographers

→ SEE PGS. 3, 4, 5, 6, 7, 8, 9
+ Pix

REFUGE BLACKWATER

PERIOD JAN - APR 1958

Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1958.

- - - - -

Personnel

Cornelius W. Wallace.....	Refuge Manager
W. Steele Webster.....	Asst. Refuge Manager
Guy W. Willey.....	Refuge Aid
G. Wallace Stewart.....	Maintenanceman
Oden B. Keen.....	Maintenanceman
Owens P. Hughes.....	Maintenanceman

U.S. Department of the Interior

Fish and Wildlife Service

Bureau of Sport Fisheries and Wildlife

Blackwater National Wildlife Refuge
R.F.D. #1 Cambridge, Maryland.

Established January 23, 1933.
Total Acreage 11,216

Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1958

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Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1958.

I. GENERAL

A. Weather Conditions.

Precipitation for the month of January was slightly above normal. Three and fifty five hundred inches of rain was recorded for the month. Precipitation was frequent throughout the month with the greatest amount 1.42 inches on the 25th. We had only one snow during the month which was a four inch one on the 7th and remained on the ground until the warmer trend and rain of the 15th. Heavy winds on the 25th broke off tree branches and blew down television aerials. Temperatures for the month averaged about 5 degrees below normal. A low of 14 was recorded on the 10th and a high of 53 degrees on the 22nd.

A heavy snowstorm with strong winds and well below freezing temperatures struck this area on February 15 and 16th. Six inches of snow fell during this storm and due to blowing snow and icy conditions all schools and most factories were closed on the 17th and 18th. Telephone service was cut and electric service was disrupted in some areas. We were fortunate as there were no accidents or deaths in this locality caused by this storm as was just north of Dorchester County where the accident and death toll was high. Rainfall was near normal for the month. Temperatures for the month averaged about 7 degrees below normal. The daily minimum temperatures were well below freezing on 24 days of the month. A low of 6 degrees was recorded on the 17th. The warmest day of the month was on the 28th with a reading of 58 degrees.

March with 6.01 inches of precipitation was one of the wettest months on record for this area. The heaviest amount 2.05 inches was with the freak storm which passed thru on the 19th and 20th dumping a 5 inch wet snow which soon melted but caused ^{more} severe damage just north of this area than Hurricane "Hazel". Dorchester county was just on the edge of the storm and only damage to power lines and telephone lines were cut. As much as 2 feet of snow fell in Northern and Western Maryland. Temperatures for the month was near normal with only -1.0 degrees below normal.

Excessive rainfall is the highlight for the month of April. A total of 4.83 inches was recorded, which is 3.00 inches above normal. Rainfall was heavy during both the first and last of the month. Due to wet conditions caused by heavy rainfall farming operations have been delayed for several weeks. Temperatures for the month were slightly below normal.

<u>Precipitation</u>				
<u>Snowfall</u>	<u>This Month</u>	<u>Normal</u>	<u>Max. Temp.</u>	<u>Min. Temp.</u>
January 4.0	3.55	3.47	53	14
February 7.0	4.54	4.12	58	6
March 7.0	6.01	3.82	56	26
April 0.0	4.83	1.83	79	34
Totals 18.0	18.93	13.24	Extremes 79	6

B. Habitat Conditions.

1. Water. Water levels in our fresh water impoundments have remained near normal for this period due to the above normal rainfall. On March 20 the control gates in Headquarters Pond #2 and Dieffenbach Pool Unit #3 were opened due to high water levels and runoff from heavy rainfall and snowfall. We always remove the stop logs in the control gates of the Dieffenbach Pool about the last of March so it will drain for the spring planting operations.

We have been able to follow our approved water management plan as sufficient rainfall has been available to maintain our desired water levels.

Water levels on our rivers and ponds have fluctuated a little above normal for the period. During several of our rainy spells the tides were abnormal high and it takes about a week for the levels to recede to normal. This is caused by the Blackwater river being so long and narrow. The tides fluctuated from a low of -.40 feet below sea level on the first week of January to 2.00 feet above the first week of April. Water levels are usually lower on our tidal marshes during January and February due to the prevailing strong northwest winds.

