

Narrative Report Routing Slip

Mr. Salyer

~~Mr. Ackerman~~ *SWA*

Mr. Crawford

Administrative Services

Miss Baum

Operations

~~Mr. Fermanich~~ *PAJ*

~~Mr. Regan~~ *TKR*

Public Use

~~Mr. Doherty~~ *PAJ*

Mr. Kubichek

Mr. Stollberg

Resource Management

Dr. Morley

Mr. Hickok

Wildlife Management

Mr. Banko *B*

Mr. Stiles

Mr. Goldman *BY*

Refuge BLACKWATER

Period Jan. - Apr. 1961

Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1961.

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Personnel

Cornelius W. Wallace.....	Refuge Manager
John C. Fields	Refuge Manager
Guy W. Willey.....	Wildlife Aid
G. Wallace Stewart.....	Maintenanceman
Owens P. Hughes.....	Maintenanceman
William G. Richardson.....	Maintenanceman

U.S. Department of the Interior

Fish and Wildlife Service

Bureau of Sport Fisheries and Wildlife

Blackwater National Wildlife Refuge
R.F.D. #2 Cambridge, Maryland.

Established January 23, 1933.
Total Acreage - 11,2 16

Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1961.

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Blackwater National Wildlife Refuge

Narrative Report

January, February, March and April, 1961.

I. General.

A. Weather Conditions.

January. This was one of the coldest months in refuge history with temperatures below freezing on twenty-four nights and six below zero on the 29th. Snow was visible on the ground from the 16th. of January through the 9th of February and most of the water areas were covered with ice the entire month. 58 degrees was the high of the month and was recorded on the 14th.

February. This was also one of the coldest months in refuge history and ice conditions got so severe at times that some individuals in the Chesapeake Bay Area became alarmed at the thought of waterfowl not being able to find food. The Upper Bay was entirely frozen over for a while and a low of 4 below zero on the 2nd tended to make the ice thicker and stay longer. The high of 71 degrees was recorded on the 19th with 45 degrees being the high on the following day. Four inches of snow fell on the 3rd and a total of 8 inches was recorded for the month.

March. March started out appearing to be warm with temperatures in the high seventies and turned out as a whole to be cold and wet with northwest winds keeping the temperatures low and precipitation occurring on fourteen days. The high of 79 degrees was recorded on the 5th and a low of 24 degrees on the 18th.

April. This is usually the month in which gardens are planted and well underway growing by the last day, but it has not been the case this year. Northwest winds have consistently blown and kept temperatures down and caused what is considered a very late spring. The low temperature of 35 degrees occurred on the 3rd and the high of 86 degrees on the 25th and 26th, but the temperatures for the last three days of the month were in the low forties. 1.39 inches of rain fell on the 13th making conditions too wet to start farming operations.

<u>Precipitation</u>			<u>Max.</u> <u>Temp.</u>	<u>Min.</u> <u>Temp.</u>
<u>Snowfall</u>	<u>This Month</u>	<u>Normal</u>		
January 4.50	3.59	3.47	58	-6
February 8.00	5.47	4.12	71	-4
March 0.00	4.27	3.82	79	24
April 0.00	3.79	3.82	86	35
Totals 12.50	17.12	15.23	Extremes 86	-6

B. Habitat Conditions.

1. Water. Water conditions have been about normal for this period except the 1.39 inches of rain that fell on April 13th which tended to delay farming operations. Water levels in the impoundments have been at a desirable level. The stop logs were removed from the Dieffenbach Pool water control structure in February and the water level has subsided at a normal rate.

The tidal waters in the brackish water rivers and marshes have at times been extremely high and extremely low but no adverse affects have been seen that can be attributed to this. This is normal due to the prevailing winds- Northwesterers give a low tide - and a South winds push the tides high into the rivers and ponds.

2. Food and Cover. By the beginning of this period most of the desirable grain crops on the refuge were exhausted and the waterfowl had to depend to a great extent on the privately owned fields in the area for grain. However, small amounts of surplus grains have been placed at strategic feeding areas around the refuge headquarters and Dieffenbach Pool during the severe weather of January and February to help feed the waterfowl and other birds. One-third of the refuge marshes were burned over in accordance with approved plans; and this along with clover, ryegrass and wheat have provided sufficient winter browse. Only one complaint has been heard from local wheat field owners concerning depredation, and this was turned over to the Game Management Agents. Canada geese were still using the clover and ryegrass fields at the end of this period, but the population had dwindled to a very few.

During the heavy freeze up and severe cold weather of February 200 Bushels of shelled corn was made available by the Game Management Division from surplus sources and feed to the waterfowl on the refuge. At that time a large number of the waterfowl in the State could be found on the refuge.

II. Wildlife

A. Migratory Birds. The waterfowl population remained high on the refuge until near the end of January when the temperatures dropped near or below the zero mark forcing the waterfowl to leave the refuge to larger open areas of water. Heavy snowfall also covered the refuge agricultural fields from January 26 thru February 12 and this made feeding impossible. The Canada goose population was estimated at 40,000 in early January and dropped to 22,000 during the severe cold weather of late January and early February. The duck population was estimated at 69,300 in early January and dropped to 5,200 by the end of the month. The weather factor caused a decrease when compared to the same period last year when 45,000 geese and 80,100 ducks were present.

Mallards estimated at 30,000, Black ducks at 30,000, Pintail at 8,000 and American Widgeon at 500 made up most of the population of ducks in January and February.

The spring migration started with the arrival of the G.W. Teal (1,000) in early March and continued throughout March and April. Approximately 2,000 Canada geese could still be observed on the refuge at the end of this period. The remaining flock usually leave in early May of each year.

The nesting season was early this year with nesting beginning in early March in the 78 man-made type wood constructed duck nest located in Headquarters Pond #1 and 2, Little Blackwater River near headquarters and Dieffenbach Pool Unit. No. 3. These man made nest protect the eggs from predators such as the raccoons, crows, fox and skunk which in past years destroyed most of the natural nest on the refuge. Two broods of mallards were observed, one on the 12th of April (2 Young ducks) and 6 Young ducks on April 16th. This is rather early for waterfowl production and it was found that early nesting had a set back due to the cold weather with freezing temperatures in late March. The nesting of the present waterfowl should be good and production up in May and June. One of the Canada geese in the holding pen is now nesting and the young should arrive in late May.

The dove population estimated at 300 was evenly distributed over the refuge. Corn and soybeans have been available to supply the food needs of these birds. The largest numbers could be observed along Old Mill Road and Egypt Road on the refuge.

B. Upland Game Birds. The bob-white quail is the only upland game bird found in this area. The population is normal at this time and they are beginning to pair off and start nesting. They can be seen quite frequently on the refuge roads and dikes. The food and cover has been satisfactory and depredation has been negligible. This particular area is capable of supporting a very high population of quail and refuge population is estimated to be about 700.

C. Big Game Animals. The white-tailed deer is the only big game animal in the area. The refuge population is approximately 100. Due to the small upland area on the refuge and the deer hunting on the surrounding property the refuge population is kept under control and the annual fluctuation is negligible. The deer like the waterfowl are protected on the refuge so they can be observed grazing in the refuge fields about anytime. It is not unusual to see twenty or more while riding through the refuge at night. Food and cover is sufficient to support the deer present and there has been no signs of overgrazing. All deer appear to be fat and healthy.

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

1. Muskrat. The muskrat population appears to be holding it own with very little annual increase or decrease. The refuge population of approximately 7,000 is considered very low in comparison to ten years ago. Only one trapper was issued a permit to trap on the refuge and this was in the areas around dikes and roads where best to keep the

population at the lowest level possible on account of their burrowing habits. The one local trapper caught 1,189 muskrats of which the refuge share was one-half of the pelts.

2. Raccoon. The raccoon population is about level with the last few years, but this is an extremely high population in comparison to ten or more years ago. This high raccoon population is believed to be the main controlling factor on the muskrats. No definite proof has been obtained on this but they have been tied in with each other. Raccoons now number about 500 on the refuge. They can often be seen at nights in numbers on the refuge roads and trails and their tracks are numerous on all areas of the refuge. The local trappers do not concentrate to any degree on the raccoon as their pelts are not considered worth the trouble. Refuge trapping permits stipulate that the trapper may keep all raccoons caught, but special traps are required for them and those caught by muskrat trappers are accidental. Only three were caught during this season by the local trapper.