2. Food and Cover. There has been sufficient food for the waterfowl on the refuge this winter and spring. However, during the heavy snowstorms and freeze-ups shelled corn and wheat were feed the waterfowl. 800 bags of shelled corn shipped through the Central Office from surplus sources in Ohio for this feeding operation since heavy snowfall and ice conditions prevailed throughout the State. Due to the supplementary feeding the waterfowl survived these storms with no loss of waterfowl reported in this area.

The grain crops were soon exhausted but the winter wheat and ladino clover would grow during the warm spells supplying the waterfowl with additional food. Due to wet conditions last fall we were unable to harvest any of our corn. We used our rotary mower to cut down about an acre of corn on a high section of each field. The geese and ducks would start feeding reaching up for the ears of corn. Using this procedure the corn fields will supply for a month or longer were if it had been cut down with a rotary mower it would have last only about a week. The waterfowl get all the corn even thou if is left standing. We started our burning program in early January and soon as the first shots of three-square and paterns arrive the geese started to feed on them. This along with ladino clover have helped supply the necessary food during the spring.

The aquatics in our tidal ponds made an excellent growth last summer due to the dry summer and have supplied an abundance of food for waterfowl throughout the entire season.

II. Wildlife

A. Migratory Birds. Cold weather and freezing temperatures during January, February, and March forced many of the waterfowl to leave the refuge and move to the larger Bays and Rivers. The duck population estimated at 48,150 was about the same as the 44,450 reported during January of last year. The Canada goose population remained high throughout the period with approximately 20,000 during January. This 20,000 is a 60% decrease over last years count of 62,000 reported during the same period last year. The geese remained on the refuge throughout the heavy snowstorms during February and March.

The Canvasbacks, Ring-Necked duck and Scaup found on the refuge in good numbers in November and December left in early January due to ice conditions.

Cold freezing weather was the main factor during this period and this caused a decrease in the waterfowl on the refuge areas, compared to the same reporting period last year.

It is interesting to note that the Canada geese remained in large numbers until the last of April. Approximately 5,000 could be observed on the refuge at that time. This late migration was probably due to the cold weather which prevailed to the North.

The nesting season was late due to the cold weather. By the end of this period about 50% of the (man-made type duck nest) which were constructed and placed in Pond #1, Pond #2, Dieffenbach Pool, Kuehnle Tract and Little Blackwater River near headquarters were occupied. And estimated 200 eggs could be found in these nest. These man-made nest protect the eggs from predators such as the raccoons, crows, and shunks which in the past have destroyed most of the natural nest on the refuge. No Canada geese were observed nesting during this period.

Win - Are you familiar with this? WPBS

The dove population has been pretty evenly distributed over the refuge during this period. Corn and soybeans have been the only grains available for them in the Agricultural fields. Quite a few use the ladino clover along Egypt Road and they also rest on the electric wires which cross these fields. Since only wheat is growing in the Kuehnle Tract area very few have been observed in that area. The population was estimated at about 300 during this period.

B. Upland Game Birds. The Bob White Quail population on the refuge area is estimated to be about 700 the same as reported in the last report. The Quail can be seen feeding in most any of the Agricultural fields planted in grain, and roads near the Dieffenbach Pool and headquarters. Wheat & corn were spread around the edge of the agricultural fields and dike for the Quail and other birds when the ground was covered with snow during this period. No signs of predation on the Quail have been observed.

C. Big Game Animals. Deer can be seen on any part of wooded and agricultural sections of the refuge at most anytime. Four or five can be observed feeding in the ladino clover fields during the day and as many as 21 have been observed at one time during the night. It is felt the deer population on the refuge and adjacent areas has increased somewhat over last year. There is a possibility

that they cause damage to some crops on the refuge and adjacent farms. There is rumors that the State may open the doe season in the County this fall which would help the farm owners.

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

1. Muskrat. Due to the decrease in the muskrat population last period no muskrats were trapped on the refuge this past trapping season. There has been quite a bit of activity on the marshes by the muskrats from evidence of building on their houses during the high tides and also cutting where they have fed on the three-square. On checking the marshes you can observe where the fox and raccoon have torn in the muskrat houses. The marsh areas are covered with excellent stands of three-square ideal for muskrats. The population is estimated to be a bout 10,000 the same as reported last period.

2. Raccoon. The raccoon population is estimated to be about 500 on the refuge. Raccoons seem to be more plentiful on the marshes and near wooded areas joining the marshes. The raccoon can do damage to both the muskrat and waterfowl. Many marsh owners claim the raccoon is the cause for the decrease in the muskrat population.