3. Fox. The red fox is believed to be the only species that uses the refuge. If the grey fox is present it has not been witnessed, but this area is in their range. The red fox population is estimated at fifty and this is about normal. This animal is considered more of a muskrat predator than the raccoon, but the low population keeps them from being a great threat. They are mostly seen on the marsh islands of the refuge and the Kuehnle Tract since it is more or less isolated, and their habits prevent them from inhabiting areas near humans. No foxes were taken under the refuge trapping permit this season.

4. Squirrel. This area supports two species of squirrels. The Bryant Fox Squirrel that is here in Dorchester County, Maryland and no where else in the country numbers about 150 on the refuge and is about normal at this time. The Grey Squirrel is also present and numbers about 200 on the refuge. There are only about one thousand acres of wood lands on the refuge that is capable of supporting squirrels so the population is rather low for such a large acreage. However, the woods adjacent to the grainfields are capable of supporting a high population in the seasons when there is grain available. This is verified by the large numbers that are seen during the winter months. Food and cover has been adequate during this period, and no abnormal predation has been witnessed.

5. Skunk. It is believed that the severe winter has caused a welcomed decrease in the skunk population and they have decreased from 150 to 100. They are not seen or smelled quite as often as in former periods, and few are seen on the refuge roads where many were previously seen.

6. Rabbit. The rabbit population on the refuge is approximately 450. This is not a high population nor is it a low one. It is believed the population is on a rise in number but it will be several years before a peak is attained. Food and cover is plentiful and there has not been any undue predation during this period.

7. Miscellaneous Fur Bearers.

Opossum - The opossum population suffered from the severe winter also but not enough to cause alarm. The population was reduced to a probable 170 in comparison to 200 one year ago. They are still seen quite frequently along the refuge roads, but not as many dead ones are seen on the roads where they are hit by automobiles.

Otter. This animal is believed to be getting more numerous each year on the refuge. The population is believed to have increased from twenty to thirty since the same period last year in the Keens Ditch area and Big Blackwater River southeast of refuge headquarters.

Nutria. The Nutria population suffered severely from the cold weather of this period. It is believed that they were almost extirpated from the refuge area. At least 68 dead ones were found in the refuge marshes during the freezing weather and it is believed that many dead ones were not found. Only minor signs of Nutria activity have been seen since the freeze and it should go without saying that it is hoped that there are no more on the refuge.

Weasel.- The weasel population is estimated at fifty. There has not been any noticable increase or decrease. No predation has been witnessed that could have been caused by this animal.

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

Hawks - Ten hawks have been recorded on the refuge. The Red-Tailed, Red shouldered, Coopers and sparrow hawks are the most common and the most numerous. These four are permanent residents. The marsh hawk is very abundant in the winter months. While this is not a permanent resident an occasional one could still be seen at the end of this period. Sharp-shinned, broad-winged, rough legged, duck and pigeon hawk are all seen every winter but none are common.

Eagles. - The Bald Eagle is a permanent resident of this refuge and number about thirty. Only one nest has been located and this has not been used this period. There has been one immature Golden Eagle using the refuge throughout this period. It is usually seen from the Dieffenbach Pool Dike. The Eagles do not pose any sort of refuge problem and no undue predation has been witnessed concerning them. They feed mostly on sick and injured waterfowl.

Owls. - The Great-Horned and barn owls are the most numerous on the refuge. There are probably about fifty great-horned and twenty-five barn owls which are seldom seen and often heard. Both observations towers are being used by barn owls for nesting and at the end of this period one tower had five eggs in it and the other tower had four young about two-thirds grown. The old trappers shanties are usually used also but they have not been checked this year. From the pellets observed around the refuge owl roosts it appears that small rodents compose the bulk of the owl food. There is no owl predation problem at this time.

Crow- The refuge crow population is normal this year. There are about seven hundred that use the refuge. There are no known roosts on the refuge. The crows are a problem in breaking up duck nests and eating the eggs. Several have been seen this year with duck eggs in their mouth. They do not get all the eggs; however the area could support many more young ducks if they were just allowed to hatch.

F. Other Birds. Nothing significant for Blackwater. However, Martin Refuge has a Snowy Egret nesting colony with approximately sixty-five nest being used at the end of this period. This observation was made while flying over the refuge. More detailed information will be in the next report.

G. Fish. Permits have been issued to three local commercial fishermen to set nets and eel traps in the navigable waters of the refuge. Catches include eels, carps, catfish, striped bass, white perch, herring and a few shad.

H. Reptiles. One permit has been issued to a local commercial fisherman to trap snapping turtles on the refuge. The trapper has not had much success as of yet but it is hoped that he will catch as many as possible as the snapper is a big predator of young waterfowl.

I. Disease. None to report.

III. Refuge Development and Maintenance

A. Physical Development.

A new motor was installed in our Willys Jeep Pickup. This motor was procured from the Schenectady Army Depot (surplus) during the last period.

Repairs have been performed on the following equipment this period:

- Farmall 450 Tractor
- Farmall M Tractor
- Farmall MTA Tractor
- Fordson Tractor
- Int. Dump Truck
- 3 Plows
- Disk Harrow
- LCM Barge
- Airboat Skimmer FWS-110
- Spring Tooth Harrow
- Fire Pump

Preventative maintenance was performed on all vehicles, heavy equipment and boats.

Byrcus-Erie Crane bucket had the necessary teeth installed and has been used during this period to dig fill for repairs to refuge roads, trails and dikes.

Fill has been hauled to repair roads at hanger, Qtrs #2, 3 and 4 road, dump road and dike road adjacent to Pond #1 and 2.

Minor repairs were performed on all grass cutting equipment and lawn mowed several times during this period.

A wire top was installed on headquarters holding pen to stop predators from destroying waterfowl nest.

Entrance sign to headquarters was given a coat of paint and Dieffenbach Pool sign removed and is being repaired and painted.

B. Plantings.

1. Aquatics and Marsh Plants. None planted.
2. Trees and Shrubs. None planted.
3. Upland Herbaceous Plants. None this period.
4. Cultivated Crops. A total of 97 acres of ladino clover was planted during March. This included refuge fields G, H, V, T, A-1, Kuehnle Tract and McGraws Island. We have found the ladino clover is the main brooding crop and the regrowth is faster than both the ryegrass and wheat.

One hundred and twenty one acres of land has been plowed and 60 Acres disk one time in late April for the planting of corn (101 acres) and 20 acres of soybeans. Plowing was delayed in April due to wet ground conditions. Weather permitting planting will take place in early May of corn.

All refuge lands will be farmed by refuge personnel since the population of waterfowl is so high that all the farm land is needed to supply the necessary food for the waterfowl use.

Stop logs in the Dieffenbach Pool control structure have been removed for the draining of this area, and planting is planned in June.

C. Collections and Receipts.

1. Seed or Other Propagules. Forty-five (45) bushels of mixed grain was picked up at the U.S. Grain Appraisers, Baltimore, Md. This grain was used for banding and feeding operations.

Approximately 200 bushels of shelled corn was received from the Game Management Division (surplus sources) and used for feeding purposes during the heavy freeze and severe cold weather of February.

Three bushels of ladino clover was purchased from Eastern Service Corp. for planting in refuge fields.

2. Specimens. None this period.

D. Control of Vegetation. None this period. We have the necessary

E. Planned Burning.

1. General. Marsh Management Units No. 3, 18, 19, 20, 21, 22, 23, 24, 25, 26, 30 and 31 or a total of 2,810 acres were burned during January and February, as approved by our controlled burning plan for 1961. Refuge personnel carried out the controlled burning program with the aid of the local trapper, keeping it under control therefore preventing it from spreading to adjacent local marshes. By the last week of February the geese begin to use the burnt areas since the geese prefer the green shots over other grains when the weather begin to get warm.

2. Conditions Prior to Burning. The marsh areas consist mostly of three-square (*Scirpus-Clineya* is predomaint) and small patches of cattail and bend grass. The growth was very dense and ranged in height from 2 to 3 feet on an average. Due to the growth only a few ducks used these marsh areas before burning.

3. Condition following Burning. We were able to get about an estimated 70% burn on all units. The winds during the burning period of February were mostly N.E. and rainfall occurred on 13 days of the month making burning a problem. However, we were able to burn the units at intervals and this help supply supplementary feeding for the waterfowl. The Canada geese could be observed feeding on the green shots in late February and throughout March. An estimated 5,000 could be observed on Unit No. 3 and an estimated 10,000 on the other units.