3. Fox. Quite a few local farmers say the fox is on the increase But on the refuge the population remains about the same. It is very seldom we see a fox, since most of the activity is on the islands located in the marsh areas. Late in this period One old fox and three young ones were observed playing in a field adjoining the Dieffenbach Pool dike.

4. Squirrel. The squirrel population is about the same as reported last period. The estimated population of both the Byrant Fox and Gray Squirrel on the refuge is estimated to be about 450. They can be observed crossing the roads from the woods to the corn fields. The largest number of these animals are found in the wooded areas across from the Dieffenbach Pool and old growth pines at the Kuehnle Tract.

5. Skunk. There are stilla few of these stinkers around. The number seems to be about static. It is very seldom that you see one during the day, but at night you have to drive very careful to keep from hitting them on the roads. They are very destructive since they destroy waterfowl nest.

6. Miscellaneous Fur Bearers (Opossum, Otter, Weasel, and Nutria).

There has been no increase in the above species during this period. In fact, we believe there is a decrease in the Nutria population due to the extremely cold weather this winter. While burning our marsh management areas we observed quite a few dead Nutria along the banks of the rivers and small ponds. There is still some signs of activity of the Nutria and a control program should be iniated to entirely eliminate them on the refuge before they increase and destroy the vegetation so valuable to waterfowl and muskrats. The estimated population of the opossum is 220, Weasel 50, Otter 20, and Nutria 10.

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

The most common hawks during this period have been the red-tail and marsh hawks. The marsh hawks can be observed soaring just a few feet above the ground over the fields and marshes at most any time. The red-tail hawks like to rest and watch for rodents from the tall oak and pine trees that border our wood land. We see an occasional sparrow hawk which likes to rest on telephone poles watching for mice and other rodents. The Coopers and Sharp-Shinned hawks are most numerous in our wooded area along roads that border wooded areas. The hawk population is about the same as last reported.

The American Eagle population is about 30. The Eagles are most common over our marsh areas where they can be observed flying over the ponds on the look out for sick or cripple waterfowl. They can be seen resting in the top of dead trees near our Dieffenbach Pool dike. You can usually tell when an Eagle is around due to the waterfowl getting out of the pond where they are resting or feeding.

The Great Horned and Barn Owls are our most common owls. Being nocturnal we see very little of the Great Horned owl but we know that there are quite a few around by hearing their call. The barn owls like to build their nest in the towers and old trappers houses on the marsh area therefore we see them quite often. The population of the both these owls is about the same as last period, which we reported 50 Great Horned owls and 25 barn owls.

The crow population is still plentiful on the refuge. The heaviest concentration seem to be at the Kuehnle Tract and marsh areas. While on patrol at the Kuehnle Tract it is quite common to see from fifty to one hundred in the fields. There is a decrease in the crow population around the headquarters area. This may be due to the redwing blackbirds chasing them off. We have a few of the redwings which use the area around headquarters.

F. Other Birds. One cattle Egret was observed by refuge personnel and visitors on April 28. This was the first Cattle Egret reported on the refuge. They have been seen before on several occasions about a mile east of the refuge with cattle on Mr. Fred Lewis farm at Bucktown. This Egret that we observed fed on the edge of the lawn next to Pond #1 opposite the office. It spend about half its time on the lawn and the other half resting on top of the fence of our holding pen. It remained here just that one day and hasn't been observed since. We were able to walk within 25 feet of him for close observation. It left during the night.

We caught and banded one Golden Eagle in our walk in type duck trap at the Dieffenbach Pool. This Eagle remained in this vicinity for about a month and was seen in the vicinity of Egypt Road near Cambridge on several occasions.

G. Fish.

Two fishing permits were issued to local residents to use gill nets in taking fish ~~XXXX~~ on refuge tidal ponds and rivers. They made only fair catches of white perch, herring, carp and catfish.

H. Reptiles. None to report.

I. Diseases. None to report this period.

III. REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development.

The Farmall MTA was given a good maintenance check, steam cleaned and painted by M.M. Stewart. This tractor now runs and looks like a new one.

The two three bottom plows were rebuilt and painted.

The Motor on our HD-7 Allis Chamler Tractor was rebuilt and the radiator was removed and steam cleaned. This tractor was also painted by M.M. Stewart.

Repairs were made to the bottom of the Seaflyer Boat and the bottom painted.