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. A survey of the muskrat population on the Blackwater Refuge marshes was made in November and only those areas adjacent to the dikes were trapped during the annual season from January 1 thru March 15, 1961. One local trapper was issued a permit to trap Unit No. 3, 8 and 36 and recommendations were approved to remove an unlimited number on these areas to eliminate possible damage to the outside structure of the dikes caused by the muskrat tunnelling and burrowing. Although ice conditions prevailed throughout much of January and February the local trapper made an excellent catch, with 1,189 removed from the units adjacent to the dikes and roads.

The following is a tabulation of the trapping results.

Trapper	Lic. No.	Permit No.	Unit	Muskrat Catch	Raccoon Catch
Ray Willey	89995	T-6620	3	579	2
"	"	"	8	258	
"	"	"	36	352	1

The Government share of the muskrat pelts were packed and shipped to the New York Auction Co. on April 4, 1961. There was one bale containing 237 Black Adults, 27 Black Kits, 11 Black culls, 283 Brown Adults, 28 Brown Kits, 6 Brown culls and 16 Nutrias. The 16 nutrias were trapped early in the period before the severe weather arrived by refuge personnel.

D. Timber Removal. None this period. However, Mr. Verlon E. Carter, Forester for this Region visited the refuge on March 15 and 16 in connection with possible timber removal at a later date.

E. Other Uses. None to report.

F. Commerical Fishing. Permits were issued to three local fishermen to catch fish by using gill nets in the refuge ponds and waters. No permits were issued until after the close of the annual waterfowl hunting season.

V. Field Investigation or Applied Research

A. Progress Report.

We were able to trap a large number of waterfowl during this period. The following is a breakdown by species the birds banded from January 1 thru March 31, 1961. 8 Swan, 378 Canada geese, 2,698 Mallards, 526 Blacks, 17 Pintail, 4 American Widgeon, 2 B.W. Teal and 12 Coot or a total of 3,645. Along with the 1,034 banded in the last period this set a new record for total waterfowl banded by this station in one season. The following is a breakdown of the 4,679 waterfowl banded from November 15, 1960 thru March 31, 1961.

Swan.....	8
Canada Goose.....	431
Mallards.....	3597
Blacks.....	606
Pintail.....	19
A. Widgeon.....	4
B.W. Teal.....	2
Coot.....	12

Total 4,679

Approximately 1,100 man hours were utilized in the banding operations, of which about one-half the time was donated by refuge personnel on weekends, holidays, early morning and late afternoons. This is necessary in banding operations to keep from leaving the birds in the traps too long and to keep the traps baited to continue catching new birds.

The main problem encountered during the banding operations was freezing and wet weather. When the cannon net is set it is very difficult to keep it dry and not feasible to shoot it while it is frozen to any extent. The waterfowl were trapped in walk in type wire traps and portable wire traps located at Headquarters and Dieffenbach Pool Unit.

VI. Public Relations.

A. Recreational Uses. None available on the refuge.

B. Visitors. Official visitors during the period were:

Mr. Lawrence S. Givens, Regional Refuge Supervisor, and Mr. Verlon E. Carter, Regional Forester visited the refuge on an inspection of timber management at this station on March 15 and 16.

Mr. Richard Corthell, Branch of Realty, Regional Office visited Blackwater on April 19 and Martin Refuge on April 20, trip in connection with purchase of lands on Smiths Island, Md.

Mr. Donald J. Hankla, Wildlife Management Biologist visited the refuge on April 29 for the purpose of getting acquainted with management programs and problems at Blackwater.

Messrs. Wells and Schmidt of the Washington Office visited the refuge twice during this period to obtain photographs of waterfowl.

Mr. Bruce Stollberg of the Washington Office and Mr. John Mcnalley of Melbourne, Australia visited the refuge on February 16 to see refuge muskrat trapping operations and to tour the refuge.

Other official visitors included: Manager Thomas Martin, Chincoteague N.W. Refuge. Game Agents Joseph Withers, Hugh Hines, Darrell Shuffler, Al Weinrich, Thomas Gambrill, Carl Plant and Robert Bain.

Other visitors included the following:

State Wardens J.C. Smith, Robert Cannon and William Marine visited the refuge in connection with law enforcement work.

Aububon Society groups from Washington, D.C., Baltimore, Md., Mass., N.H., Pa. and Delaware visited the refuge on bird tours during this period.

On January 18, a Class from Cambridge High School, Cambridge, Maryland (70 Pupils and one Teacher) visited the refuge and were taken on a tour of the refuge by Aid-Willey.

A girl Scout Group from Salisbury, Md. visited the refuge on Saturday April 15 and were taken on a tour and given a talk by Aid-Willey.

C. Refuge Participation.

On February 3 and 4th the refuge had an exhibit at the Cambridge Outdoor Show at the Recreational Building in Cambridge, Maryland. The exhibit consist of mounted birds and animals and drew large interest from the persons attending. Attendance was down due to the severe weather conditions during the days of the show.

On February 4 refuge personnel assisted the Game Management Division

in airlifting corn to waterfowl in the Bay Area by use of helicopters furnished by the U.S. Marine Corps. The operation took place from the Dieffenbach Pool Unit at this station. Feeding of waterfowl became necessary after reports of dying of waterfowl was reported during the severe cold weather and ice conditions. No dead waterfowl were found on the refuge during this period.

D. Hunting. None is permitted on the refuge.

E. Violations. None to report.

VII. Other Items

A. Items of Interest.

Vandalism occurred on the Martin Refuge, Smith Island, Maryland during April. The seventy-five foot lookout tower located on the Martin Refuge was thrown to the ground. This destruction was reported on April 23, and immediate steps were taken to obtain evidence if possible and try and apprehend the persons responsible. Agent Joseph Withers was contacted and he called the U.S. District Attorney who detailed FBI-Agent Scott to make the investigation. The FBI is still investigating this incident and any information received will be forwarded to the Regional Office.

B. Photographs. Attached.

Respectfully submitted,

Cornelius W. Wallace

Cornelius W. Wallace

CWWallace:ggw

APPROVED:

Victor W. Kay
Acting Regional Refuge Supervisor

Regional Director

MAY 19 1961

Date

Date

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

W A T E R F O W L

REFUGE Blackwater N. W. R

MONTHS OF January thru April 30, 19 61

(1) Species	(2) Weeks of reporting period									
	1	2	3	4	5	6	7	8	9	10
Swans:										
Whistling	7	7	7		1	7	25	75	92	115
Trumpeter										
Geese:										
Canada	40,000	30,000	22,000	22,000	25,000	30,000	30,000	20,000	15,000	10,000
Cackling										
Brant										
White-fronted										
Snow	42	42	42	86	86	86	86			
Blue	21	21	21	73	73	73	73			
Other										
Ducks:										
Mallard	30,000	18,000	12,000	2,500	3,500	10,000	10,000	5,000	3,000	3,000
Black	30,000	20,000	15,000	2,500	2,500	5,000	5,000	3,000	2,000	2,000
Gadwall										
Baldpate	500	500	500	100	200	1,000	1,000	500	1,000	500
Pintail	8,000	8,000	5,000		500	5,000	5,000	3,000	1,000	500
Green-winged teal									1,000	1,000
Blue-winged teal										
Cinnamon teal										
Shoveler										
Wood										
Redhead										
Ring-necked	200	200	200				25	25	25	
Canvasback							100	100	100	
Scaup							25	25		
Goldeneye										
Bufflehead		100	100							
Ruddy	100	100	100							
OtherMerganser	500	500	500	100	250	500	500	500	300	100
Coot:	200	200			50	100	100	25	25	25

3 -1750a
 Cont. NR-1
 (Rev. March 1953)

WATERFOWL
 (Continuation Sheet)

REFUGE Blackwater N.W. MONTHS OF January thru ~~XXXX~~ April 30, 19 61.

(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	115	3							3,178		
Trumpeter											
Geese:											
Canada	8,000	30,000	6,000	6,000	3,000	3,000	2,000		2,114,000		
Cackling											
Brant											
White-fronted											
Snow									3,290		
Blue									2,555		
Other											
Ducks:											
Mallard	2,500	7,000	1,500	1,500	1,500	1,500	800		793,100	2	10
Black	2,000	8,000	1,000	1,000	1,000	1,000	500		710,500		
Gadwall	500								3,500		
Baldpate	100	200							42,700		
Pintail	500	10,000							325,500		
Green-winged teal	500	2,000	100	100	100				33,600		
Blue-winged teal	500	4,000	500	500	500	500	500		49,000		
Cinnamon teal											
Shoveler	100		100	100	100				2,800		
Wood	25		100	100	100	100			2,975		
Redhead									525		
Ring-necked									6,300		
Canvasback									350		
Scaup											
Goldeneye									1,400		
Bufflehead									2,100		
Ruddy									30,800		
Other Merganser	50	600									
Coot:	25	25	25	25	25	25	25		6,125		