Slag was purchased and hauled and spread on Headquarters court and lane. The hard winter had cause damage and holes had developed.

The Snapping Turtle lawn mower was given a preventative maintenance check and motor rebuilt.

A New distributor, wiring and plugs were replaced on the motor of Mbt. Loon FWS-1, decks painted and boat cleaned inside and out. This boat is now being used in connection with work at the Glen Martin Refuge.

The man-made nest placed in Pond #1, were repaired and filled with pine shats for waterfowl use. Nesting at Blackwater is now underway.

Our clearing project on the west side of the refuge is near completion. Repairs have been made on both tractors used on the project during the period.

Bid invitations were prepared and send out on the construction of the proposed Equipment Shed and Service Building. The low bidder Wiley Building Repairs of Oxford, Md. was awarded the contract. As of this date no work has been started on this building.

Preventative maintenance checks have been performed on all motor vehicles, boats and tractors.

The Marsh Management units that were approved for burning have been burned during this period.

B. Plantings.

1. Aquatics and Marsh Plants. None planted this period.
2. Trees and Shrubs. None this period.
3. Upland Herbaceous Plants. None Planted.
4. Cultivated Crops.

Fields B,T, Y and Experimental Plot were planted in ladino clover. The ladino clover made such excellent growth and food for the waterfowl we have increased the acreage of this legume this spring. The clover seems to produce and last longer than either wheat or rye. The clover fields this spring were the last fields that the waterfowl used before leaving on their flight north.

Spring farming operations have consisted of plowing approximately 75 acres. Wet weather has delayed our plowing operations but with our additional tractor and plow we will be able to do all our plowing and have the crops planted on time. A few days with sunshine and strong winds the ground will soon dry out.

The stop logs have been removed from the control structures at the Dieffenbach Pool dike and the bottoms should be dry enough for plantings of millet by the middle of June. We have found that the late plantings of millet is better than early planting.

Refuge personnel will perform all refuge plantings this year. As the waterfowl population has increased more land is needed to provide food for them, so we are farming all available land on the refuge.

C. Collections and Receipts.

1. Seed or other Propagules . Fifty two bushels of mixed grain were picked up at U.S. Grain Appraisers, Baltimore, Md. This grain is used in banding operations and to feed waterfowl in our holding pen.

Three bushels of ladino clover was purchased from Wm G. Scarlett & Co. Baltimore, Md. for planting in refuge fields.

We received approximately 1500 bushels of shelled corn from Credit Comm. Dept. of the Agricultural. This grain was shipped from Ohio by Penna. Railroad to Cambridge, Md. Arrangements were made by the Central Office. This grain about 1160 bushels was fed to the waterfowl during the heavy snowstorms in March. Another 140 bushels was transferred to Chincoteague Refuge for feeding and banding purposes.

2. Specimens. None this period.

D. Control of Vegetation. We have purchased 100 lbs of Dalpon for the control of Johnson Grass in two of our Agricultural fields. We will start of treatment of this grass in about two weeks.

E. Planned Burning.

1. General.

The marsh management units, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30, and 31, a total of 2639 acres were burned during this period, as approved by our controlled burning plan for 1958. We started our burning program on January 2, 1958 and completed our burning the last week of February. This was the first time these units had been burned. We hired two laborers to assist in controlling the fires which cost a total of \$200.00. The purpose of the burning was for supplementary feeding for the waterfowl, also to destroy the undesirable vegetation and to force raccoons and foxes from the marsh areas.

2. Conditions Prior to Burning.

Only a few waterfowl used the marsh areas before the burning was carried out. These marsh areas consist of mostly three-square and small patches of cat-tails and some bent grass with a growth of 2 to 3 feet in height.

3. Conditions following burning. These areas were burned when we had strong Northwest winds and when the tides were very low so we could a good burn. We were able to get about a 75% burn on all the units which is considered good since many units are broken by creeks and guts and vegetation is scattered. After the burning the green shots arrive and on the burned areas an estimated 10,000 geese could be observed.

F. Fires. There were no uncontrolled fires on the refuge during this period.

IV. RESOURCE MANAGEMENT

A. Grazing. None to report.

B. Haying. None to report.

C. Fur Harvest. None this period since no trapping was performed on the refuge due to decrease in muskrat population.

D. Timber Removal. None this period.

E. Commerical Fishing. Permits were issued to Mr. Prettyman Trego and Mr. James North local residents to catch fish by use of gill nets. Each permittee reported that they caught approximately 200 lbs of white perch and about 100 lbs of herring.