(over)

	(5)	(6)	(7)
	Total Days Use	Peak Number	Total Production
Swans	3,178	115	
Geese	2,119,845	10,063	
Ducks	2,005,150	69,300	10
Coots	6,125	200	

SUMMARY

Principal feeding areas Dieffenbach Pool, Headquarters Ponds, Harpers, Shorts Creek, Colsten Pond, Hog-Rooting, Goose, Barbadoes, Round, Deadwoods, all agricultural fields Kuehnle Tract and Controlled burned areas.
Principal nesting areas Headquarters Ponds #1 and 2.

Reported by C.W. Wallace, J.C. Fields and G.W. Willey

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

(Aug. 1952)

MIGRATORY BIRDS

(Other than Waterfowl)

Refuge Blackwater N.W.Months of January

thru

IXIX April 301961

(1) Species	(2) First Seen		(3) Peak Concentration		(4) Last Seen		(5) Production			(6) Total
Common Name	Number	Date	Number	Inclusive Dates	Number	Date	Number Colonies	Total # Nests	Total Young	Estimated Use
I. <u>Water and Marsh Birds:</u>										
Great Blue Heron	6	1/1/61	50	4/30/61						
Common Loon	2	1/1/61	15	3/25/61						
Snowy Egret	3	3/30/61	32	4/30/61						
Little Blue Heron			20	4/30/61						
Louisiana Heron			15	4/30/61						

(over)

(1)	(2)	(3)	(4)	(5)	(6)
III. <u>Doves and Pigeons:</u> Mourning dove White-winged 'dove		300 4/30/61			300
IV. <u>Predaceous Birds:</u> Golden eagle Duck hawk Horned owl Magpie Raven Crow American Bald Eagle Red-Tailed Hawk Sparrow Hawk Barn Owl		1 50 700 30 25 225 25 1/15 3/15 2/15 2/15 3/30 3/15 4/30		2 4	1 50 700 30 25 225 25
Reported by <u>J.C. Fields & C.W. Wallace</u>					

INSTRUCTIONS (See Sec. 7532, Wildlife Refuges Field Manual)

- (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 migration record for the species for the reporting period.
- (3) Peak Numbers: Estimated number and inclusive dates when peak population of the species occurred.
- (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 species days use (average population X no. days present) of refuge during the reporting period.

3-1752
Form NR-2
(April 1946)

UPLAND GAME BIRDS

1613

Refuge Blackwater N.W. Months of January to April 30, 1941.

(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	Percentage	Hunting	For Re- stocking	For Research	Estimated number using Refuge	Pertinent information not specifically requested. List introductions here.
Bob-White Quail	600 acres of crop land and 250 acres second growth.	1	52%				700	The population is normal.

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, 1961.

(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	9,692 Acres of marsh & ponds	1+		1189				T-6620	595	594	592		2	7,000
Byrant Fox Squirrel														150
Grey Squirrel														200
Raccoon				3					3					500
Red Fox														50
Otter														30
Nutria (S.A. Beaver)					16					16	16			5
Weasel														50
Opossum														170
Skunk														100
Cotton-Tail Rabbit														450

* List removals by Predator Animal Hunter

* List removals by Predator Animal Hunter

REMARKS:

Reported by

E.W. Wallace, J.C. Fields, & G.W. Willey

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.

3-1570
NR-8a
(4/54)

REFUGE GRAIN REPORT

Refuge Blackwater N.W. Refuge

Months of January through April 30, 19561

(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
Barley	300		300			300	300				
Corn	450	200	650			450	200	200		200	
Ladino Clover		3	3		3		3				
Mixed Grain		45	45			45	45				

200 Bushels of ~~corn~~ received from surplus sources (Game Management Division) to feed waterfowl in severe weather conditions. 45 Bushels mixed grain from U.S. Grain Appraisers, Baltimore, Md.

3 Bushels ladino clover from Eastern Service Corp. for seeding in refuge fields.

(9) Grain is stored at Grain bins at the Blackwater Refuge, Md.

(10) Remarks Barley, corn & mixed grain used for banding and feeding operations.

*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.