F. Other uses. None to report.

V. FIELD INVESTIGATION AND APPLIED RESEARCH

A. Progress Report. The following is a list of waterfowl banded at this station since January 5, 1958. No waterfowl were banded until near the close of the Annual waterfowl hunting season which closed on January 15, 1958. A breakdown as follows:

Mallards.....	1,705
Blacks.....	202
Pintail.....	26
Balpate.....	16
G.W. Teal.....	2
B.W. Teal.....	2
Canvasback.....	1
Ring-Necked duck...	14
Canada Goose.....	52
Coot.....	12
Total	2,033

Due to bad weather conditions, heavy snowfall and rainfall throughout January, February and March we were unable to trap many Canada geese with our cannon net trap. 56 Canada geese were trapped and transferred to Mattamuskeet Refuge on March 21 for the State of S.C. these geese were not banded.

In cooperation with the Regional Office we weighted 12 Mallard hens and 12 Mallard drakes to fine out the weights of mallards during this period for a research project.

VI. PUBLIC RELATIONS

A. Recreational Uses. No recreational areas are available on the refuge.

B. Refuge Visitors. Official visitors during the period are as follows:

Mr. Carl Fermanich, Asst. Regional Refuge Supervisor visited the refuge for an inspection during February.

Mr. Lawrence Givens, Regional Refuge Supervisor, and Mr. Dittman, Regional Engineer visited the refuge on March 23.

Mr. Paul Springer, Biologist from the Patuxent Refuge.

Mr. Seth Low, Chandler Robbins and Allen Duvall visited the refuge on January 5 to assist in banding mallards.

Game Agents included Agents Withers, Bain, Hines, Robbins, Williams, Shuffler all from Region 4 and Agent Snow from Region 5.

Mr. George Shields, Chief Game Warden for the State of Maryland visited the refuge to discuss Maryland Game laws.

State Wardens who visited were Bozman, Cannon, Robbins and Campbrill.

Audubon Society groups from birds clubs visited the refuge from Baltimore, Washington, D.C. and Delaware, N.J. and N.Y.

Refuge Aid Willey gave a talk to a group of students from Wicomico High School, Salisbury, Md. who were accompanied by Mr. John Warren, State of Md. Regional Supervisor during April. Mr. Willey also took the group on a tour of the refuge and pointed out the interesting features.

M.M. Stewart gave a talk about the refuge to Cub Scout Pack #162, Cambridge, Md. who visited the refuge during April.

A Hurlock, Md. 4-H Club visited the refuge during February and assisted Asst. Mgr. Webster and Aid Willey in banding of ducks, they were also taken on a tour of the refuge and items of interest ~~discussed~~ discuss.

Mr. Baker Robbins, County Commissioner for Dorchester visited the refuge in regards to building the county road across the marsh area bordering the refuge Unit 8 and 9.

C. Refuge Participation.

The refuge had an exhibit at the Cambridge Outdoor Show held on February 7th and 8th. Our exhibit was composed of the large aerial photograph of the refuge, which we have in the office, posters on wildlife, mounted birds, live waterfowl consist of 1 Swan, pair of Canada geese, pair of mallards, pair of black ducks, 1 pintail, 1 ringneck, and 1 coot. The exhibit drew quite a bit of interest and someone from the refuge was present to answer questions about the Blackwater refuge.

Manager Wallace, Asst. Mgr. Webster and Refuge Aid- Willey attended a meeting of the Queen Anne Sportsman Club at Centerville, Md. during the period and showed the film "Behind the Flyways" and each gave a short talk about the Blackwater Refuge.

D. Hunting. No hunting is permitted on the refuge. Hunting of waterfowl adjacent to the refuge is heavy. However, the last 15 days was reported as poor due to ice conditions.

E. Violations. A violation which occurred in December on the refuge was taken in State court and the hunter who was apprehended by M.M. Stewart was fined \$26.50 for trespassing on the refuge.

There were no violations observed on the refuge during this period.

VII. OTHER ITEMS

A. Items of Interest. We received our new Farmall 450 Tractor and purchased a 3 bottom plow to use with it. This tractor is equiped with power steering and two point hook up. This tractor is now being used to good advantage in our farming operations.

A R-4 Tractor that was in storage here has been shipped to the Cape Romain N.W. Refuge.

4 International Dump Trucks were transferred to the following refuges. One to South Florida, Two to Mattamuskeet, and one to Chincoteague.

A 35 H.P. outboard motor that was ordered for the Susquehanna refuge was received by this station during the period.

A delay in submitting this report was due to the Managers absence because of construction work at the Glen L. Martin Refuge where a Tower and Oil Shed is now being constructed. Farming operations which were delayed in late April were carried out by Asst. Mgr. Webster, Aid-Willey and M.M. Hughes. Both M.M. Keen and Stewart are assisting Mgr. Wallace at the Martin Refuge.

This report was prepared by Asst. Manager Webster and Refuge Aid-Willey.

B. Photographs. Attached.

Respectfully submitted,

W. Steele Webster
W. Steele Webster

WSWebster;gww

Philip G. Van Dyke
Act. Regional Refuge Supervisor

Regional Director

June 9, 1958
Date

Date

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

WATERFOWL

REFUGE Blackwater N.W.

MONTHS OF January thru ~~X~~April, 1958

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
	:	:	:	:	:	:	:	:	:	:
Swans:										
Whistling	100	100	7	7	7				3	3
Trumpeter										
Geese:										
Canada	20,000	15,000	15,000	20,000	20,000	10,000	10,000	7,000	15,000	20,000
Cackling										
Brant										
White-fronted										
Snow	5	5	10	10	10					5
Blue	10	10	5	5	5					1
Other										
Ducks:										
Mallard	10,000	6,000	6,000	5,000	5,000	5,000	5,000	4,000	4,000	5,000
Black	10,000	5,000	5,000	8,000	6,000	5,000	5,000	4,000	5,000	5,000
Gadwall										
Baldpate	500	250	500		500	500	500			500
Pintail	2,000	1,500	6,000	6,000	4,000	3,000	3,000	3,000	5,000	5,000
Green-winged teal	500							500	700	1,000
Blue-winged teal									200	500
Cinnamon teal										
Shoveler			50					200		25
Wood										
Redhead	100	100								
Ring-necked	3,000	1,500	2,500	2,000	500					
Canvasback	15,000	8,000	3,000	2,000	300	50	50			
Scaup	5,000	2,500	1,000	800	500					
Goldeneye	500	300								
Bufflehead	50									
Ruddy	1,000	600	500	500	300					
Other										
Merganser	500	400	500	500	500	50	50	100	100	100
Coot:	200	200	200	200	200	100	100	100	100	100

3 -1750a

Cont. NR-1
(Rev. March 1953)WATERFOWL
(Continuation Sheet)REFUGE Blackwater N.W. MONTHS OF January thru XXX April, 19 58.

(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	3	3	3	1	1				1,666	
Trumpeter										
Geese:										
Canada	20,000	15,000	15,000	12,000	8,000	5,000	1,000		1,596,000	
Cackling										
Brant										
White-fronted										
Snow	5	5	5						420	
Blue	1	1	1						273	
Other										
Ducks:										
Mallard	3,000	2,000	2,000	1,000	500	500	500		458,500	
Black	4,000	3,000	3,000	1,000	500	500	500		70,500	
Gadwall										
Baldpate	200	25	25	25					28,175	
Pintail	2,000	500	200						267,400	
Green-winged teal	500	200	500	200	200	200			31,500	
Blue-winged teal	500	500	1,000	500	500	1,000	500		36,400	
Cinnamon teal										
Shoveler	25	25	25	25		150			3,675	
Wood										
Redhead									1,400	
Ring-necked	200	25							68,075	
Canvasback									198,800	
Scaup									77,600	
Goldeneye									5,600	
Bufflehead									350	
Ruddy									23,800	
Other Merganser	100	50	25			500			20,825	
Coot:	100	100	25						12,075	

(over)

	(5) Total Days Use	(6) Peak Number	(7) Total Production
Swans	1,666	100	
Geese	1,596,693	20,015	
Ducks	1,292,600	48,150	
Coots	12,075	200	

SUMMARY

Principal feeding areas Dieffenbach Pool, Headquarters Ponds, Twin Ponds, Harpers, Shorters Creek, Meekins Creek, Colsten Pond, Barbadeous, Round and Deadwood ponds and all Agricultural fields.