Photo. #1 - Helicopter arriving at Dieffenbach Pool
Unit to pick up corn to spread in Bay Area. Agent
Withers looking on. #42-319



Photo. #2- Helicopter being loaded with corn
by refuge personnel. #42-320



Photo. #3- Note barn owl eggs in Observation Tower
near hanger. #42-321



Photo. #4- Canada goose nest in holding pen at
headquarters. #42-322



Photo. #5- M.M. F. Hughes plowing for corn land
in late April. #42-323



Photo. #6- M.Men plowing corn land for planting of
corn. #42-324

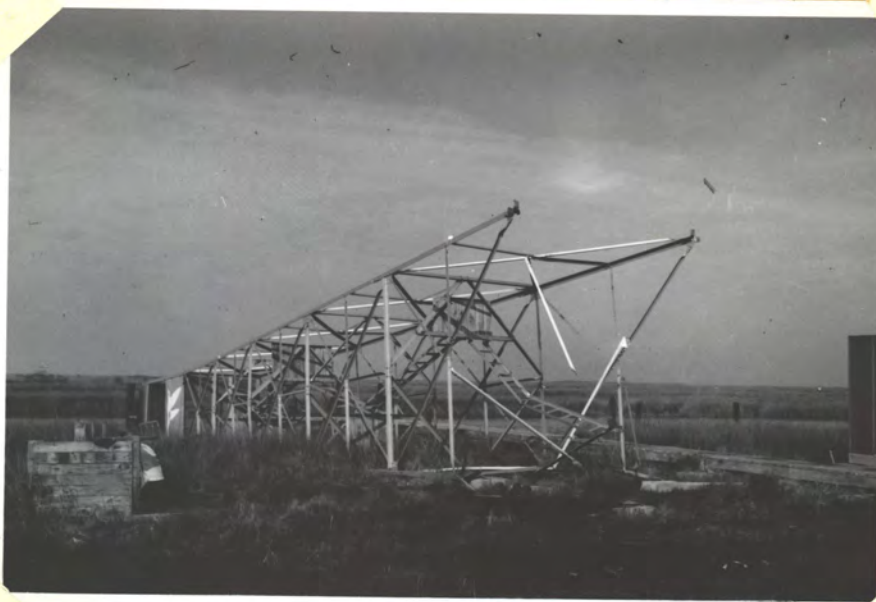


Photo. #7- Note Tower thrown to ground by
persons unknown at the Martin Refuge #42-325

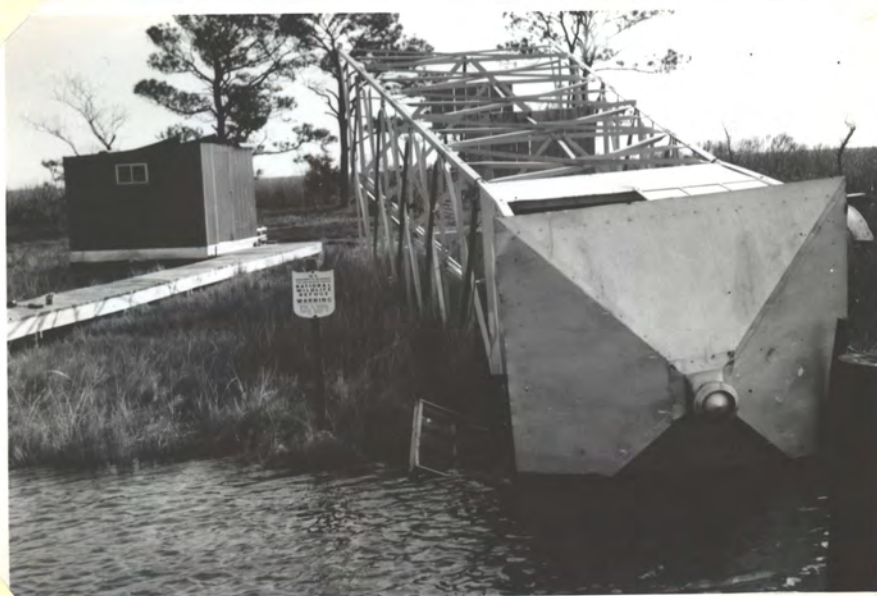


Photo. #8- Another view of tower- note cabin
in water (Joes Ridge Creek) #42-326