Principal nesting areas _____

Reported by W. Steele Webster & C.W. Wallace

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)

thru

Refuge Blackwater N.W.Months of Januaryto April195 8

(1) Species Common Name	(2) First Seen		(3) Peak Numbers		(4) Last Seen		(5) Production			(6) Total Estimated
	Number	Date	Number	Date	Number	Date	Number Colonies	Total # Nests	Total Young	Number
I. Water and Marsh Birds:										
Great Blue Heron			75	3/25						75
Common Loon			20	4/20						20
II. Shorebirds, Gulls and Terns:										
Killdeer	10	3/15	350	4/30						350
Herring Gull	75	4/20	450	"						450
Laughing Gull	75	4/20	500	"						500
Yellowlegs (Lesser)	50	4/2	250	"						250
Yellowlegs (Greater)	20	4/2	200	"						200
Semi-palmated Sandpiper	15	4/15	250	"						250
Sanderling	15	4/15	200	"						200
Virginia Rail	1	3/10	150	"						150
Florida Gallinule	1	4/22	4	"						4

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons</u> :					Form NR-1A (Nov. 1945)
Mourning dove		300	4/2		300
White-winged dove					
IV. <u>Predaceous Birds</u> :					
Golden eagle		1	2/20		1
Duck hawk		50	2/20		50
Horned owl					
Magpie					
Raven					
Crow		700	4/30		700
American Bald Eagle		30	2/20		30
Reported by W. Steele Webster					

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 NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Blackwater N.W. Months of January ~~XX~~ Thru April, 1948.

(1) Species	(2) Density	Acres per Bird	(3) Young Produced	(4) Sex Ratio	Hunting	(5) Removals	For Re- stocking	For Research	(6) Total	(7) Remarks
Common Name	Cover types, total acreage of habitat		Number broods obs'd. Estimated Total	Percentage					Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Quail	500 acres Agr. & reverting lan ds. 250 acres second growth	1		55% Male					700	Population remains static.

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 Blackwater N.W.Year ending April 30, 1958.

(1) Species	(2) Density		(3) Removals					(4) Disposition of Furs					(5) Total	
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	Popula- tion
								Permit Number	Trappers Share	Refuge share				
Muskrat	9,692 Acres of Three- square and bend marsh	1												10,000
Byrant Fox Squirrel														100
Grey Squirrel														350
Raccoon														500
Red Fox														90
Otter														25
S.A. Beaver (Nutria)														10
Weasel														50
Opposum														200
Stripped Skunk														150
Cotton Tail Rabbit														400

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by W. Steele Webster

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 GRAIN REPORT

Refuge Blackwater N.W.Months of January through April, 1958.

(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
Corn	200	1,500	1,700	140		1360	1,500	200		200	
Mixed Grain		52	52			52	52				
Ladino Clover		3	3		3						

- (8) Indicate shipping or collection points 1,500 bushels of corn shipped from Ohio through the Central Office on March 10 for feed-
ing waterfowl during snowstorm. 52 bushels of mixed grain received from U.S. Grain
appraiser, Baltimore, Md. during this period. 3 bushels ladino clover Wm. G. Scarlett & Co. Balt. Md. for
- (9) Grain is stored at Seeding purposes. Grain Bins at the Blackwater Refuge, Cambridge, Md.
- (10) Remarks 140 bushels of corn shipped to Chincoteague Refuge for banding purposes during March.

*See instructions on back.

(10) Remarks

NR-8a

(3) Grain is stored at

REFUGE GRAIN REPORT

(8) Indicate shipping or collection points

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.

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Variety	On Hand Beginning	Received	Total	Disseminated	Seeded	Fed	Total	Beginning End of On Hand	Seed	Feed	Shipping
	(1)	(2)		(3)	(4)				(5)		
				Grain Disposed of					Proposed or Salvage Use		

Refuge

Months of

through

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REFUGE GRAIN REPORT



Photo. #1- Note ducks in trap during freeze up
in February 2-20-58 # 42-207



Photo. #2- Refuge Aid Willey catching ducks on
ice in trap in preparation for banding
2-20-58 #42-208



Photo. #3 - Golden Eagle in walk in type duck trap.
Note ice and snow on ground. 2-20-58 #42-209



Photo. #4 - A close up of Golden Eagle in trap.
2-20-58 #42-210



Photo. #5- Note Canada geese on ice in background
on Pond #1 during freeze up.
2-20-58 #42-211